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Theme:
**SOCIAL SCIENCE IN A CHANGING WORLD: CHALLENGES, SOCIO-ECONOMIC
ADAPTATION AND RESILIENCE**

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CONFLICTS AND INSECURITIES (TERRORISM, BANDITARY ETC)

Influence of Psychological Variables and the Mediatory Role of Psychopathic Personality on Recidivism among Juvenile Offenders in Homes in Southwest Nigeria

Ajoke Ayomipe

Introduction

It is a tough reality that many individuals who have been through the criminal justice system find themselves caught in a revolving door. We call this recidivism, and it essentially means someone who has been arrested, convicted, or incarcerated ends up back in the system for another offense. Think of it as a cycle where old patterns of behavior unfortunately resurface. This is not just about any repeat offense; we often categorize it based on the type of crime. For instance, general recidivism means any new incarceration, while violent recidivism specifically involves harmful acts. Then there is sexual recidivism, which includes offenses of a sexual nature, and property-related recidivism, like theft. High rates of recidivism create significant headaches for the entire system, especially in a place like Nigeria. Our prisons become overcrowded, the financial burden increases, and the staff face immense pressure. It also makes us question how well the justice system is actually working. Of course, crime itself, which is essentially breaking society's rules, is a global concern affecting everyone. Ideally, when someone is imprisoned, the goal should be to help them turn a new leaf and become contributing members of the community. Nigeria's Prison Act of 1972 even speaks to this idea of rehabilitation.

However, if we look back, the prisons established during Nigeria's colonial era were more focused on punishment and hard labor than on truly reforming individuals. Sadly, this historical emphasis can still have ripple effects today. Without proper support and opportunities for genuine change, individuals leaving prison may feel resentful and ill-equipped to reintegrate successfully. This lack of meaningful rehabilitation is a major driver of high recidivism rates, as people may feel they have no other options but to reoffend.

Ultimately, if we want to break this cycle and create safer communities, focusing on effective rehabilitation programs that provide skills training and build capacity is absolutely essential. It's about giving people a real chance to build a better future for themselves and for society as a whole.

Psychopathy is a personality disorder marked by traits such as lack of empathy, impulsivity, manipulation, and absence of remorse. Hare (1995) describes psychopaths as manipulative and remorseless individuals who violate societal norms without guilt. Though psychopathy shares similarities with Antisocial Personality Disorder (APD), it is not officially recognized in the DSM-IV-TR and differs in key ways. While APD is behaviorally based, psychopathy also includes affective and interpersonal dimensions, such as callous-unemotional (CU) traits and superficial charm.

Research suggests psychopathy is stable over time and can predict future delinquency, especially when present in juveniles. There is debate over whether psychopathy, APD, and conduct disorder should be treated as separate constructs. Some scholars argue antisocial behavior is a component of psychopathy, while others caution against conflating the two due to overlapping measurement criteria.

Psychopathy is found in a smaller portion of incarcerated individuals (20–25%), indicating that not all offenders with APD are psychopaths. The psychopathic personality includes egocentricity, deceitfulness, and emotional detachment. While genetics play a role, environmental factors like socioeconomic status also contribute to the development of psychopathic traits. Given its connection to persistent criminal behavior, understanding psychopathy is crucial for addressing recidivism and improving rehabilitation strategies.

Recidivism in Nigeria is influenced by a range of psychological and socio-economic factors. Psychological variables include drug use, peer pressure, low self-control, lack of family support, institutionalization, criminal history, and antisocial behaviors. Socio-economic factors involve educational barriers, unemployment, housing issues, financial instability, family dynamics, early exposure to crime, and neighborhood influences. The present study focuses specifically on peer pressure, drug use, self-control, and psychopathic personality traits.

Peer pressure significantly impacts behavior, often beginning as early as toddlerhood. Children increasingly mimic peers, sometimes over parental guidance. As they age, peer groups can become primary influences, especially when parental bonds are weak. This can lead to involvement in antisocial behaviors such as cultism, theft, drug misuse, and violence. Peer influence within correctional settings also increases the risk of recidivism, as juveniles may reinforce criminal behavior among themselves.

Low self-control is another predictor of recidivism. Individuals with poor self-regulation often seek immediate gratification, engage in risky behavior, and fail to maintain social or institutional commitments. These traits correlate with criminal behavior, substance abuse, and repeated law-breaking.

Drug use is a major factor in criminal recidivism. Many individuals begin using drugs due to peer influence, curiosity, or exposure through family. Over time, drug use alters brain function, impairing judgment and increasing dependency. Substance abuse disrupts family relationships, lowers academic and work performance, and contributes to mental health problems. It is consistently linked to criminal behavior, especially when abuse begins in adolescence.

In Nigeria, drug abuse leads to numerous social problems including gang involvement, sexual precocity, mental disorders, and legal issues. Recidivism rates remain high among those with substance abuse problems, as these individuals struggle to reintegrate into society without adequate support. While some drug use may begin recreationally, ongoing abuse creates patterns of behavior that are difficult to break and often result in reoffending.

Ultimately, addressing recidivism in Nigeria requires a multifaceted approach that considers the complex interplay of peer dynamics, psychological traits like self-control, and substance abuse. Intervention strategies must address early social influences, promote emotional regulation, and provide comprehensive rehabilitation, especially for youth and those with a history of drug use. Understanding and mitigating these key variables is essential for reducing repeat offenses and promoting successful reintegration.

Statement of the Problem

Recidivism is rising globally, posing serious social and economic challenges. In the U.S., over 76% of released inmates reoffend within five years, while rates in Norway, Sweden, England, and Nigeria also remain high. Nigeria's recidivism grew from 37.3% in 2010 to 52.4%, with 81% of male offenders re-incarcerated within 36 months. Contributing factors include inadequate rehabilitation, societal stigma, and poor reintegration support. High recidivism strains justice systems and finances, costing billions. Despite growing attention, limited research exists on psychological predictors like self-control, peer influence, or psychopathic traits in juvenile offenders. This study investigates these factors and their links to juvenile recidivism in Nigeria.

Purpose of the Study

The primary purpose of this study is to examine the relationship among self-control, drug use, peer pressure and recidivism and various demographic characteristics. The specific objectives are as follows:

1. Determine the relationship among self-control, psychopathic personality and recidivism.
2. Determine the relationship among peer pressure, psychopathic personality and recidivism
3. Determine the relationship between drug use psychopathic personality and recidivism.
4. Determine the relationship between perceived family social support, psychopathic personality and recidivism.
5. Describe participants on selected demographic characteristics including gender, age at first conviction, education barrier, having a parent with a criminal record, family neighbourhood, types of offence committed, family relationship, and religion.

Relevance of the Study

This study would be of benefit to scholars and also to Nigeria government by highlighting the factors that may predict recidivism which was of help to psychologists and social workers that rehabilitate offenders to reduce those factors that strengthened recidivism. It will also pave way for government policies that will facilitate quick and efficient judicial administration of justice on cases of recidivism. The study was useful as its findings can help to stimulate governmental and nongovernmental organisation to initiate policies that can address the factors considered to be responsible for recidivism.

The findings of this study will also help in providing useful information to parents and guardians about recidivism, with regards to the psychosocial factors influencing recidivism, by helping them to identify better and develop backup plans to help kids get out of uncomfortable or dangerous situations.

This research would contribute to knowledge and also extend the previous researches on recidivism by looking into the relationship that exists between self-control, peer pressure, perceived family social support and drug use of Nigerian. Moreover, this research work could also serve as a resource for future research work in this area of interest as it will significantly add to the pool of knowledge on the subject

matter of inmates' recidivism. Therefore, findings from this study are expected to enlighten and stimulate other researchers into further exploration of this very crucial area.

Hypotheses

1. Psychological variables (self-control, peer pressure, and drug abuse) will significantly jointly and independently predict recidivism.
2. Psychological variables (self-control, peer pressure, and drug abuse) will significantly jointly and independently predict Psychopathic personality.
3. Psychopathic personality will significantly mediate the relationship of self-control, drug use, and peer pressure and recidivism.
4. Socio-demographic variables of gender, age at first conviction, education barrier, having a parent with a criminal record, family neighbourhood, types of offence committed and family relationship will be significantly related to recidivism.

Operational Definition of Terms

Recidivism: The tendency for some juvenile that has been to juvenile home before to break the law and be sent back to homes after serving a previous term in a penal institution. Recidivism will be measured based on the repeated criminal records that shows how many times the offender breached the law and has returned to prison.

Homes: Any building, enclosure or place where a person is lawfully detained awaiting trial or upon conviction.

Inmates: Any person whether convicted or not under detention in the prisons.

Juvenile: A young person or adolescent who has been under legal custody under the age of 11- 17.

Peer-pressure: this is the influence exerted by friends who may have impact on the beliefs, feelings, and actions of another who belong to a social network. Participants score on peer pressure is a score obtained in the peer pressure inventory developed by Santor, Messervey and Kusumakar (1994).

Drug use: in this study refers to at least the use of one of this substances Alcohol, Marijuana, Tramadol, Codeine or Morphine, Glue, Cough Syrups, Tranquilizers, Hard Liquor, Beer, Cigarettes and Tobacco in general which is capable of altering the physical and psychological functions of the body without the advice of a doctor and for reasons other than medical. Participants score on drug abuse is a score obtained on a questionnaire developed by Harvey (2008).

Self-control: Self-control is the ability to reverse impulses and direct responding to conform behavior to one's own standards and goals. Participants score on self-control is a score obtained from self-control scale by Gottfredson and Hirschi (1990) and were created using Sheridan Correctional Center releases responses to 34 items in the CEST.

Methodology

Design

This research work adopted the cross-sectional survey method. The independent variables of the study are self-control, peer pressure and substance abuse. The dependent variable of the study is offender recidivism. While psychopathic personality is the mediating variable.

Setting

The revalidation of scales that used in this study took place in Ibadan the capital of Oyo State. The main study was carried out in Lagos State. The national bureau of statistics 2016 published that Lagos recorded the highest number of crimes throughout the federation.

Sampling Technique

Regarding the sampling technique complete enumeration or census method was employed. There were two basic reasons to consider census technique to select the research participants. Firstly, although all the participants are adolescents, they still lack homogeneity in terms of their gender, age at first conviction, education barrier, having a parent with a criminal record, family neighbourhood, types of offence committed and family relationship. As such, differences in demographic factors demand to make use of the non-probability sampling (Hultsch et al., 2002; Wang et al., 2012). However, due to heterogeneity factors and availability of resources, the researcher would consider the existing maximum possible sample

size through the method of complete enumeration. As a result, the current study will not employ a method of sample size determination to analyze and evaluate the power and precision level of prediction.

Inclusion criteria:

- Be between age fifteen (15) and seventeen (17) years.
- Must have been admitted into the correctional homes at least twice or more.
- Understand and speak English or Yoruba.
- Indicate willingness to participate in the study.
- The legal custodians will sign the informed consent form.
- Sign ascent form after reading through.

Instrument

Self-control

Grasmick et al.'s (1993) low self-control scale was used to measure self-control. This scale is composed of a total of 24 items in six subscales (impulsiveness, simple tasks, risk seeking, physical activity, self-centeredness, and temper). All items in the low self-control scale were worded as originally suggested (none of them were reverse worded), and responses were given on a 5-point Likert-type scale (1 = strongly disagree, 2= disagree, 3=neither disagree nor agree, 4=agree, 5=strongly agree). This was revised from the 4-point Likert-type scale (1 =strongly disagree, 2=disagree somewhat, 3=agree somewhat, 4=strongly agree) us studies using this scale (e.g., Longshore et al., 1996; Pfefferbaum et al., 1993; Piquero & Rosay originally used by Grasmick et al., 1993), but it was consistent with other previo 1998). Reliability coefficients on the low self-control sub- scales for the entire sample ranged from $\alpha = .50$ to $\alpha = .79$.

Peer Pressure

This is a 11-item peer pressure inventory developed by Santor, Messervey and Kusumakar (1994). The scale was developed to measure the extent to which adolescent could be influenced to do certain things that they originally would not do. Peer pressure scale has response format that ranged on a 3-point response format of 1= a little, 2= somewhat, 3= a lot. Santor et al. (1994) reported a Chronbach alpha reliability index of 0.84, and a test retest reliability of 0.54. pilot study was conducted to validate the instrument using 118 participants consisting of secondary school student in Nsuka and the result yielded a chronbach alpha of 0.82. Please indicate the extent to which you believe in each of the following statement by expressing the level of your agreement or disagreement.

Drug Abuse

The questionnaire in question is a modified version of the Drug Abuse Screening Test (DAST-10), originally developed by Harvey A. Skinner in 1982. The DAST-10 is a 10-item self-report instrument with YES/NO responses designed to assess drug use and related problems. It has been widely used and validated in various settings. This variable was measured with 10-item drug use questionnaire developed by Harvey (2008). It is made up of 10-item score along YES/NO response. The reworded items yielded a high level of reliability Cronbach alpha of 0.903 in this research work. This research instrument measures drug abuse among the participants.

The Levenson Self-Report Psychopathy scale

It is a 26-item measure developed by Levenson, Kiehl, & Fitzpatrick, (1995). It possesses a high internal consistency, (ranging from .63 to.85). Items are rated on a 5-piont Likert type scale. The response categories are strongly disagree = 1 to strongly agree = 4. Some items are reverse scored to control for response sets. Based on the results of the initial study, the following thresholds for the results were established:

≤ 48 : Non-psychopathic group

49-57: Mixed group

≥ 58 : Psychopathic group

Recidivism

The common practice to measuring recidivism has been based on criminal history which is presumed that criminal history is a valid and objective method than self-report (Liem, Zahn, Tichavsky, 2014; & Meloy,

2005). Recidivism was measured based on the repeated criminal records that shows how many times the offender breached the law and has returned to prison.

Procedure

A written clearance was obtained by the researcher from the Department of Psychology, University of Ibadan to the concerned homes and individuals. Also, ethical approval was obtained from social sciences and humanities ethnical committee. Informed consent was obtained from the ministry of youth and social development in Lagos. All participants sign the accent form prior to administration of the questionnaires. The participants were informed that the data is for academic purposes, and that their anonymity is guaranteed.

The cooperation of all the workers in homes was sought for smooth running of the study. Participants were briefly told what the study was about and asked if they are willing to participate. The participants were told that they are allowed to withdraw from the study at any stage they feel like pulling out of the study. They all accented to participation by signing the accent forms and then they filled out the questionnaires afterwards, averagely filling out the questionnaires by participants took about 30-40 minutes.

Statistical Analysis

The stated hypotheses will be subjected to statistical analysis (SPSS 20) using the quantitative data that will be collected in the course of the study. Hypothesis 1 will be tested using Logistic Regression (LR) as all the independent variables are in continuous measurement and the dependent variable is dichotomised. Hypothesis 2 will be tested using multiple regressions. For hypothesis 3, Structural Equation Modeling will be applied to test the mediated causal effect (Blunch, 2008; Karimi, Meyer, 2014; Preacher, Kelley, 2011).

Results

Table 1: Summary of Multiple Regression Analysis Showing the Joint and Independent Influence of Peer Pressure, Drug Use and Self-Control on Recidivism

Dependent variable	Independent variable	R	R ²	F	P	B	t	sig
Recidivism	Peer pressure					-0.058	-4.394	<.05
	Drug use	0.920	0.846	19.40	<.05	0.152	11.24	<.05
	Self-control					0.938	68.84	<.05

Table 1 above showed that the combination or joint influence of peer pressure, drug use and self-control on recidivism was significant {F (table value) =19.40; R=.982, R²=.846 P<.05}. The independent variables jointly accounted for a variation of about 92.0% in the dependent variable. The independent influence of peer pressure was significant (B =-0.058 P< .05); the independent influence of drug use was significant (β =-0.152 P< .05); the independent influence of self-control was also significant (β =0.938). Therefore, the working hypothesis which states that peer pressure, drug use and self-control will mainly and jointly influence recidivism will be accepted. Peer Pressure, Drug Use and Self-Control independently accounted for 5.8%, 15.2% and 93.8% variations respectively on recidivism with self-control accounting the most on recidivism.

Hypothesis two which stated that psychological variables (self-control, peer pressure, and drug abuse) will significantly jointly and independently predict psychopathic personality was tested with multiple regression and the result was presented in Table 2 below.

Table 2: Summary of Multiple Regression Analysis Showing the Joint and Independent Influence of Peer Pressure, Drug Use and Self-Control on Psychopathic Personality

Dependent variable	Independent variable	R	R ²	F	P	B	T	p
Psychopathic personality	Peer pressure					.904	9.390	<.05
	Drug use	.464	.215	14.36	<.01	-.081	-8.051	<.05
	Self-control					-.250	-.269	<.05

Table 2 above showed that the combination or joint influence of peer pressure, drug use and self-control on psychopathic personality was significant {F (table value) = 14.36; R=.464, R²=.215 P<.05}. The independent variables jointly accounted for a variation of about 21.5% in the dependent variable. The independent influence of peer pressure was significant (β =-0.904 P>.01); the independent influence of drug use was significant (β =-0.081 P< .05); the independent influence of self-control was also significant (β =0.250P<.05). Therefore, the working hypothesis which states that peer pressure, drug use and self-control will mainly and jointly influence psychopathic personality will be accepted. Peer Pressure, Drug Use and Self-Control independently accounted for 90.4%, 8.1% and 25.0% variations respectively on psychopathic personality with peer pressure accounting the most on psychopathic personality.

Hypothesis 3 which stated that psychopathic personality will significantly mediate the influence of peer pressure, drug use and self-control on recidivism. This hypothesis is tested with hierarchical regression analysis and the result is presented in Table 3.

Table 3: Multiple Regression Analysis Summary Table Showing Independent and Joint Influence of Peer Pressure, Drug Use and Self-Control on Recidivism and the Mediating Role of Psychopathic Personality

DV	MODEL	VARIABLES	R	R ²	F	p	B	T	Sig
Recidivism	I	Peer pressure					0.058	4.394	<.05
		Drug use	.920	.846	19.40	<.05	0.152	11.24	<.05
		Self-control					0.938	68.84	<.05
Psychopathic personality	II	Peer pressure					.904	9.390	<.05
		Drug use	.464	.215	14.36	<.05	-.081	-8.051	<.05
		Self-control					-.250	-.269	<.05
Recidivism	III	Peer pressure					.0046	3.456	<.05
		Drug use					.116	4.005	<.05
		Self-control					.922	53.432	<.05
		Psychopathic personality	.658	.433	19.80	<.05	.604	1.209	<.05

Model I: Regression of IVs on the DV (Indicating the Predictive Influence of the Independent Variables on the Dependent Variable).

Model II: Regression of the IVs on the MV (Predictive Influence of IVs on the Mediating Variable).

Model III: Regression of the IVs and the MV on the DV (Showing the Mediating Influence of Psychopathic Personality on the Influence Between Independent Variables on the Dependent Variable).

IVs= Independent Variables (Peer Pressure, Self-Control and Drug Use).

DV= Dependent Variable (Recidivism).

MV= Mediating Variable (Psychopathic Personality).

Results on Table 4: Model 1 revealed that the influence of peer pressure, drug use and self-control on recidivism was significant {F () =19.40; R=.982, R²=.846 p < .05}. The independent variables jointly accounted for a variation of about 84.6% in the dependent variable. The independent influence of peer pressure was significant (β =-0.058 p < .05); the independent influence of drug use was significant (β =-0.152 p < .05); the independent influence of self-control was also significant (β =0.938). Therefore, the working hypothesis which states that peer pressure, drug use and self-control will mainly and jointly influence recidivism will be accepted. The independent variables of peer pressure, drug use and self-

control independently accounted for 5.8%, 15.2% and 93.8% variations respectively on recidivism with self-control accounting the most on recidivism.

In model II, it is shown that peer pressure, drug use and self-control significantly predicted the mediating variable (psychopathic personality) {F (3,)=14.36; R=.464, R²=.215 p < .05} and accounted for 21.5 influence on psychopathic personality.

Model III on the table is a test of mediation. Psychopathic personality was introduced between peer pressure, drug use, self-control and recidivism. It shown that psychopathic personality, peer pressure, drug use and self-control predicted recidivism {F (table value) =19.80; R=.658, R²=.433 P<.05. psychopathic personality, peer pressure, drug use, and self-control accounted for about 43.3% variance in recidivism. Result in model III has shown that the independent variables of peer pressure (β =.0046, t=3.456), drug use (β =.116, t= 4.005), self-control (β =.952, t=53.43) and the mediating variable of psychopathic personality (β =.604,t=1.209) had independent influence on recidivism. Direction of the beta value shows that the higher the peer pressure, drug use, lack of self-control and psychopathic personality, the higher the participants' recidivism. Further, it is shown in table 4.3 that the introduction of psychopathic personality significantly reduced the beta value of peer pressure (β from 0.058 to 0.0046), drug use (β from 0.152 to 0.116) and self-control (β from.938 to 0.922) on recidivism.

Discussion, Conclusion and Recommendation

This chapter contains the discussion, conclusion and recommendations based on the result from the study. It shed more light on the statistical results and findings in the previous chapter so as to make useful inferences, deduction and generalization for applicability in the society. Furthermore, it highlights the limitations as well as other directions for future research in this area of study. Results indicated that all the hypotheses were accepted. The findings of this research are hereby discussed below.

The hypothesis that psychological variables—self-control, peer pressure, and drug abuse—significantly predict recidivism was supported using multiple regression analysis. Each variable independently influenced the likelihood of reoffending. This aligns with studies by Blalock et al. (2022) and Billen et al. (2019), which found that higher self-control correlates with reduced recidivism. Self-Control Theory (SCT) by Gottfredson and Hirschi explains that low self-control leads to impulsive behavior and increased reoffending risk. Qualitative findings also emphasized that developing self-control, resisting peer influence, and avoiding substance abuse are crucial for breaking the cycle of recidivism and sustaining long-term behavioral change.

Drug use emerged as a key predictor of recidivism, supported by Martinez and Davis (2023), who found that integrated treatment programs significantly reduce reoffending. Wilson and White (2021) also showed that chronic drug use increases recidivism risk. Qualitative findings revealed that addiction impairs judgment and often drives criminal behavior, with relapse frequently leading to rearrest. Effective rehabilitation requires more than abstaining from drugs—it demands mindset and lifestyle changes. Peer pressure also plays a significant role in recidivism, as returning to harmful social environments can trigger old behaviors. Overcoming recidivism involves self-control, awareness, and distancing from negative influences.

Peer pressure was identified as the third predictor of recidivism, aligning with findings by Tadros et al. (2024) on the impact of negative peer influence and neighborhood quality. Qualitative results confirmed that returning to criminal social circles fuels recidivism, while self-control and distancing from negative influences can break this cycle. Hypothesis two showed that self-control, peer pressure, and drug abuse also predict psychopathic personality traits, consistent with research by Jones & Paulhus and Vazsonyi & Jiskrova. Hypothesis three revealed that psychopathic personality mediates the influence of these psychological factors on recidivism, echoing studies emphasizing the need for integrated mental health and substance use treatments.

Conclusion

The following conclusions were drawn as a result of the finding of this study: it was concluded that factors such as peer pressure, self-control and drug use significantly jointly and independently predicted recidivism. Another conclusion that can be drawn from this study is that peer pressure, self-control and drug use significantly jointly and independently predicted psychopathic personality. Finally, in this study, psychopathic personality mediated the influence of drug use, self-control and peer pressure on recidivism.

Recommendation

Correctional institutions should implement evidence-based rehabilitation programs that focus on enhancing self-control, providing addiction treatment, and fostering resilience against peer pressure. Given the interconnection between psychopathy, substance abuse, and recidivism, a multi-faceted approach incorporating psychological counselling, behavioural therapy, and social support systems is essential. Post-incarceration support programs should emphasize reintegration strategies that help former inmates build positive social networks and avoid environments that reinforce criminal behaviour. Providing inmates with skills training and educational opportunities can reduce reliance on criminal activities, thereby lowering recidivism rates.

Limitation

Despite the significant findings of this study, certain limitations must be acknowledged. Firstly, the study relied primarily on self-reported data, which may be subject to response biases such as social desirability or recall inaccuracies. Secondly, the study focused on a specific population, limiting the generalizability of the findings to broader criminal justice settings or different cultural contexts. Thirdly, while the study examined key psychological predictors of recidivism, other potentially influential factors, such as family support, and access to post-incarceration services, were not fully explored. Future research should address these limitations by employing more diverse methodologies, larger sample sizes, and longitudinal approaches to better understand the complexities of recidivism.

Suggestion for Further Studies

Future studies should examine other factors such as education barriers, employment, housing, financial support and debt, family relationship, age at first arrest or conviction, families' neighbourhoods, age when first convicted of an offence, having a parent with a criminal record, present age, types of offences committed, social achievement, family factors to mention but a few that may have significant influence on recidivism.

Future studies should adopt longitudinal study to measure the responses of study participant over time. This will future assist to examine the variation within the observed phenomenon of recidivism.

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Deradicalization and Counter Violent Extremism Programme: Lesson from Riyadh

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Introduction

The cost and impact of terrorism and violent activities of non-state actors in Nigeria have been very huge. For instance, banditry attacks on villages, militant attacks on oil wells, sit-at-home orders by ethno-nationalist groups (IPOB), and the activities of separatist groups have had far-reaching consequences on the socioeconomic as well as ethno-religious fabric of the nation. The most devastating of it all is the activities of terrorists and their affiliates, webs, and cells across the world. Since the Sep. 11, 2001 attack on the World Trade Center and its subsequent spread within the Islamic Maghreb, the activity of this group has gone global, which necessitates state action bilateral and multilateral. Some of this action includes kinetic military action, bilateral and multilateral action, and non-kinetic action. Kinetic action involves the use of lethal weapons and hardwires to outright eliminate terrorists before they strike. Identifying, hunting, and killing terrorists became a central task in the GWOT, and the SOF, later paired with drones were seen as the best instrument to achieve this goal (Kraft, 2018).

Nigeria, with the support of the United States of America through FMS, secures the construction of a new building at Kainji Air Base (Niger State) to house A-29s as well as the procurement of ammunitions, rocket fuel, air-to-air targeting systems, bomb gear, and surveillance equipment (DOD 2018; 2019; 2020; 2021). In line with this, Operation Restore Order was launched (Gana, 2018). A special security team, which comprises most of the security agency, was launched in 2011 (Onapago, 2017; Nnamani, 2018). Civilians were also added to the task force in 2013 (Agbiboa, 2020). Between 2013 and early 2015, the Nigerian military boosted their COIN deployments from roughly 5,000 troops to over 25,000 troops, supplemented by the counterterrorist special force commissioned in Nigeria in 2011, 4,940 in 2015 to 11,832 in 2016 as a result of a concerted regional military push and internal disintegration within Boko Haram. Deaths in Cameroon, Chad, and Niger also fell by 75%. (GTI, 2017), to compliment the effort of the Nigerian military, the state is also a key member of multilateral military organizations, most of which have proven inadequate to abate the activity of the dreaded group.

The commitments and the formation of COIN contributed to the re-occupation of the territory and, to a lesser degree, to reducing the ability of Boko Haram to carry out large-scale attacks, but terrorism in the region remains resilient. (Adam, 2010, p. 147; Albert, 2012, p. 1-16; 2011a, p. 38-62; 2011b, p. 14; Omede, 2011; Onuoha, 2010; Osaghae, 1998, 1994; Osaghae & Suberu, 2005; Oyewole, 2015, 2016; Sampson, 2014, 2019). Data obtained by the Council on Foreign Relations (CFR) Nigeria Security Tracker reveals that over 41,000 fatalities relating to terrorism were recorded between 2012 and 2022 (CFR, 2022).

Although terrorism in Nigeria is largely confined to the North-Eastern region, recent attacks, especially the attack on a church in Ondo state, southwestern Nigeria (BBC, 2022), IED attack in Nassarawa state, the attack at Kuje prison and the killing of 20 soldiers and 40 farmers in the North-East (*PUNCH*, 2025) have shown that terrorism is a national menace and terrorists have the potential to strike in any part of the country. While exploring the impact of the Multinational Joint task Force in 2021, Ajala argued that the MNJTF has failed to combat the threats of terrorism in the region and stated five reasons for the failure. These reasons include the lack of a clear mandate for the MNJTF, lack of understanding of the neo-patrimonial aspects of politics in the fight against terrorism, underestimation of the threats posed by Boko Haram and its affiliates, the inability of the MNJTF to adapt to new threats, and the unclear role of vigilantes in the MNJTF structure (Ajala O, 2019). Partly in response, states and civil society have sought out softer, often preventive, measures to deal with violent extremism, many of which have been deemed more successful than military approaches and less likely to foment a new generation of violent extremists (IPI, 2010).

Considering the increase in the attacks carried out by Boko Haram and its affiliates as a reflection of failing counter-terrorism initiatives and community disconnect, this article revisits the role and effectiveness of the deradicalization program put in place by the federal government vis-à-vis how it compares with other deradicalization programs across the world in the fight against terrorism in Nigeria and the Lake Chad Basin axis. Extant literature reveals diverging arguments about the success, failure, and impact of the various Counter Violence Extremism programs and the DE-radicalization program put in place by the federal government.

Despite the general belief that Saudi Arabia has been the incubator of terrorism and radicalism (Abuza, 2002; Al Saud, 2009; Gold, 2003; Spencer, 2004), such arguments continue to gain traction among academia and security scholars. Contrary to opinions, Riyadh, despite its conservative stance, has also suffered and is still suffering from terrorist activities linked to ISIS, Al Qaeda, and minority Shia groups (Reidel, 2015; Bahgat, 2004; Arab News, 2017; Gendro, 2010). The government have made so many effort at ending terrorism and violent radicalism both within and outside it border including financing multiple counter terrorism programme within and outside the state (Asseri, 2009; Rudoph, 2008) this is in conjunction with various programme targeted at suspected terrorist (Mahboop, 2017; Ansary, 2008) this as be taunted to be the reason behind the relative peace and stability within the state since 2017 (Qurtuby, 2020).

The paper is segmented into different sections, starting with an introduction and an overview of the counterterrorism and Counter Violent Extremism initiative. The next section gave a history of Saudi Arabia, followed by a brief introduction to Boko Haram. This is followed by the theoretical exploration of deradicalization and counter violent extremism. The article then delves into the various deradicalization policies put in place by Riyadh before exploring the success and failure of the CVE/DE radicalization program embarked upon by the Nigerian state. The article concludes by leveraging the various lessons that can be learned from Saudi Arabia's deradicalization programme.

Terrorism in Saudi-Arabia: A Brief History

Saudi Arabia has always been a conservative state; in 1960, King Faysal bin Abdel-Aziz sought to form an alliance based on shared Muslim identity. The oil price surge in 1973 and the Israeli war with her neighbor enabled Saudi Arabia to play a key economic role in world politics. This policy was aggressively built upon by Faysal's successor; a decade later, some of the charity was linked to terrorist groups like Al-Qaida (Rashid, 2000; Policy department, 2013). Before 9/11, the domestic scene of Saudi Arabia was marked by a relative absence of terror attacks, aside from the car bomb in central Riyadh on November 15 and the US Air Force barracks bombing a year later.

However, it was not until the arrival of al-Qaeda terrorism on its own soil in May 2003 that deliberations on improved governance took on a greater urgency and terrorism became the subject of intense public debate. Terrorism in Saudi Arabia has been linked to so many factors, this includes the activities of the Muslim Brotherhood, the presence of radical scholars/ clerics, the intervention of western troops within the region, anti-western sentiment, the rise of Shianism and anti-Shism (Hegghammer, 2010; Reidel, 2015; Rudolph, 2006). Despite the believe that Saudi Arabia has been the incubator of terrorist and radicalism (Abuza, 2002; Gold, 2003; Spencer, 2004; Al saud, 2009), This postulation has continued to gain traction among academia and security scholars. Contrary to opinions, Riyadh despite its conservative stance has also suffer and still suffering from terrorist activies link to AL-Qaeda and minority Shia group (Reidel, 2015: Arab News, 2017).

Civilian casualties from the May 12, 2003, suicide bombings of a Western residential compound in Riyadh proved an especially powerful spark for this debate, provoking a series of newspaper editorials on the broader socioeconomic, political, and ideological roots of terrorism. This incident also spurred a concerted push for nondemocratic counterterrorism measures, including increasing the competence of the security services and soliciting greater assistance from the citizenry and clerics both from the Sahwa and official religious bureaucracy (Kaye et al., 2008).

All changed post-September 11 when Al-Qaeda began to attack the kingdom. Domestically, this led to an anti-terror campaign that claimed over 100 lives between 2001 and 2008 (GTD Start, 2016). To complement her international corporation, alliance, and global initiative against terrorists. Saudi Arabia's reform/repression strategy against terrorism appears largely tactical, resulting in few real changes in the governing structure of one of the world's most closed, yet surprisingly resilient, states. Aside from size, key differences include the effect of Saudi Arabia's rentier oil economy in legitimating the rule of the al-Saud, as well as the hotly debated influence of Saudi Arabia's ideological underpinnings (described as Wahhabism but more accurately termed Salafism) on fostering norms of intolerance and militancy (Wiktorowicz, 2006). The latter characteristic has given the kingdom an uncomfortably ambiguous role in U.S. strategy—as both counterterrorism ally and terrorist incubator.

Saudi Arabia is a member of the global coalition to counter ISIS; as of March 2017, it has flown 341 sorties against ISIS in Syria, the second largest behind the US, with over \$100 million to support stabilization efforts in liberated Syria. The GS Sahel forces in West Africa were also supported with \$100 million to counter terrorists in West Africa. In 2017 the government inaugurated the Global Center for

Countering Extremist Ideology (Etidal), a center that focuses on preventing the spread of propaganda and promoting online media culture and moderation. This center monitors, processes, and analyzes extremist speech with high accuracy.

Boko Haram: A Brief Introduction

Although there is no widespread acceptance of the time Boko Haram came into being, common opinions about its origin trace it to 2002 when Mohammed Yusuf became the leader of the fundamentalist. However, the radicalization process of Boko Haram members is traced to 1995 when Abubakar Lawan established the Ahlulsunna wal'jamaah or Shabaab group in Maiduguri, Borno State. The group began as a non-violent religious movement with its ideology premised on the rejection of Western ideas and education. This marked the reason the group is called Boko Haram ('western education is a sin'). The group has its objective thrust to institute strict Islamic Sharia laws in place of the secular nature of the Nigerian state. Radicalized members are drawn from dissatisfied youths, unemployed youths, and destitute children who are majorly brainwashed by Mohammed Yusuf through his preaching on the corrupt and excessive lifestyle of government officials which subsequently leads to making their members believe in the destruction of things that pertain to the education in Nigeria including instituting Sharia Law in all parts of the country (Sowale, 2023).

Rooted in religion extremism with a view to establishing an Islamic caliphate govern by sharia law in Nigeria in opposition to National security and survival. Over time, it began attacks into Niger, Chad and Cameroon, often in response to growing military operations by those countries. According to UNDP report, the economic cost of terrorism in Nigeria from 2007 to 2016 is above \$97 billion (UNDP, 2019).

Boko Haram, a long-time al-Qaeda sympathiser, pledged allegiance to IS in 2015 and later rebranded itself as Islamic State West African Province (ISWAP). The incorporation of Boko Haram into IS's ranks raised concerns at a time when both groups had suffered significant losses. The first clear implications of this new relationship were frequent social media interactions and ISWAP's improved technological savviness. There were indications of physical contacts between the Nigerians and IS members in Libya, but operations in Nigeria saw little to no change (ASPI, 2016)

In the summer of 2016, a rift within ISWAP was underway. Abu Musab al-Barnawi, son of Boko Haram's late founder Mohamed Yusuf, was designated ISWAP leader, sidelining Boko Haram's chief, Abubakar Shekau. This led to two separate organisations, although earlier fractures within Boko Haram showed significant fluidity among factions and offshoots; the same can be expected in the current context. Shekau's 'traditional' Boko Haram continues with the indiscriminate and opportunistic targeting of military, government and civilians, while ISWAP under al-Barnawi claims to prefer the strategic targeting of military personnel and infrastructure and foreigners. Notably, ISWAP's approach is more aligned with AQIM's than IS's and doesn't exclude a return to AQIM's sphere of influence in the future. The opportunism that has characterised Boko Haram's interactions with other jihadists in the past lends further credibility to this speculation.

The military offensive that followed President Muhammadu Buhari's appointment in May 2015 and continued into 2016, together with more concerted regional efforts under the Multinational Joint Task Force, has weakened Boko Haram/ISWAP. The group is no longer able to carry out attacks across the country or hold territory. Activities are primarily concentrated in the northern part of Borno state (Nigeria) and borderlands of Niger, Cameroon and, to a lesser degree (Chad ASPI, 2016). Many militants have been either killed or arrested, and hundreds of abducted civilians have been rescued.

The Theory of Deradicalization, Disengagement and Counter- radicalization

Experts in the topic have opined on the lack of theoretical ground for deradicalization work (Horgan & Braddock, 2010) until recently. Just like any other social construct, the concept of radicalization never failed to gain significance in the security and strategic discourse. It has soon become a popular word among government officials, media practitioners, and security officials, while academics have to battle with different views to provide a perspective that clarifies the concepts as defined by several people in diverse political, media, religious, and economic spaces (Ashour, 2009). According to Koehler, radicalization is the process of repluralization, whereas violent radicalization is the depluralization of political ideas and ideals. Until after 9/11, the term "radicalization" was rarely used in the general discourse. The phrase gained popularity following a string of attacks in mainstream Europe that prompted the establishment of a number of counter-radicalization initiatives, such as the establishment of expatriate organizations, such as the International Centre for the Study of Radicalization and the Radical Awareness

Network (Coolsaet & De Vries, 2008). The popularity of the phrase, which has maintained its use in the academic and media circles, was further aided by the eruption of unrest in the Middle East contributed to the popularity, which has kept the term in use within the media and the academic circle.

According to Koehler (2010), "radicalization is used to describe how a person became an extremist and is typically associated with the use of certain ideas to perpetuate violence." According to the European Commission, it is a process of accepting viewpoint. According to Reinares (2008) and Bosi (2014), it is the persistent use of violence as a tactic to accomplish political objectives. The significance of violence in radicalization is still up for question, though (Sedgwick, 2010; Psoiu, 2011). Bartlett and Miller defined non-violent radicalization as a type of radicalization that permits an individual to have radical beliefs without attempting to undermine the status quo or support or incite terrorism (Bartlett & Miller, 2012). The term radicalization is derived from the Latin word 'radix', which means 'root or base' (Neuman, 2013), and has evolved over time. In the twenty-first century, the phrase has evolved from "having root" to "from the root," "unconventional," and, lastly, "going to the extreme." The phrase was used to describe a liberal, reformist, democratic movement away from the religious dictatorial monarchical system during the first wave of radicalism (Posoiu, 2011 referenced in Koehler, 2016).

The choice to leave terrorism is complicated and very personal, and previous research identifies some "push" and "pull" factors that explain why people leave terrorism (Kate, 2015). Push factors are experiences associated with terrorism that influence someone to leave, such as burnout, difficulty leading a clandestine life, losing faith in the ideology, and conflicts with leaders or other group members. Pull factors are external influences that draw someone to a more traditional social role, such as the desire to marry and start a family, the demands of a traditional career, and the prospect of amnesty or material rewards.

Although earlier research has been useful in identifying possible push and pull causes for disengagement, it is based on interview data collected from a limited sample of people or from people who belong to the same terrorist organization or geographic area. Because of this, it is challenging to determine the frequency with which particular push and pull factors—no matter how minor—influence terrorists' decisions to flee. Given the challenges of researching hidden populations, such as terrorists, the lack of such data is not surprising (Altier, 2014).

Efforts to encourage disengagement from violence and persuade extremist militants to adopt more moderate positions on political or social issues are known as "de-radicalization" in Europe and America. While de-radicalization is not limited to Islamist terrorists, in practice it frequently targets domestic jihadists in prison or, less frequently, outdoors in an effort to counteract and occasionally prevent violence. "Deradicalization" programs, which aim to peacefully move individuals and groups away from violent extremism, have gained popularity and scope in the last five years (IPI, 2010). According to Hafez and Mullins, it is the dismantling of conditions that encouraged radicalization and the establishment of an environment that discourages further radicalization of gullible individuals in a particular society (Hafez & Mullins, 2017).

"Deradicalization," meanwhile, refers to the process of divorcing a person, voluntarily or otherwise, from their extreme views, while "disengagement" refers to the process of moving a person away from their extreme group's activities, without necessarily deradicalizing that person or changing their views. "deradicalization" will refer to programs aimed at detainees or prisoners suspected or convicted of terrorist crimes; "prevention" will refer to programs aimed at individuals or groups considered vulnerable to recruitment; and "counterradicalization" will refer to both efforts, as well as to broader public diplomacy efforts that aim to reduce the appeal of terrorist ideologies (Stern, 2010s).

Indeed, the relevance of de-radicalization to counter violent extremism and make peace is disputed. Radicalization is context-specific. It does not depend on a single causal factor (Horgan, 2005).

Nigeria Deradicalization: A Work in Progress

To Adesoji et al. (2018), the unending hostility and insurgency in the north-east can be attributed to poverty and unequal access to socio-economic opportunities. This was further exacerbated by corruption within the military (Onuoha et al., 2020). Incompetency on the part of state and the factionalize political elite (Olo-Finbiyi, Steyn, 2018) (Iyekekpolo, 2018). With its activities, the group has resulted in a USD 9 billion loss for the Nigeria state as of 2016 (Africa news). This has serious implication for the Nigeria economy and the developmental stride, due to the heavy budget allocation geared towards bringing the activities of the group to a halt (Awortu, 2015).

Terrorism is not only peculiar to Nigeria as a state. However, the phenomenon is more rampant in Nigeria and Mali (Akanji, 2019). While Nigeria is home to Boko-Haram, Mali houses Ansar Dine, MOJDA and AQIM with link to other deadly terrorist groups. The activities of the group have serious implication on some of Nigeria neighboring state. Boko Haram has carried out armed attacks in state sharing boundary with Nigeria, this includes Niger, Chad, and Cameroon. For instance, in Cameroon, Boko Haram abducted foreign visitors, missionaries, and civilians in the border regions of the country in 2015 (AU, 2015a); in 2017, 60 suicide attacks were carried out in the country's remote regions (*Vanguard*, 2018a); and in February 2018, a number of people were killed, including five in Ashigashiya town (*Vanguard*, 2018b). Boko Haram attacked multiple locations in N'djamena, the Republic of Chad, and the Gueskerou area of Diffa Province, Niger Republic, in June 2015. The attacks caused varying degrees of casualties; in N'djamena, 20 people died (ECOWAS Info, 2015), while in the Gueskerou area, 38 people died—mostly women and children—and more than 100 homes were destroyed (ECOWAS, 2015). In line with this, state within the international system have enact measures including policies mechanism to stop, mitigate or limit the activities of violent extremist groups and their affiliate.

This can be in form of counter-insurgency and counter terrorism. This counter-terrorism approach can be in form of legal instrument (Adeyeye, Omodunbi, 2018; Byman, 2020; Perry, 2010). It can also be in form of strategy to displace and prevent terrorist activities (US Joint Military, 2019) and as a tactics use for pre-emptive act to stop perceive/real threat from terrorist (US Nation Counter terrorist centre, 2019). David Cortright and George Lopez establish two major approaches to counter terrorism; Military action, especially covert military action, is an essential part of the worldwide strategy against the Islamist terrorist movement, but there are limitations to this approach. Research by Laura Dugan and Gary LaFree, professors of criminology and criminal justice at the University of Maryland, suggests that over the long term, harsh counter-terrorism measures can have a backlash effect (Iafree, Dugan, 2009). A main limitation of some of these “hard” approaches is that they do not dismantle the discourse or “justifications” used by extremists to persuade others to join their cause (Charkawi, 2024). There is limitation to kinetic approach to counter terrorism and imprisonment.

The legal system of handling terrorism is also limited due to lack of evidence to put terrorist suspect behind bars most times. In recent years, more primary interventions have been designed to prevent violent extremism, and they often hail from a public health approach. Many authors have underscored the benefits of using public health models in the prevention and countering violent extremism (P/CVE) programme analysis (Koehler, 2020). The reality of this led to the adoption of non- kinetic approach to counter terrorism, this can be in form of Preventive Counter Violence Extremism (PCVE), Counter-radicalization and Deradicalization.

Deradicalization programme is a solution numerous states have sought to manage brutal fanaticism. Many have been judged more effective than military methodologies and less inclined to impel another sort of brutality (Barkindo and Shane, 2016, p. 1–25). Nigeria’s deradicalization process began with the military approach which proved to be ineffective in ensuring the members of the Boko Haram sect desist from the dastard act of destruction of lives and properties. Nigeria’s de-radicalization initiative has its roots in the government’s 2014 National Security Strategy, which called for an expansion of a ‘soft approach’ which would include a Counter Violent Extremism programme. The three components of the strategy were counter-radicalization, communication and de-radicalization (Barkindo, Atta, & Bryan, 2016).

Nigeria operates three DE radicalization programs that aim to correct the thinking patterns of Boko Haram defectors (Ebiede, 2015b). The Prison Programme, Yellow Ribbon Initiative, and Operation Safe Corridor. About two thousand members of Boko Haram and the Islamic State of West Africa province are said to have defected through the Operation Safe Corridor (*Premium Times*, 2017). Sadly, this programme has had its own fair share of issue which include: The shortfall of a nonaggression treaty implies that it is difficult to figure out who ought to be qualified for deradicalization, on what standards and on what terms (Holmer & Adrian, 2017).

Excessive force by the security agencies, killing of re-integrated former combatant, as there have been reported cases of attack on repentant Boko HARAM members (Wallis, 2015), high level of suspicion by the communities and pushing combatant to re-integrate in space with less control by the state (Owonikoko, 2019). The IDPs are not just taken aback, they are angry with the perceived preferential treatment of the supposed surrendered ex-Boko Haram militants (Amnesty International, 2015). To Perouse de Montclo in his study of deradicalization programme in four South Sahara state postulated that the deradicalization programmes are neither feasible and ineffective (Perouse de-Montclo, 2018). It is vague whether the

Nigerian government has given the issue of balancing the treatment given to both victims and villains a cautious thought, as mind-boggling questions have been left unclear. The state excludes the systems of reconciliation and forgiveness in the process of reintegrating the individuals back into society. The popularity of the deradicalization program among the military still remains unclear (Ujunwa, 2017).

Victims in the Northeast found it uneasy that they were being compelled to share neighborhood with the supposed deradicalized Boko Haram ex-militant. It was never taken to the notice of the community to allow repentant villains into the community (Linetsky, 2016). Cases of ex-terrorist who suffers trauma from the excessive torture from the Nigeria military and security agencies are left uninvestigated to understand the state of mind and thought process of such individual. The community which is a major component of the post rehabilitation programme are most time left out of the discussion, while the programme has encounter series of issue ranging from inadequate synergy with the handling agencies, suspicion on the part of the locals and the ex-terrorist, inadequate awareness and sensitization programme within the receiving community.

Saudi- Arabia DDR: A true model?

Saudi government has made so many efforts at ending terrorism and radicalization both within and outside it borders, this include financing multiple programme home and abroad (Asseri, 2019; Rudoph, 2018) this is in conjunction with various deradicalization and reintegration programme targeted at suspected terrorist (Mahbop, 2007; Ansary, 2008). Aside the use of kinetic form of counter terrorism, Saudi Arabia has been taunted as a good case study in the deployment of dialogue between institution, community, political group as well as soft power (Qurtuby, 2020) (Royal Embassy Saudi Information Centre, 2015).

Just like the process of becoming involved in terrorism, deradicalization is a gradual, labyrinthine journey, with many pitfalls (Horgan, 2020). There are successes, and there will be failures. Audrey Cronin noted that, from a historical perspective, terrorism has been cyclical. Terrorist movements have ended due to a number of factors, including “decapitation” (or removal of a leader); the inability of a group to pass on its values to the next generation; the participation of the group in political processes or negotiations; the loss of public support; or the achievement—or perceived achievement—of the group’s objectives (JB Alterman, 1999).

The Saudi programme echoed these values and prioritized a rehabilitation program using three main tools: “force, money, and ideology.” The program, Prevention, Rehabilitation, and Aftercare (“PRAT”), targets detainees identified as supporting terrorism and has adopted a multipronged approach to dealing with “deviant groups.” The primary approach of the government has been to work with doctors, psychologists, and clerics on eroding support for extremist ideologies; famously, a fatwa issued during Ramadan 2007 called for high-profile dialogue to recant their positions. Additionally, a pervasive public information campaign showing the effects of violence on victims has been put in place to lower public support (which has been seen in internet forums and elsewhere) for terrorist rhetoric and tactics.

In addition to such public information measures, the Saudi initiative has an intensive course of study mapped out for members of violent groups. Designed on the presumption that extremism stems from a “mistake” made in interpreting Islam, rather than deliberate support for terrorism, the programs are designed to “reeducate” individuals and promote a more holistic and nonviolent interpretation of religion. The authorities not only view the struggle against terrorism and other forms of violent extremism merely as a physical combat against terrorists and extremists but also as a “war of ideas” centered upon issues of legitimacy, authority, and legality/illegality in Islam (Qurtuby, 2020). A religious subcommittee populated by well-respected clerics emphasizing their independence from the government engages participants in substantive discussion about the true nature of Islam. In addition, intensive classes are held to assist participants in gaining a more balanced understanding of their religion. The Saudi program organizers suggested that imams can play a very important role in extremism: “It is important to look at the imam; if he is radical, he will radicalize others.” Similarly, and perhaps controversially, they take the same approach to teachers and have now removed approximately 200 to administrative positions for fear that, if allowed in classrooms, they would radicalize their students (IPI, 2010). This is a far cry from the “hard” approach of some countries’ security mechanisms, and “this ‘deprogramming’ of extremist views of Islam has led to some participants actually breaking down in tears as they realize they have violated their religion’s principles through committing violent acts” (Beneth, 2008).

In Saudi Arabia, the deradicalization program was centered and prioritized around dialogue and intellectual discourse aimed at persuading violent-extreme actors or detained terrorists to see the errors in their activism and promote a better understanding of Islam that eschew violent actions of extremists. This

approach is a derivative of the deradicalization philosophy of Judge Hamoud al-Hittar in 2005 during Yemen's innovative program which states that 'if you study terrorism in the world, you will see that it has intellectual theory behind it. Any kind of intellectual idea can be defeated by the intellect'. Thus, the deradicalization program of Saudi Arabia adopted the Yemen approach using three main keys, Money, Ideology, and Force. Extremists are programmed to undergo three processes: Prevention, Rehabilitation and Aftercare. Detainees who identified to be terrorist sympathizers were the first targets. The chief approach of the government of Saudi Arabia was to collaborate with professionals like doctors, psychologists, and religious clerics to intellectually dissuade people from supporting extreme ideologies. To further stop public support for violent extremism, public information displaying the negative implications of violence on victims was put in place after the 2007 Ramadan release of fatwa (a ruling on Islamic law issued by a recognized authority) which called for high-profile dialogues to restate the government position (Jones and Libicki, 2008).

Jessica Stern, drawing from her experience at the Riyadh Care Rehabilitation Center and the Muslim Contact Center in London, posits that any terrorism prevention or rehabilitation effort must be based first and foremost on a clear understanding of what motivates people to join terrorist movements and what motivates them to leave (Stern, 2010). The Saudi government refers to ignorance about the true nature of Islam and "intellectual abnormality" as "the main reason for terrorism." The Saudi program takes great pains to reintegrate participants into the families and communities they belonged to before their radicalization by encouraging family visits and getting the community involved in follow-up after the youth are released.

The program rightly assumes that social connections are key to both radicalization and deradicalization (Stern, Modi, 2008). Another key question is how extremist groups organize. Informal events such as parties or gun shows have long been the main path to joining far-right groups, but online recruitment has become increasingly important ("The Use of Social Media by United States Extremists," START, 2018). Social media can also provide clues about when and where violence may occur with the aim of predicting extremist violence in various regions by measuring changes in the emotional valence of nearby tweets.

The most successful rehabilitation models focus on the individual offender, with intervention based on an assessment of what caused the offender to commit the crime. The ideal model includes prison-based rehabilitation programs, transitional services, and community after-care services (Bartol, 2005). Research on the effectiveness of deradicalization programme is scarce due to the problem of relying on expert opinion and flawed recidivism rate, although promising effort has emerged (Altier & Horgan, 2019), nevertheless how this programme is framed can play a critical role in convincing a pessimistic public of their value (Clubb & Connor, 2019). Furthermore, some former members of the group may themselves have a critical role to play in the development and delivery of such programme (Braddock & Horgan, 2016). Saudi Arabia has been renowned as a leading country in the following issues: use of soft power and security in the combat against terrorism; creation of public and private institutions to raise awareness about extremist ideology; initiation of dialogues between different religious, political, and ideological groups; and the shape of regional and global initiatives to uproot terrorism and extremist ideologies (Royal Embassy of Saudi Arabia Information Office, 2015).

Terrorists are different from ordinary criminals in many ways, of course, but it is worth noting that according to the Saudi government, its deradicalization program—which, like the interventions described above for "ordinary" criminals, relies on prison-based rehabilitation programs, transitional services, and post-release services—has been remarkably successful. The Saudi government has not disclosed the total number of people who have completed its program, but as of 2009, eleven graduates had ended up on the country's most-wanted terrorist list. Still, according to official statistics, the rate of recidivism is only 10–20 percent as at 2008, 15-20 percent in 2017 (Gardner, 2018) which is remarkably low.

The Saudi government also runs a terrorism-prevention program that monitors religious leaders, schoolteachers, and Web sites. It recently arrested five individuals for promoting militant activities on the Internet and recruiting individuals to travel abroad for what the government called "inappropriate purposes", the also include the investigation of 17 cleric who failed to denounce terrorist activities within and outside the kingdom (Arosoaie, 2015). Meanwhile, it also supports a non-governmental organization called the Sakinah Campaign (Sakinah means "tranquility"), which helps Internet users who have visited extremist sites interact with legitimate Islamic scholars online, with a view to steering them away from radicalism (GAO, 2009). The result of these multiple counterterrorism efforts is rather fascinating. The

Kingdom appears to be one of the few countries in the world where fighting terrorism and extremism has witnessed real success. The Saudi experience also illustrates the imperfect nature of such a complex effort.

The Saudi rehabilitation program has been heavily resourced for years and, even with recent changes, still relies heavily on after-care elements like monitoring by security forces and parole-like reporting requirements, financial support for detainees after release, and ongoing contact with both the individual and his family (Cfr, 2010). Though the future is uncertain, it is important to acknowledge that since 2017, the Kingdom has been relatively peaceful and free from bombings and terrorist acts, and its citizens had enjoyed security and stability. Only a few minor incidents have occurred. It seems that the terrorists failed to gain popular support from the society for their cause.

Conclusion

Charkawi et al. in their review identified 74 programme evaluations that included satisfactory measures and metrics. Only 32% of the studies deemed the intervention successful, 55% described limited success, and 8% deemed the program had failed. Many of the programs evaluated failed to reach their objectives; some generated negative outcomes such as community disdain and an increase in the likelihood of alienation and stigma. It is important to remember that no one size fit all as far as deradicalization and CVE is concern because terrorism and counter terrorism are context specific (context include local, cultural and socio-economic environment). Nigeria must adopt far reaching initiative from the international community. The country must sort for a Nigeria solution to Nigeria problem including the adaptation of lesson from specific socio-cultural context. The encouragement of pluralism deradicalization and disengagement within the country, the involvement of family, tangible financial support, the integration of religious group as the corner piece of the programme, as well as the input of season socio-psychologist.

Attention must shift towards religious leaders who can base their teaching on theology and ethics. The use of public diplomacy and developmental security must be encouraged especially in vulnerable community as violent extremist take advantage of this vulnerable population. Saudi Arabia, infamous not only for producing bin Laden but for its financial support for terrorism and for religious schools that preach intolerance, has become a model for deradicalization and reintegration, with an implication for the Muslim and the entire world. Although a number of other governments have made similar attempts, Saudi Arabia, perhaps surprisingly, is at the cutting edge. Some four thousand individuals have graduated from the rehabilitation program, and a comprehensive effort is now under way to dissuade youth from joining terrorist groups in the first place.

The Saudi approach is an extremely important experiment that may have implications for counter-radicalization programmes around the globe—not just for Muslim terrorist groups, but others as well. Though the Saudi Deradicalization model has been question in some quarters, expert point to the huge economist cost of the programme and human right concern which bordered on the high surveillance and the regime autocratic tendencies which has limit the availability of data from Riyadh.

Finally, consider the increase in Boko Haram and its affiliate attacks in the northeast, coupled with the various security challenges within the region. This article posits that there is an urgent need to revisit the current counter-violence extremism and deradicalization program in Nigeria. Where else to look up to if not the Kingdom of Saudi Arabia? The kingdom has been able to develop an all-encompassing model that involves almost all the major sectors of the society. With the effective deployment of dialogue and intellectual discussion, coupled with the use of incentives, close community, and family members of violent extremist actors or detained terrorists, the kingdom has been able to build trust with extremist actors as well as acceptance from his/her community, which has been a major drawback with the Nigeria deradicalization program. Nigeria must pay close attention to Saudi Arabia's aftercare program, the surveillance system must be in line with global practice, and this surveillance must also be extended to religious leaders, schools, and the internet.

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Nigerian Elite Misrule, Boko Haram Insurgency and The Fragile State

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Abstract

Elites are key decision makers in the determination of the destiny and functioning of the political, economic, and military system of any country or a sovereign state. Their actions, political, religious, military and economic impacts Boko haram insurgency. Usually, they have mishandled the trajectory in the fight against Boko haram since 2009. Nigeria has not been able to provide security for its citizens, and also provide basic necessities of life for the inhabitants of the North East. What are the proofs of Elite misrule in the handling of the Boko Haram conflict? What is the place of religious elites in the fight against Boko Haram. The Study used elite theory and political economy approach. The study utilized secondary data sources. The study concluded that there is elite complicity in the religious and political circles of the Nigerian state. It advocated for transparency in the political, military sector, and that religious leaders should preach peaceful doctrines harmony trust and cohesion in affected communities.

Keywords: Nigerian elite misrule, Boko Haram, fragile State, Nigeria, Boko Haram Insurgency

Introduction

The political, economic, and military systems of every nation or sovereign state are largely determined by its elites (Keller, 2017; Callahan, 2016). A detrimental worldwide phenomenon, insurgency has affected the political and socioeconomic structures of numerous nations to differing degrees and has resulted in insecurity (Ali et al., 2019). According to Bello (2022), insurgency is a destabilising global phenomenon that causes significant socio-economic and political degradation in the afflicted countries. It is characterised by armed opposition groups that use terrorism and guerrilla tactics to undermine governmental authority. Economically, insurgency operations interfere with networks of trade and agricultural production. For example, Boko Haram's devastation of Nigerian marketplaces caused an 89% drop in regional agricultural output and made food shortages in the country worse (Adimula & Atowaju, 2023). As evidenced by the fact that 89% of conflicts in Taliban-controlled Afghan districts are decided outside of official frameworks, these movements undermine institutional legitimacy politically by establishing parallel governance systems, which erodes public confidence in central authority (Jalalzai, 2021). According to UNHCR data, 66% of all forced migrants worldwide originate from insurgency zones, indicating that the impact varies geographically, with sub-Saharan Africa and the Middle East facing worsened cycles of poverty and displacement (Regasa & Lietaert, 2022). This study aims to examine the connection between the insurgency caused by Boko Haram and the Nigerian state's vulnerability and the way in which the political, economic, military, and religious elites have mismanaged the fight against Boko Haram. Similarly, the study looks into how religious and political elites are involved in the battle against Boko Haram.

While transnational networks use globalisation to radicalise recruits and smuggle weapons, causing regional instability, insecurity results in widespread human rights violations, including targeted attacks on civilians and vital infrastructure (Berebon, 2025). These complex crises thus highlight how the insurgency can be a trigger for systemic fragility, requiring concerted international responses to lessen its damaging impacts on governance and development (Lahai & Koomson, 2020). International conflict has frequently involved insurgency, a form of irregular warfare that has become more complex and widespread throughout time (Ugwala, 2022). Historically, insurgencies have been sparked by grievances such as economic disparity, political exclusion, and foreign domination (Iyekekpolo, 2020). Insurgency has also been one of the most prevalent forms of violent conflict since the formation of organised political communities, according to scholars like O'Neill (O'Neill, 2019). Furthermore, contemporary insurgencies usually subvert established military strategies by fusing terrorism and other irregular warfare techniques with traditional guerrilla tactics (Beckett, 2021). According to Krishnan (2024), it is not surprising that the Fourth-Generation Warfare thesis highlights how insurgencies have evolved to adapt to the times by leveraging technology and decentralised networks to expand their power. Similarly, the globalisation of

groups like Al Qaeda demonstrates the transnational nature of insurgency, as ideological motivations transcend national boundaries (Shah, 2024). As a result, civilian populations and government systems have a significant impact on insurgent dynamics. The crucial role citizens play in influencing the course of conflicts, whether through cooperation with counterinsurgents or support for insurgents, is highlighted by recent empirical study (Grey, 2024). Moreover, insurgencies are frequently classified as "irregular," in which state troops are more capable but find it difficult to adequately address underlying grievances. Conflicts can be made worse rather than better by misguided policies like harsh military operations or disregard for development initiatives (Mir, 2018).

Crucially, case studies from places like Iraq and Afghanistan show that effective counterinsurgency tactics call for sophisticated methods that incorporate economic growth, governance changes, and customised rules of engagement (Partaw, 2024). Around the world, insurgencies take many different forms and have a variety of causes. Insurgent violence frequently becomes entangled with local concerns and socio-cultural narratives in the Global South (Shah, 2024). Insurgent Cultures' comparative research shows how nationalist conflicts, resource warfare, factionalism, and communalism fuel various forms of violence in places like Nigeria, Myanmar, and India (Ojo, 2024). By focusing on localised reality rather than broad ideological causes, such as intimate violence and regular violence, these conflicts subvert conventional frameworks (Bessey, 2019). Additionally, research on past insurgencies after World War II shows that different results can be obtained depending on the strategic methods taken by both governments and insurgents (Sullivan & Karreth, 2019). From anticolonial uprisings to contemporary separatist movements, these instances offer important insights into the relationship among societal resilience, military tactics, and political legitimacy (Sen, 2022).

In all community, elites decide, make, and oversee the scope and execution of important decisions (Mills, 2019; Blanchard, 2015). Since it started in 2009, the war against the Boko Haram insurgency has lasted a long time (Falode, 2016; Amao, 2020). This has required the "actions, decisions, and subtle inactions" of the nation's elites, who are key stakeholders (Ogunnubi & Okeke-Uzodike, 2016; Seiyefa, 2016). These elites include military, political, and religious figures. Occasionally, religious leaders have had an impact on the battle against Boko Haram (Awortu, 2015; Banini, 2020). This is because the study contends that they are possibly and largely making money off of the protracted conflict (Alozieuwa, 2016; Amao & Maiangwa, 2017). The study's second contention is that elites will support the war as long as it benefits them financially and helps them assert their authority within the Nigerian government (Mbah et al., 2017; Onapajo, 2017). The third argument in the study, which is related to this, is that these elites will not want to destroy the empire they have established in order to benefit themselves (Onapajo & Usman, 2015). The reason is that it turns into a suicide mission for them, in contrast to the Nigerian government's ultimate objective of defeating Boko Haram.

Additionally, there is a claim that the dominant and powerful activities of these elites have a connection to the ongoing Boko Haram war and its significant funding (Ogunnubi & Okeke-Uzodike, 2016; Warner, 2017). These activities have had a significant impact on the war's positive outcome and the Nigerian state's political, economic, military, and social ramifications. As a result, the Boko Haram terrorists were able to produce and distribute lethal weapons and ammunition (Ikedinma, 2019; Adesoji, 2019).

In addition to elite misrule, there are other major causes of the protracted Boko Haram conflict. They blame the inability to fight Boko Haram on the deterioration in military professionalism since 1999, the involvement of politics in the national security architecture, and the incompetence of national leadership under Jonathan's presidency (2010–2015) (Oriola, 2021, p. 155). Additionally, Iwuoha (2019) held the opinion that the multifarious divergence between nations like Nigeria that want counterterrorism assistance and their foreign power patrons, like the USA, may be the reason why Boko Haram has not been defeated. In addition, I have maintained that the community's mistrust of counterterrorism efforts has been further exposed by the perception that the war is being purposefully prolonged because it serves as a mechanism for the political and military elites to make money, as well as the likely resentment of the patronage system that is involved in placing soldiers in important positions on the front lines of conflict and is rife with corruption. Moreover, the sabotage and intelligence disclosures have political, religious, and ethnic components, once more. One example is the June 2014 conviction of ten generals and five other officials for selling weapons and giving Boko Haram intelligence (The Atlantic, August, 2014).

The failure of a political strategy, as defined by Uzodike and Onapajo (2015), is another factor contributing to the protracted Boko Haram conflict. Three things caused it to fail. The elites who could have helped communicate with the group were first and foremost increasingly sceptical about the federal

government under Jonathan's commitment to genuinely addressing the issue (Onapajo, 2013). Second, the politics of northern Nigeria at the time seemed to be against President Jonathan because of the aftermath of the 2011 presidential election, which disapproved of the PDP's power rotation system and was supposedly against a northern candidate (Onapajo, 2012). According to Onapajo (2015), northern Nigerians believed that the government was secretly fostering Boko Haram terror in order to undermine the chances of a candidate from the area in the 2015 presidential elections. This belief was further supported by the ethnicization of politics, which peaked under Jonathan's presidency. Third, the committee found it extremely difficult to choose a subgroup to begin talks with because Boko Haram had also split up into numerous factions and loose networks (Onapajo, 2016).

Since 2009, the struggle against Boko Haram has continued, resulting in numerous negative effects, including the loss of life and property. Nevertheless, despite massive military might, financial resources, logistics, and other technicalities, the Federal Government of Nigeria's efforts through the Nigerian military to quell the insurgency have not succeeded in putting an end to the Boko Haram insurgency in northeastern Nigeria. As a result, Nigeria has been unable to provide both security for its citizens and the essentials of life for those living in the Northeast. Additionally, there are not many research on the topic from 2023–2025 that use the elite theory approach. The critical race theory and the racial threat theory (Onah et al., 2024), social structure theory (Anazodo & Ezenwile, 2025), Devil's theory of Imperialism (Uche et al., 2023), structural conflict theory (Illo et al., 2023), and frustration aggression theory (Olumuyiwa & Gideon, 2024) have all been used in studies that have addressed the misrule of the Nigerian elite, the Boko haram insurgency, and the fragile state. The paper is divided into four sub themes. The First one is, the Fragile state of Nigeria/Fragility of the Nigerian State. Secondly, Proofs of Nigerian Elite Misrule and Boko Haram Insurgency. Thirdly, interrogating the role of Political Elite in the fight against Boko Haram, Fourthly, Interrogating the role of religious elites in the fight against Boko Haram. Then, the conclusion and recommendations.

Conceptual Clarification

The idea of elites has generated debate. But in a more specific sense, elites are the people who hold the highest position in society and, more specifically, all those with significant power, such as the media, intellectual, political, administrative, and economic elites. Typically, the concept of elites can be either apologetic and positive or stigmatising and critical. Critical perspectives emphasise the dominance, privileges, and closure of elites. These opinions are more likely to surface during times of crisis when the ruling class is thought to be self-centred and incapable of handling issues (Gaxie, 2017, p. 18). The term "fragile state" has been defined and described by many international players and as such as been adopted for the proper understanding of this paper. The African Development Bank (ADB) states that "it refers to countries or situations with unique development challenges that have resulted from fragility and conflict, including weak institutional capacities and poor governance, economic and geographic isolation, economic disruption, social disruption, and insecurity" (FSDR/DEVINVEST, 2016).

Country Indicators for Foreign Policy (CIFP) states that "fragile states lack the institutional capacity to provide basic social needs for their populations, the functional authority to provide basic security within their borders, and/or the political legitimacy to effectively represent their citizens at home or abroad." (FSDR/DEVINVEST, 2016).

Additionally, and importantly, defining State fragility, State fragility in Nigeria is "characterized by weak rule of law, evidenced by poor contract enforcement, weak property rights, and ineffective legal institutions, as reflected in Nigeria's low World Bank rule of law score of -0.89 (2023) and its ranking of 120th out of 142 countries in the 2024 World Justice Project Index." (The Global Economy Fragile State Index, 2025).

The Mo Ibrahim Index and the Fragile States Index further underscore this fragility through metrics such as security apparatus weaknesses, factionalized elites, human rights abuses, and lack of state legitimacy. Together, these indicators reflect Nigeria's incapacity to uphold legal order, protect citizens' rights, and ensure governance accountability, fueling political instability and undermining socioeconomic development (World Justice Project Rule of Law Index, 2024).

The jihadist and Islamist militant group Boko Haram launched an armed uprising against the Nigerian government in July 2009, sparking the start of the Boko Haram insurgency. The militants' ultimate goal of creating an Islamic state in the area and the long-standing problems of religious violence between Nigeria's Muslim and Christian communities are the backdrop for the fight. (November 2016, BBC News).

Theoretical Framework

The elite theory developed by Gaetano Mosca was used in this investigation. The masses are an unorganised majority, according to Gaetano Mosca, whereas the elites are an organised minority. He separated the world into two categories: The term "political class" refers to the relatively limited group of politically conscious and active members of society who are chosen to hold national leadership positions. The people who are subject to the political elite are known as the non-political class. Mosca believed that elites are highly respected and powerful because to their dominance in material, moral, and intellectual domains (Agbaenyi, 2022). In other words, Mosca separated society into two basic groups: the masses, who were the governed class, and the elite, who were the ruling class. According to Parry (2024), the people are a sizable, disorganised majority that is subject to authority, whereas the ruling class is a small, organised minority that enjoys political power and benefits. The key sources of the elite's strength are its exceptional organisational abilities and capacity for control and unity. According to Shipman et al. (2018), this organisational advantage enables the minority to successfully subjugate the majority. The idea of the "political class," a group that controls all political power in a country, was first proposed by Mosca. Depending on the culture, this political class may consist of meritocratic, military, religious, or hereditary elites (Korom & Planck, 2015). Mosca maintained that elites are distinguished and their leadership role is justified by their material, moral, and intellectual attributes. He did not, however, view elite status as solely inherited, in contrast to other elitist ideas (Jackson, 2022); rather, he believed that anyone from any social class may theoretically join the elite through their skills and social mobility. Mosca asserts that elite power is a fundamental and unavoidable aspect of all civilisations, regardless of how developed they are. Because administration necessitates organisation and leadership that the masses cannot supply, no society can function without a ruling minority (Keshishyan, 2021). Mosca also embraced the notion of elite circulation, which holds that elite groupings are dynamic and always in competition, with various groups rising and collapsing over time (Zartman & Zartman, 2019). This cycle reflects a changing political situation and prevents the complete continuation of any one ruling group. Mosca has doubts about the concept of absolute democracy or majority rule. He considered ideas such as the dictatorship of the proletariat or the will of the people to be myths (Zeng, 2024), focusing instead on the pragmatic requirement of elite leadership for political order.

An Overview of Fragility of the Nigerian State

Nigeria was the pinnacle of factions residing in protectorates during the 1914 merger period. According to Ayandiji (2016), the colonial government structure exacerbated factionalism by creating an ethnic struggle for dominance that caused newly formed political groups to withdraw into ethnic divisions. Additionally, he clarified that people's avarice for state resources did not rise until crude oil emerged as a significant source of national income. Prior to present, it was enmeshed in a regional conflict motivated by economic interests for the nation's political centre. Thus, the transformation happened gradually. The groups grew, changed, and thickened as a result, impeding the advancement of the country. In this instance, one thing leads to another. There have been other fragmentations as a result of this, including the civil war, the Niger-Delta Insurgency, and the aftermath of the so-called Hydra-led insurgency known as Boko Haram, which claimed over a million lives (Ayandiji, 2016). Furthermore, it is the situation where the current ruling class does all in their power to hold onto political power, a true source of what I refer to as terror-money. In response, the opposition and other groups band together and reorganise in an uneasy attempt to unseat the ruling class (Ayandiji, 2016).

It is crucial to remember that the problem of Nigeria's state's fragility is wide-ranging and can be viewed through a multifaceted lens of insecurity that goes beyond Boko Haram to include Fulani herdsmen, banditry, etc. According to Rotberg (2003), there is a propensity for more criminal violence in fragile regimes, which erodes the authority of the state even more. He adds that fragile states are typically linked to tense, fiercely divided, and dangerous warring factions, which frequently results in a breakdown of law and order and a rise in humanitarian disasters that affect not only the people who are directly impacted but also those in neighbouring states (Rotberg, 2003 in Imaseun, 2015, p. 286). This showed up as the Nigerian state's incapacity to maintain security and effective control over its vast territories in the North East, which have been threatened by the Boko Haram insurgency. Additionally, the state's incapacity to ensure the safety of its citizens in the North East has resulted in a rise in internally displaced people, the refugee crisis, and an increase in drug use (Collier et al., 2003). Nigeria's vulnerability

syndrome is further confirmed by the government's tardiness in meeting the requirements of internally displaced people, including food, shelter, a means of subsistence, and overall rehabilitation back into society. In North East Nigeria, the Boko Haram sect's operations have exacerbated humanitarian issues, particularly food insecurity, which has raised the cost of staple foods domestically and dairy goods in bordering countries like Chad, Niger, and Cameroon (Imaseun, 2015). In addition to having negative effects on the economy and security, this keeps raising the pace of refugee inflow (Rotberg, 2003).

The Nigerian Security Tracker (2014), emphasized that:

there have been 64 incidences of terror attacks by the Boko Haram sect in the North East region since 2009-2014, with different methods of attacks ranging from Armed attacks, Bombing and Explosions, Midnight/Terror attacks, Mass murder/Suicide raid, Assassination/Murder and Abductions. These attacks have claimed the lives of not less than two thousand three hundred and twenty people in 2009 and three thousand in 2010. In 2011, not less than three thousand five hundred and sixty lives lost and three thousand seven hundred in 2012. Four thousand four hundred and twenty lives lost in 2013 and in 2014, not less than five thousand lives have been lost.

Additionally, as seen by the surge in widows and orphans in the states of Borno, Yobe, and Adamawa, the sect's expanded operations have had a negative impact on the populace, particularly on women and children (BBC News, May 21, 2013). Gender and sexual assault have been on the rise since 2009 as a result of the sect's increased activity (Imaseun, 2015, p. 288). Similarly, since January 2014, Borno and Yobe have had severe acute food insecurity (IPC phase 3), while Adamawa state has experienced stressed acute food insecurity (IPC phase 2), according to the Famine Early Warning System Network (FEWSNET). It also demonstrated the burden that the violence in the Northeast had caused on the 250,000 internally displaced people (IDPs) in the area, who had turned to unhealthy and unsustainable coping mechanisms. As a result of the instability on many farms in the state, many internally displaced people have reportedly stopped eating three meals a day and are now just eating one. After their food supplies ran out, IDP host families reportedly turned to consuming grain that had been set aside as seedlings for the following planting season (Imaseun 2015, p. 289).

Beyond the bloodshed, a humanitarian crisis has resulted from Boko Haram-related violence. The UN High Commission for Refugees, for instance, stated that over 57,000 Nigerians who escaped had been registered as refugees in neighbouring Cameroon, Niger, and Chad (Vanguard, 2014 in Ahghedo, 2017, 241). Nigeria's territorial integrity is under risk due to inadequate border enforcement, which has made it easier for illegal immigrants and weapons to enter the country, in addition to internal signs of governmental weakness. The vast and open borders of Nigeria encourage violence and cross-border banditry. In the northern part of the country, for instance, the boundaries are 1,497 kilometres with Benin in the west, 87 kilometres with Chad in the northwest, and 1,690 kilometres with Cameroon in the east. (Aljazeera Report, 2014 February). Nigeria has around 1,499 illicit and 84 authorised entry points, according to recent disclosures made by Abba Moro, the country's interior minister. In Damaturu and Maiduguri alone, the Boko Haram heartland, there are around 200 illicit entrance points (Onuoha, 2022). Because poorly guarded porous borders facilitate the spread of illicit migration, drug and human trafficking, and small arms and light weapons (SALWs), they make instability worse. Indeed, it is estimated that over 70% of the roughly eight million illicit weapons in the West African subregion are in Nigeria (Aljazeera Reports, 2014 in Ahghedo, 2017, p. 241).

Proofs of Nigerian Elite Misrule and Boko Haram Insurgency

According to Nwogwugwu (2018), "the big men have monopolised all the political offices, and the youths who they allow to occupy public office are their children and puppets who are being groomed to take over the legacies of the political big men, thereby entrenching a form of circulation of elites." This is a noteworthy fundamental issue that has been observed throughout Africa. The big men's close political associates are appointed as special assistants, special advisers, senior special advisers, senior special assistants, and aides without significant portfolios. They are frequently employed to help smuggle the stolen money to different overseas banks (Ojo et al., 2020). For instance, in Nigeria, a person may belong to multiple factions at the same time, depending on how wealthy they are, ranging from the factions of

bishops to self-proclaimed imams. The eight national assembly was used as an example of how the "chess game of economic vampires, also known as political entrepreneurs, has become fully activated." (Ayandiji, 2016, p. 23).

Numerous academic publications have described Nigeria as a neo-patrimonial state (Bratton & van de Walle, 1997); a prebendal state (Joseph, 1987b); a rentier state (Van Gool & Beekers, 2012); a hybrid state (Erdmann & Engel, 2007); a patron-clientelism state (Smith, 2007); ethnologically created state in which obtaining a job, appointment, or contract is heavily influenced by one's ethnicity (Willett, 2009); yet, the country's many categories create a political climate that is conducive to corruption (Ojo et al., 2020, p. 7). More specifically, these theoretical provisions highlighted the use of public finances for political legitimisation, the systematic domination of power by a small number of powerful individuals, and the use of public resources for personal accumulation as part of the "culture of corruption" (Smith, 2007). The evidence that is now available about the nature of the Nigerian state shows that corruption has two important main functions: it maintains power through political patronage and electoral manipulation (Olatunji, 2024).

In order to purchase political support from influential people and political friends, power preservation mechanisms include giving government contracts and jobs to influential people who possess the ability and strength to sway voters. The foundation of Nigerian political economy was the solidification of these social norms. During the administration of President Goodluck Jonathan, this kind of credence served as the foundation for the connections between the state's political apparatuses (Ojo et al., 2020, p. 7). As I have argued, it is crucial in this kind of political climate for the president to make sure that his loyalists, ethnic friends, and kinsmen receive important political appointments. This will ensure that state resources are manipulated to retain political power. The strategic positions of Chief of Army Staff (COAS) and National Security Advisor (NSA) were filled by individuals from regions that strongly support Jonathan in order to accomplish this, as it was done by former President Goodluck Jonathan and other former Nigerian political leaders before him. As the first top command appointment in the Igbo southeast since the Biafra conflict, Azubuike Ihejirika's appointment is a significant boost for the region. The late National Security Advisor (NSA) General Andrew Azazi lived in Jonathan's home state of Bayelsa, according to Kaplan (2018) in Ojo et al (2020, p. 7). Recall that Col. Sambo Dasuki was appointed to fill the void left by the passing of General Andrew Azazi. Furthermore, I have maintained that kinship politics and patronage continue to be ingrained in all political regimes, which feeds corruption in Nigeria to its utmost and creates an endless loop that hinders counterterrorism efforts in the Northeast. Consequently, the issue of corruption in counterterrorism activities arises, irrespective of counterterrorism initiatives.

The threat of terrorism posed by the northern Nigerian Islamist group Boko Haram crippled Goodluck Jonathan's political government. In essence, the severity of the Boko Haram terrorist organisation, which operates in the nation's northeastern cities and villages, must be acknowledged. To stop the militants' ongoing actions, a number of measures were taken (Egbuta, 2024). Therefore, there was a request for adequate funding to purchase military equipment and supplies. This was endorsed by Col. Sambo Dasuki [Rtd], the President's National Security Advisor [NSA] office. On the other hand, the previous president had declared his intention to (re)run for a second term, and the presidential election was quickly approaching (Shimawua, 2020). Regretfully, rather of being militarised and communalised, the well-known terrorism issues in the Northeast got politicised. The conduct of the presidential election and the issue of terrorism are the two major problems that are evidently at stake (Vanguard Newspaper, December 9, 2015 in Ojo et al., 2020, p. 8). Accordingly, \$2.1 billion was given to Col. Sambo Dasuki [Red], the office of the National Security Adviser [NSA], for the acquisition of military equipment to counter Boko Haram's operations in the country's north (Adetunji, 2019).

For Nigerian military fighting the insurgency in the unstable states in the country's northeast, the budget was intended to buy weapons and ammunition. The political climate around military procurement funding and general defence expenditures was questioned by President Muhammadu Buhari, who assumed leadership after previous President Goodluck Jonathan lost the 2015 presidential election (Ojo et al., 2020). But in November 2015, the problem surfaced when the Presidentially appointed committee that has been in charge of auditing arms procurement since 2007 released its interim report, which detailed widespread fraud and poor management in the military's overall operations. The report was attributed to Col. Sambo Dasuki (Red), the former National Security Adviser (NSA) (Oyosoro, 2022). In addition to describing the procurement as unnecessary at the time the exercise was conducted, the report uncovered massive fraud and general irregularities in defence procurement, confirming that the air force spent approximately \$75 million on maintenance of Mi-24V/35P helicopters, C-130H aircraft, and Alpha Jets

between September 2009 and May 2015 (Onuoha et al., 2023). The report argues that out of 513 contracts awarded by the office of NSA, there was no evidence for the delivery of 53, estimated at \$2.1 billion, including the purchase of 12 helicopters, Alpha Jets, explosives, and ammunition (Ojo, et.al, 2020, p. 8). Additionally, it was determined that almost \$22 million had been set aside for unfulfilled contracts. The committee recognised a new type of corruption in the industry in their fact findings, which involved commanding officers diverting monies intended for barracks maintenance and renovations and soldiers' allowances (Ojo et al., 2020, p. 8). It is what I have also called military occupational corruption, which has been a plague in the war against Boko Haram in Northeast Nigeria.

Finally, once the former NSA's confession and trial began, it became clear that a number of reputable politicians who were allegedly implicated in the \$2.1 billion arms purchase scam had come to light. This is clear evidence of a political undertuning tendency in the anti-insurgency arms and ammunition purchase process. But according to BBC News (2015), the Socio-Economic Rights and Accountability Project (SERAP) indicted former President Goodluck Jonathan for misappropriating armament funds. Yet, plea bargaining which is defined as "an agreement offer by a prosecutor which provides opportunity for the accused person to plead guilty, often employed as an incentive and requirement for lesser punishment amidst multiple charges levelled against the accused" was extended to a number of political heavyweights within the Peoples' Democratic Party [PDP] who were complicit in the arms scandal (Ojo, 2019, p. 11).

Crisis of Boko Haram Terrorism in Northern Nigeria, Almajiri Phenomenon and Elite Misrule: An Interrogation

Elite manipulation, state fragility, and long-standing structural flaws all contribute to and are a result of the Boko Haram terrorism crisis in Northern Nigeria. Deeply ingrained in socioeconomic and political marginalisation, the bloody Boko Haram insurgency has uprooted millions of people, devastated communities, and revealed the region's grave governance shortcomings (Grant & Söderbergh, 2018). Furthermore, at the heart of this complexity is the Almajiri phenomenon, which exposes millions of street children to radical influences, poverty, and social marginalisation while they attend traditional Quranic schools (Akinola, 2023). Consequently, the Almajiri system's inability to be changed has made it easier for insurgents to recruit from a ready supply of young people who are at risk, a situation made worse by the disregard and self-interest of the ruling class (Ben-Edet, 2022). Furthermore, despite having political power for many years, the elites of Northern Nigeria have continued to support patronage and poverty systems, ignoring inclusive governance and real development in favour of systems like the Almajiri (Anugwom, 2020). It is argued, either explicitly or implicitly, that this elite misrule has weakened state institutions and guaranteed the survival of dysfunctional social orders, leaving the region especially vulnerable to cycles of instability and violence that are supported by organisations such as Boko Haram. Also, the vulnerability of Nigeria has been strengthened by the incapacity or unwillingness of the state to ensure security, alleviate poverty, and promote true political consensus. As a result, grievances, whether they are directed through political, economic, or sectarian channels, continue to pose a threat to peace and national unity. (Berebon, 2025).

Nexus Between Elite Theory and Boko Haram Insurgency and Fragile State

According to a study, political corruption can lead to political instability, political terror, violent protests, organised crime, and the availability of small arms and light weapons, all of which can increase criminal activity (Transparency International, 2014a in Ojo, 2020, p. 11). I have argued that Corruption by the military and political elites undermines the state's ability to provide proper security in northeastern Nigeria by causing misallocation of state resources which engenders series of disaster. The security forces tasked with ensuring that the general public is adequately protected have been rendered both directly and indirectly incapable of doing so. Furthermore, in the Northeast, state institutions become weak and collapse, allowing Boko Haram to occupy, replenish, subdue, multiply and exercise dominion and become popular over the location and population, then provide food, jobs, and assurances of further welfare and security. For example, if security personnel are not paid or their equipment is outdated due to procurement funds being embezzled, their ability and motivation to defend the state is likely to melt degenerated (Transparency International, 2014b in Ojo, 2020, p. 11). Ideally, and as argued, Nigeria's federal and state governments which are supposed to ensure justice and peace will be rendered obsolete. When Boko Haram attacks occur, state institutions are unable to make their presence felt, become unresponsive, and are not available to the community residents. This creates a rift between the people and the political and military leaders, as well as a civil-military misunderstanding, lack of faith in the military, all of which are

detrimental, counterproductive to the military campaign against Boko Haram. Arguing further, when religious leaders who should be vehemently condemning Boko Haram's violent and destructive actions are crypto-frontline negotiators or have been bokoharmed and have covert agreements with the enemy-Boko Haram, that the villagers are unaware of, the communities feel powerless. However, the government is occasionally aware of it and is unable or unwilling to take any action. This becomes a serious issue. Also, elites use religion and politics as a tool to politicize the security sector and by virtue of the fact that the North connects easily with the Islamic religion (Ayoob & Lussier, 2020).

The Role of Religious Elite in the Fight against Boko Haram

Another factor that has been proposed as the root cause of the insurgency is religious ideology. Two arguments have been made for the connection between ideology and the start of an insurgency. The first is the instrumental approach, which sees ideology as a means of transforming insurgents particularly those from diverse sects into a cohesive group with a common objective. Given that the majority of Boko Haram's members are Muslims from the Kanuri tribe, this may not always be the case. The second method is the normative approach, which sees ideology as a source of normative dedication to the objectives, driving forces, tactics, and limitations of insurgents (Iyekekpolo, 2020). Since several studies have linked the Boko Haram insurgency to the ideological objective of Islamizing Nigeria, this is more relevant to that conflict. According to Azumah, it was the early main source of Islamic radicalisation in Nigeria and was found in the Izala Salafi-Wahhabi group of the 1970s (Azumah, 2015). According to similar studies, the drive to Islamize Nigeria fuelled a conflictual radicalisation process. A radicalisation process that ultimately gave rise to the Boko Haram group was caused by this desire to abandon a secular system of government and adopt a sharia legal system (Natalie et al., 2015). Although this normative assumption must acknowledge the exploitation of Islamic religious ideology by political elites for their political struggle, the instrumentalisation of Islam by northern Nigerian political elites is made possible by the fact that the region's predominantly Muslim population can readily connect and relate to it very strongly, which results in a similar variable conceptualised here as identity fractionalisation (Iyekekpolo, 2020, p. 3).

Furthermore, by building fan bases that oppose governmental authority, widen sectarian rifts, and encourage conflicting allegiances, religious leaders like Elzakzaky support elite misrule. Their conflicts and disobedience increase instability, fostering state fragility and the possibility of militant escalation akin to the rise of Boko Haram (The Guardian, December 21, 2015; Council on Foreign Relations, May 3, 2018).

Conclusion and Recommendation

The senator sought the assistance of Boko Haram during the 2003 governorship contest between Senator Ali Modu Sheriff, a state representative in the National Assembly, and Mala Kachalla, the governor of Nigeria's Borno state at the time. It is well known that Sheriff and Yusuf, the commander of Boko Haram, came to a deal whereby Sheriff used Boko Haram's popularity which included leading the push for the implementation of sharia to garner enough votes to remove Governor Mala Kachalla. The leader planned to use the political significance this act provided Boko Haram to bring about the establishment of sharia in Borno state (Iyekekpolo, 2018, p. 8–9). However, political elites nationwide look to various identity groups for support when running for office, thus this practice is not unique to this instance. These categories encompass both religious and ethnic entities. However, this study recommends that when it comes to selecting military commanders, soldiers, and purchasing weaponry, political elites should be practical, open, and morally motivated. Furthermore, political leaders are not supposed to use religion and politics as weapons in order to address security concerns. The purpose of religious leaders is not to inflame the political climate. Instead, they are expected to use their prestigious positions to publicly condemn terrorism and jihadism and to support moderate views that can unite the state and its citizens and foster unity and peace as well as concepts associated to trust. Sheikh Gumi, Elzakzaky other prominent religious leaders especially those who have large followships in the Northeast should be investigated by the rule of law to determine whether religious spaces are being used properly or improperly for peaceful purposes. His interactions with Boko Haram terrorists could be detrimental and cause confusion in the fight against Boko Haram terrorism in Northeast Nigeria or aid in the fight against Boko Haram insurgency in the Northeast. They should be subject to the full force of the law if they are proved to be at fault. To further explore this topic, we need to know how important political and religious leaders are to the Nigerian military's effective counterterrorism operations in the northeast of the country.

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EndSARS Protest and the Dynamics of Conflicts and Insecurities in Nigeria

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Abstract

Globally, state violence and police brutality have persistently triggered civil unrest. In Nigeria, the #EndSARS protest of 2020 emerged as a youth-led movement demanding an end to police brutality and broader institutional reforms. Despite the protest non-violent nature, protesters were met with excessive force, raising concerns about governance, security, and human rights. This study explores the immediate and long-term security implication of the dissolution of SARS by critically analysing secondary data from scholarly articles, policy reports, and reliable institutional sources using a desk review approach. Although public outcry responded significantly with the dissolution of SARS, results show that this unintentionally created a security void that aggravated violent crimes such kidnappings, armed robberies, and communal disturbance. The study emphasises how intricately youth activism, government persecution, institutional flaws, and socioeconomic grievances interact to still feed instability in Nigeria. The study comes to the conclusion that inclusive government, socio-economic interventions, and thorough police reforms are probably absent from Nigeria's cycle of protest and instability without which This study provides policy recommendations for sustainable conflict resolution and security sector reform in Nigeria as well as helps to clarify the junction between social movements and security dynamics in weak governments.

Keyword: Conflict, Endsars, insecurity, police brutality, SARS

Introduction

Public protests serve as a crucial mechanism for citizens to express their dissatisfaction, advocate for change, and hold governments accountable for their actions. The Constitution of the Federal Republic of Nigeria and international human rights treaties both affirm the significance of free speech and peaceful assembly as fundamental components of democratic society. The entitlement of Nigerians to assemble peacefully and articulate their opinions is enshrined in Sections 39 and 40 of the modified 1999 Constitution. Despite these constitutional rights, there is a blurred line between peaceful protest and violent protest, particularly where grievances are widespread and deep-seated (Omoyeni, Omoyeni, Onuoha et al., 2024). Corruption, economic disparity, and political instability have all contributed to the post-colonial era (Omoyeni, Omoyeni, Onuoha et al., 2024). Aidonojie et al. (2022) holds the position that most protest in Nigeria is a result of pent-up displeasure and disappointments. These protests have sparked new discussions on the country's political, economic, and social struggles (Adiche and Iwuoha, 2022).

A recent youth-led civic movement in Nigeria tagged the #EndSars, occurred in October 2020. This significant protest, primarily led by youth, gained momentum and became a strong movement aimed at addressing structural issues such as police brutality, economic inequality, and ineffective leadership (Oaihimire & Aidonojie, 2023). The #EndSARS movement was primarily motivated by increased and uncurbed police brutality in the country. However, the protest geared from simply addressing the brutality and impunity of the Special Anti-Robbery Squad (SARS) to a more general socio-political movement that questions government corruption, state repression, and police unprofessionalism.

Initially, SARS was organised to be a special unit for combating violent crime in 1992. However, it took on the responsibility of targeting Nigerian youths who showcase wealth or is technology savvy. Thus, the unit gained bad reputation as they degenerated into extrajudicial killings, torture, unlawful arrests, extortion, and other forms of human rights violations (Ating, 2020). Notwithstanding, repeated claims and several pledges of succeeding governments to salvage the Nigerian Police Force and its untoward culture remains unfruitful.

The Endsars protest gained traction and sustained its momentum through social media, where graphic evidence of police abuse and citizen evidence of abuse and brutality inspired national indignation. Social media was used to coordinate actions, raised funds for medical aid and legal support, and was also used for global awareness (Shokoya, 2025). The demonstrators expressed five basic demands: immediate release of arrested protesters, justice for victims of police brutality, compensation for victims, psychological evaluation and retraining of SARS officers, and a rise in police salaries to lower corruption (Crisis Group, 2020).

The #End SARS protest revealed and heightened the dynamics of conflicts and insecurity in Nigeria. The nation has long struggled with several kinds of violence, including government-sponsored repression, inter-communal clashes, armed robbery, kidnapping, banditry, and insurgency. As witnessed during the

#EndSARS, social media has become a double-edged sword in this context, both as a tool for non-violent mobilisation and democratic expression and as a venue to instigate conflict and violence (Conciliation Resources, 2025). Thus, the #EndSARS movement represents the intricate interaction between digital activism and real-world conflict dynamics in Nigeria, where many non-governmental entities regularly challenge state authority. The response of the Nigerian state to the demonstrations was complex and frequently contradictory (Akanle & Shokoya, 2025; Adetola, 2022).

Though the government declared on October 11, 2020, the dissolution of SARS, the public remained sceptical and saw this as a flimsy action given the unit's history of rebranding without significant reform as similar announcements had been issued in past years with little impact. Organisers of the movement presented a five-point agenda demanding justice for victims, police reform, psychological evaluation of officers, and better wages to lower corruption incentives (Ating, 2020). But the demonstrations were greeted with violent crackdowns most famously the Lekki Toll Gate shooting in October 20, 2020, in which Nigerian Army personnel opened fire on unarmed protestors, causing many deaths and injuries (Ating, 2020). This incident underlined how dependent on force the state is to silence opposition and the precarious nature of Nigeria's democratic environment.

Adetola (2024) argued that the Nigerian government handles social demonstrations are aimed at digital repression and using law enforcement to intimidate and subjugate public discontent. The challenges of managing public demonstrations in Nigeria are closely entwined with the issue of state Repression and human rights abuses, so painting a bleak picture of a society in which the fundamental right to protest is often met with violence and suppression (Omoyeni et al., 2024). These reflect larger tensions in Nigeria's protest culture and democratic government and have consequences for the escalation or de-escalation of violence during social demonstrations. Dealing with the underlying causes of insecurity and conflict in Nigeria depends on an awareness of these dynamics since the state's legitimacy depends more and more on its capacity to fairly and successfully provide the needs of her citizens (Adetola, 2024). Akanle and Shokoya (2025) contended that the way the government managed the demonstrations and the consequent SARS dissolution exposed both the strength and constraints of protest in Nigeria. Demanding not only the end of SARS but also more general reforms in policing and governance, the demonstrations were essentially peaceful and youth-driven. But the state's response was characterised by a mix of concessions such as the establishment of the Special Weapons and Tactics (SWAT) squad and brutal repression including the infamous Lekki Toll Gate shooting. This dual approach deepened societal fractures and undermined trust in state institutions (Akanle & Shokoya, 2025). Despite the dissolution of SARS there are still several cases of police brutality and human right abuses by the police on those they are constitutionally meant to protect.

The triumph against police brutality, the dissolution of SARS has had unexpected impacts that aggravate the dynamics of conflict and insecurity in Nigeria. A security crisis marked by lawlessness and institutional paralysis results from the neglect to apply thorough police reforms as well as from the destruction of security infrastructure, proliferation of small and light arms, and the spread of armed criminals. It is based on this foregoing that this paper explored the dynamics of conflict and insecurities in the wake of the Endsars protest in Nigeria.

Rationale of Study

In a complex nation like Nigeria, it is imperative to how government responses to civil disturbance, like the #EndSARS demonstrations, shapes the dynamics of conflict and instability. Particularly in terms of governance legitimacy, citizen-government relations, and structural conflict triggers, the present corpus of knowledge lacks a thorough examination of the post-SARS security environment and the more general socio-political ramifications of the protest. Although the #EndSARS demonstrations effectively forced the Nigerian government to dissolve SARS, the following increase in violent crimes, insecurity, and social disturbance points to unresolved fundamental reasons of insecurity. Notwithstanding public and international attention, the demonstrations drew, scholarly research examining the broader security consequences of SARS's dissolution and changing patterns of state-citizen conflict in Nigeria still lags much behind. The pressing need to investigate how a state reaction to civic unrest might either de-escalate or aggravate already existing tensions and how the lack of institutional reform might lead to societal division and insecurity is what drives this study. This paper intends to add to scholarly debate on governance, youth-led movement, conflict dynamics, and security policy in sub-Saharan Africa by investigating the path and effects of the #EndSARS protest. Given Nigeria's growing internal security concerns including terrorism, banditry, kidnapping, and ethnic violence, examining the causal factors

behind the protest and the state's reaction becomes especially important. The study is significant not only for its political and historical importance but also for its ability to navigate the security challenges in the post Endsars Nigeria.

Aim of the Study

This paper explores the dynamics of conflicts and insecurities in the wake of the Endsars protest in Nigeria.

Research Objectives

1. To assess the long-term and immediate security implications of SARS disbandment, including the surge in violent crimes and lawlessness.
2. To establish the response of government and security agencies to post-#EndSARS security challenges.
3. To evaluate the dynamics of conflicts and insecurities in the Post Endsars protest in Nigeria.
4. To develop policy recommendations aimed at conflict resolution and sustainable police reform in Nigeria.

Literature Review

International law firmly establishes the right to peaceful protest, and Nigeria has enacted several legislations that appear to support this right. Nonetheless, there have been occurrences where peaceful protest has been obstructed or curtailed by particular legislation and governmental actions. This right is assured under Section 40 of the 1999 Constitution of the Federal Republic of Nigeria; yet, the government's objective to uphold public order frequently obstructs its complete utilisation (Aidonojie et al., 2023). Since Nigeria's independence from Britain, union leaders and civil activists have been advocating for specific reforms from the government via strikes and various forms of public protest (Hari, 2014). They adopt it as a protest against societal aberrations like as elevated prices, diminished living standards, unemployment, poverty, corruption, military despotism, brutality, and inadequate leadership (Ochi, & Mark, 2021). Numerous nonviolent insurrections against military regimes transpired in Nigeria during the 1990s. Civil society organisations and social activists orchestrated these extensive protests.

Organisations such as the Campaign for Democracy (CD) served as a platform for notable figures like Gani Fawehinmi, Beko Ransome-Kuti, and Femi Falana to lead protests against the military regimes of Generals Sani Abacha and Ibrahim Babangida. Musicians such as Fela Anikulapo Ransome-Kuti employed music as a vehicle for expressing dissent against corruption, oppressive governmental practices, and societal inequities (Hari, 2014). Oyelude et al. (2023) observed that despite the activists' incarceration and several adversities, they managed to sustain the prominence of the protests in the consciousness of Nigerians.

The "#Occupy-Nigeria" nonviolent protest, occurring from January 9 to 16, 2012, was the inaugural national-scale action since Nigeria's reestablishment of democracy in 1999 (Ochi & Mark, 2021). The surge in the price of Premium Motor Spirit (PMS) at the pump precipitated the extensive demonstrations. Throughout the country, several individuals congregated in the streets at night to advocate for the restoration of the PMS pump price to its prior level (Ochi, & Mark, 2021).

Protests against the Special Anti-Robbery Squad (SARS) commenced in 2017 on Twitter, initiated by Segun Awosanya and other activists, in reaction to allegations of human rights violations and brutality against Nigerians (Akerle, Azeez, & Adeniyi, 2022). The protest occurred on Twitter, Facebook, Instagram, WhatsApp, and various other less prominent social media platforms. The inaugural #EndSARS demonstrations in Nigeria transpired on October 8, 2020, subsequent to a wave of internet protests that commenced on October 4, 2020. A young Nigerian man was reportedly shot and murdered by a SARS officer outside the Wetland Hotel in Ughelli, Delta State (Iwuoha & Aniche, 2021). The incident's footage rapidly circulated on social media, inciting widespread demonstrations that garnered significant international attention. Simultaneous protests occurred in all major cities of Nigeria (Aidonojie et al., 2023). The ethical limits of society have been reassessed repeatedly through nonviolent demonstrations. The acknowledgement of rights, the eradication of slavery, the cessation of colonisation, and the elimination of racial discrimination have all been objectives of movements that utilised nonviolent protest (Werft & Ngalle, 2016).

Established in 2013 in the United States, the Black Lives Matter (BLM) movement has evolved into a worldwide protest against racism, especially police brutality (Hoffman, 2017). Numerous substantial

advancements have resulted from the predominantly nonviolent BLM protests (Mansoor, 2020). Racial equity policies are being enacted in education to close racial disparities among students; additionally, there is a movement to eliminate racist artefacts, including monuments that commemorate slave owners, colonisers, and Confederate leaders; furthermore, police reform is underway, exemplified by cities such as Washington DC, which have instituted regulations banning the use of chokeholds by law enforcement officials (Menjivar, 2020). Individuals across Africa have consistently resorted to nonviolent protests to articulate sociopolitical or economic opposition to governmental actions and to compel their attention towards fulfilling their demands (Sanches, 2022).

International law ensures the right to peaceful assembly, encompassing the right to protest, as articulated in Article 21 of the ICCPR and Article 11 of the African Charter on Human and Peoples' Rights. Except for issues pertaining to public and national safety, these regulations provide the freedom to assemble without obstruction. In October 2020, protests with the hashtag #EndSARS erupted in many cities throughout Nigeria, led by youth, activists, and celebrities. The protests aimed to terminate police brutality and advocate for accountable governance, with their symbolic focal point at the Lekki Toll Gate in Lagos. Nigerians residing overseas also engaged in solidarity demonstrations. However, when allegedly government-backed thugs attempted to disperse the demonstrators, the situation intensified violently (Aidonojie et al., 2023). This incited conflicts, and on the evening of October 20, 2020, armed forces arrived at Lekki Toll Gate and commenced firing upon unarmed demonstrators, subsequent to a citywide curfew declared by the governor of Lagos State (Aidonojie et al., 2023).

Considering the larger socio-political background, Udeoji and Elekwa (2023) explore the ingrained problems of police violence in Nigeria, attributing the continuation of such abuses to elements including inadequate remuneration for officials, systematic corruption, and lack of responsibility. They contend that these circumstances have set off a cycle of violence and impunity, hence fuelling citizen upheavals like the #EndSARS movement. Mohammed, Lenshie, and Madu (2024) investigate the youth bulge and political activity as they examine how the #EndSARS demonstrations mirror a growing consciousness among Nigerian youth to question human rights abuses and demand institutional reforms. Their analysis emphasises how social media shapes political debate and fuels national opposition.

Ogunderu and Afolaranmi (2023) also look at the mobilisation strategies used in Southwest Nigeria's #End SARS movement. Their studies show that social media was crucial for activists' information distribution, organising demonstrations, and creation of a collective identity, thereby affecting public opinion and government actions. But the way the government responded to the demonstrations including attempts to control social media and quell dissent has sparked questions about the declining civic space in Nigeria. The study by Malefakis (2024) shows how the Nigerian government stifled the movement by using several strategies including confiscating assets of protest leaders and enforcing travel restrictions. These acts affect both the right to peaceful assembly and freedom of expression. Following the Endsars demonstrations, crime rates and insecurity have clearly increased; this can be ascribed to the dissolution of SARS without a suitable substitute to cover for the security void.

Research Gap

Despite the wide range of studies conducted on the Endsars protest in Nigeria, there are significant research gaps that this study aims to bridge. The study by Akanle and Shokoya (2025) researched at the government's handling of the demonstrations and the immediate results; there is little in-depth research on the long-term effects of SARS's dissolution on Nigerian security architecture and conflict dynamics. With little regard for how the security void left by SARS's breakup shapes patterns of violent crime, police problems, and community security in later years, most current works centre on the protests itself or the state's management of the protest.

Additionally, several academics have pointed out as elements compromising the efficacy of popular demands for governance reform various problems of protest commercialisation and franchising (Moka, Chris-Obadigie, & Ogbemor, 2025). Empirical research on how these events have shaped the course of #EndSARS-related action and its effects on conflict and insecurity are rare, nevertheless. This discrepancy reduces knowledge of internal movement dynamics and their consequences for ongoing social transformation. Furthermore, current humanitarian and health sector reports (UNFPA, 2025; ReliefWeb, 2024) show the extreme effects of continuous fighting and displacement in Nigeria but seldom link these crises directly to the political and security consequences from the #EndSARS demonstrations and SARS dissolution. This shows a gap in connecting political movements for protest with more general humanitarian and development concerns.

Lastly, there is a scarcity of data-driven research that analyse the association between the disbandment of SARS and the ensuing spike in armed robbery, kidnapping, and overall lawlessness in specific parts of the country. Most current research also address the #EndSARS campaign in isolation, without adequately tying it to more general patterns of state-citizen mistrust, young marginalisation, and institutionalised governance failings that have historically stoked violence and insecurity in Nigeria. Furthermore, underappreciated are the viewpoints of many stakeholders including civil society players, security services, and impacted populations on the changing security scene and means of sustainable conflict resolution.

By offering a comprehensive assessment of the #EndSARS protest and its aftermath, this paper aims to bridge these important voids. It will examine how the disbandment of SARS has changed state-citizen interactions, changed ideas of security legitimacy, and led to the surge in violent conflicts. Hence, the study will provide new perspectives on the institutional and structural issues that need to be resolved to support stability, responsibility, and public confidence in post-#EndSARS Nigeria.

Theoretical Framework: Relative Deprivation Theory and the #EndSARS Protest in Nigeria

The Relative Deprivation Theory explains the societal discontent and protest movements resulting from perceived differences between expected and actual social conditions. The Relative Deprivation Theory holds that people or groups who believe they are unfairly deprived relative to others or their own expectations are more likely to show unhappiness by group action, including protest and, in extreme circumstances, violence.

The Relative Deprivation Theory provides a convincing prism through which to view the rise in the #EndSARS movement in Nigeria. The majority of the protestors, Nigerian youth, have for decades experienced systematic exclusion, unemployment, inadequate government, and restricted access to justice. With little state responsibility and social mobility, a sizable fraction of Nigeria's human and natural resources nonetheless live in poverty. The clear excesses of the Special Anti-Robbery Squad (SARS) including extrajudicial killings, harassment, torture, and extortion served as a catalyst that crystallised larger feelings of deprivation and injustice.

Gurr (1970) separates relative deprivation perception of a gap between expectations and reality from absolute deprivation lacking essential needs. The latter better captures the #EndSARS movement since it was a response to the seeming discrepancy between Nigeria's democratic values and the actual reality of police violence, impunity, and bad government, not only to economic suffering. Particularly those engaged on social media and sensitised to global norms of democracy, rights, and accountability, young Nigerians mobilised around the notion that their government had failed to offer the security and dignity promised in a democratic society. The demonstrations thus were a manifestation of total frustration resulting from long-standing marginalisation and the suppression of civil liberties.

Moreover, the theory clarifies the dynamics of conflict and instability that accompanied the dissolution of SARS. Although the government declared on October 11, 2020, the dismantling of SARS, the lack of substantial police reform and consequent militarised reactions to the demonstrations notably the Lekki Toll Gate shooting deepened the emotions of deprivation and betrayal among people. The public's mistrust was heightened and the legitimacy of security institutions was further compromised by the seeming lack of sincerity of the government in attending to protestors needs.

Many Nigerians, particularly youths, felt impoverished relative to their expectations and compared to other social groups or countries, despite Nigeria's resource riches and constitutional promises of rights and security. Renowned for extrajudicial killings and abuses, the Special Anti-Robbery Squad (SARS) came to represent this governmental failure and hardship (Aluko, 2023). Collective discontent resulting from the denial of hopes for security, justice, and dignity showed up in enormous demonstrations calling for more general reforms and the disbandment of SARS. Furthermore, differentiating RDT between brotherly deprivation where communities view their collective status as unfairly inferior and egoistic deprivation where people feel personally deprived.

The #EndSARS demonstrations are prime examples of fraternal deprivation since Nigerian youths came together to show solidarity across ethnic and geographical boundaries by realising their marginalisation and the state's neglect of them. Mobilising a dispersed, long-standing movement against established power structures was made possible in great part by this collective identity (Aluko, 201). The theory also clarifies the dynamics of instability and conflict resulting from the breakup of SARS. Akanle and Shokoya (2025) contend that the government failed to close the deprivation gap by substituting the Special Weapons and Tactics (SWAT) unit for SARS without addressing systematic causes. Insecurity

was exacerbated by this failure as well as the destruction of police facilities and the release of prisoners during demonstrations, which left a security void open for use by militant organisations and criminal elements. RDT proposes that, as seen in Nigeria's post #EndSARS period, discontent may turn into violence or societal instability when relative hardship remains unresolved.

Emphasising that social movements and civil society organisations help to translate poverty and frustration into collective action, Etim, Ukpere, and Adekanmbi (2023) critically deconstruct and rebuild Gurr's frustration-aggression paradigm. Supported by digital activity and groups like the Feminist Coalition, the #End SARS demonstrations show how relative scarcity can be used creatively to demand reforms instead of only sparking bloody revolt.

Methodology

This study adopts a qualitative research design using secondary data analysis. To achieve this, a desk review approach is introduced due to its appropriateness for investigating socio-political events like the #EndSARS protest. It is also an effective means of analyzing the attendant conflict and insecurity in Nigeria as it allows for an indepth interpretation of public records, verified evidence, and current knowledge (Bowen, 2009; Mogalakwe, 2006). The desk review analyzes secondary data to be used include published and peer-reviewed journal papers, policy documents, NGO and human rights reports, media publications, and government data on police brutality, civic unrest and insecurity in Nigeria. Hence, this study provides a comprehensive knowledge of the matter while avoiding logistical and ethical complexity associated with the collection of primary data sources in conflict-prone situations (Johnston, 2017).

For the purpose of this study, data was gathered from reliable sources such as JSTOR, Science direct, Google Scholar, science direct, and Taylor and Francis. These sources include official government and NGO reports, peer-reviewed journal papers, credible news sources, and past research projects. To ensure all relevant data is covered, information will be searched using keywords such as "#EndSARS protest," "police brutality Nigeria," "conflict dynamics Nigeria," and "security challenges post-EndSARS." Every source was scrutinised for dependability, relevance, validity and possibility of bias. Scrutinization here involves the examination of authorthorship, publications date, original study methods, and context. Therefore, this study employs only sources that meet the high credibility criteria and methodological rigour for a guaranteed conclusion.

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Reviewing key publications from Amnesty International (2020), Human Rights Watch (2020), SBM Intelligence (2021), and Nigerian government white papers helped one to get several points of view on the conduct and aftermath of the #EndSARS movement. Furthermore, examined was material from digital platforms including Twitter and online news sources to better grasp how social media shaped the mobilisation techniques and debate during the demonstrations (Oyeleye, 2022; Chiluwa & Adegoke, 2021).

Through thematic analysis of the gathered data, some themes such as police violence, young marginalisation, institutional failure, internet activism, and post-SARS insecurity were deduced (Braun & Clarke, 2006). Emphasis was laid on examining different data sources to detect contradictions, trends, and consequences. Temporal aspects were also given due consideration as the study examines the development of the protest, government responses, and temporal effect on security scene over a long or short term.

A triangulation method is employed in this study as several sources were consulted to make up for data-gathering limitations. Hence, it dwells on releases from academic, governments or international bodies known to be legitimate and dependable sources. This choice of data sources erases the possibility of bias and false information and contributes to analytical rigour of the research (Patton, 2002). This study covers a wide array of sources to examine the #EndSARS protest and the dynamics of violence and

insecurities in Nigeria. The study analysed the content of each of the selected article using identified themes from the literature reviewed and the study objectives. Hence, it serves as a foreground for informed decisions and policy implementation.

Findings

Dynamics of Conflict during the Protests

Driven mostly by Nigeria's youths, who account for 64% of the population, the #EndSARS demonstrations were marked by a unique mix of digital mobilisation and grassroots activity (The Guardian Nigeria, 2023). Decentralised coordination made possible by social media channels such as Twitter and Instagram allowed fast national demonstrations. State repression, most notably the Lekki Toll Gate shooting on October 20, 2020, whereby military forces opened fire on unarmed protestors, killing several and so fostering public mistrust in state institutions, so undermining the peaceful nature of the movement (Amnesty International, 2021; PMC, 2021). Tensions were raised by the government's forceful reaction as well as by the penetration of demonstrations by hoodlums and claimed state-sponsored agitators. Attacks on police stations, looting of armaments, and release of more than 2,000 prisoners from Benin City alone heightened lawlessness, flooding the streets with guns and fugitives (The Guardian Nigeria, 2024; SBM Intelligence, 2024).

Public mistrust and institutional slowness caused the newly established Special Weapons and Tactics (SWAT) team to fall short in filling the security vacuum left by SARS breakdown. Many police withdrew from active service, especially in areas like the Southeast where residents claimed security agencies of retaliatory inaction (The Guardian Nigeria, 2024), hence lowering police morale. Stakeholders linked the increase in violent crimes including kidnappings, ritual killings, and armed robberies which this disengagement coincided with that of the proliferation of weapons stolen during demonstrations and the reintegration of freed prisoners into criminal networks (SBM Intelligence, 2024). The state's inability to defend its people and general lawlessness during Nigeria's post-Civil War period reflected those of that country (The Guardian Nigeria, 2024).

The demonstrations highlighted Nigeria's deeply ingrained governance problems, including systematic underfunding of the police force, which received about 87,000 Naira per officer annually vs 1.6 million Naira each per military officer in 2012 (The Guardian Nigeria, 2023). Constant underfunding fostered corruption and extortion among police, hence sustaining popular mistrust. Protests were transformed into a more general demand for responsibility and fair resource distribution as young unemployment, lingering at 27%, and economic misery stoked discontent (The Guardian Nigeria, 2023; MPRA, 2023). The government's inability to punish offenders of violence against protestors widened the mutual mistrust between people and the government, so ingrained a cycle of resistance and repression (PMC, 2021).

The #EndSARS movement exposed the dangers of co-optation by violent elements and governmental reprisals as well as the potential of young-led action to question authoritarian government. The aftermath of the demonstrations showed how inadequate surface-level changes such as dissolving SARS without addressing institutional mismanagement or systematic corruption are to reduce insecurity. Rather, sustainable peace calls for inclusive government, fair economic opportunities, and police reform among other things. The spread of weapons, militarisation of protest reactions, and politicisation of security agencies highlight the need of demilitarising public security and funding community-led police projects.

Immediate and Long-Term Security Consequences of the Disbandment of SARS

Following the extensive #End SARS demonstrations in 2020, the dissolution of the Special Anti-Robbery Squad (SARS) in Nigeria has had major immediate and long-term security consequences that still influence the stability of the nation. While the breakup of SARS was a reaction to justified complaints over police violence and human rights abuses, academics believe that it also left a security void aggravating current issues of violent crime and lawlessness.

Following SARS's dissolution, violent crimes including kidnappings, armed robberies, and ritual killings which overburdened the already precarious security system surged noticeably (Adeyeye, Awotayo, & Omodunbi, 2024). The demonstrations themselves resulted in the damage and looting of police stations and armaments, therefore releasing many prisoners who have subsequently helped to contribute to increasing crime (Adeyeye et al., 2024; Ajibade, 2024). This loss of authority over security

infrastructure compromised the operational capacity of the Nigerian Police Force at a crucial juncture, hence strengthening criminal networks (Ifeoma, 2023; Ochi & Mark, 2021). If SARS was replaced with the Special Weapons and Tactics (SWAT) unit, it was generally seen as a cosmetic reform failing to solve institutional problems including corruption, lack of responsibility, and inadequate police force training (Ifeoma, 2023). Public mistrust of SWAT damaged faith in the government's will to enact real reform and added to ongoing insecurity. The reliance of the Nigerian government on military and unofficial vigilante groups to cover the security void caused more conflicts since these players have been linked to abuses and operate with little supervision, therefore complicating attempts to restore law and order (Adeyeye et al., 2024).

Effective policing and conflict avoidance suffer when long-term disintegration deepens mistrust between people and security agencies (Ajibade, 2024.). Ignorance of thorough reforms and guarantees of responsibility has helped to prolong cycles of impunity and societal instability. The demonstrations revealed more general socioeconomic issues including political marginalisation, poverty, and young unemployment that still go unresolved and keep unrest fuelled (Commodore & Frimpong, 2021). Analysts warn that without fundamental reforms in governance and security sector management, Nigeria runs the danger of experiencing more national security degradation whereby people caught between abusive security personnel and growing criminality are left vulnerable (Ajibade, 2024; Commodore & Frimpong, 2021).

Other security issues including insurgency, banditry, and community violence which interact with the aftermath of SARS's dissolution have also escalated throughout the post-#EndSARS period (Adeyeye et al., 2024). The spread of light weapons and small arms has aggravated these tensions and increased volatility of the security scene (Adeyeye et al., 2024). Further aggravating uncertainty is the government's incapacity to adequately monitor borders and control weapon shipments (Adeyeye et al., 2024).

Ultimately, although a required reaction to police violence, the dissolution of SARS has had unexpected effects that aggravate Nigeria's security problems. The immediate increase in violent crime combined with inadequate reforms and institutional flaws has deepened insecurity and damaged public confidence. Dealing with these problems calls for thorough police reform, responsibility systems, better security sector governance, and socioeconomic actions meant to address the underlying causes of disturbance.

Immediate and Long-Term Security Consequences of the Disbandment of SARS

The extensive #EndSARS demonstrations in October 2020, followed by the dissolution of SARS caused major immediate security issues. Although SARS was formally dissolved, investigations revealed that police personnel kept abducting and extortion active. For example, Nigerian actor Bobby Nnamdi related in 2024 being arrested and threatened by police demanding ₦500,000 for his release. Officers in Delta State were similarly accused of extorting \$13,000 from a guy meant for foreign study (Oluku & Oluwatosin, 2024).

Moreover, the breakup left a void in police, which fuelled greater criminal behaviour. Attributing a rise in uncontested robberies, ritual killings, and other violent crimes recorded by The Guardian to a perceived absence of police presence and efficacy following the end of SARS (Iremeka, 2022),

Long term, the dissolution of SARS without thorough police reform has deteriorated the security landscape in Nigeria. Critics of the successor squad, the Special Weapons and Tactics (SWAT) team, have pointed out that it lacks a defined operational mandate and does not help to reduce growing insecurity (Iremeka, 2022). Effective police absence has resulted in the rise in reliance on the military for internal security and the spread of vigilante organisations. Concerns regarding violations of human rights and increasingly strained civil-military relations have been brought about by this militarisation of civilian areas (Siollun, 2020). Furthermore, the absence of responsibility and openness in handling police misbehaviour has helped to foster impunity in general. Studies show that several states have neglected to pay victims or carry suggested improvements even when judicial panels were established to look at police violence (The Guardian, 2021).

The responses of Nigerian security agencies and government institutions to the post-#EndSARS security challenges

In the wake of the #End SARS demonstrations and the dissolution of the Special Anti-Robbery Squad (SARS), the Nigerian government and its security services responded institutionally and functionally in an effort to fill up the resulting security void and rebuild public confidence. The first government reaction

was the quick declaration of SARS' October 11, 2020, dissolution. The establishment of the Special Weapons and Tactics (SWAT) unit in replacement came next. But many Nigerians saw SWAT as a mere rebranding of SARS since personnel from the defunct unit were simply redeployed rather than held responsible or retrained (The Guardian Nigeria, 2022). This action was therefore extensively criticised as superficial. This view heightened popular mistrust and compromised the credibility of the reform project.

The Nigerian federal government set up Judicial Panels of Inquiry all over the 36 states in an effort to look into and react to claims of police violence. At least 26 states responded, establishing panels charged with gathering allegations of police misbehaviour and rendering suggestions for institutional changes and compensation. For example, the Lagos State panel gave N148.2m as compensation to 23 million Naira (TVC News, 2021). Notwithstanding the encouraging beginning, the advice of the panels has been mostly followed ineffectively; reports show that many victims have not been paid or seen justice administered. Further eroding public confidence in public institutions were police abuses' lack of responsibility and the delay in applying panel conclusions.

After SARS was disbanded, the Nigerian Police Force started a sequence of internal reforms. These included initiatives at community involvement, the vow to raise welfare and officer training standards, and the destruction of illegal barricades. In order to cover the security void left by the SARS dissolution, the Inspector General of Police started a national morale-boosting trip and announced initiatives to find 10,000 new police personnel. Nevertheless, many of these projects have been hampered by insufficient financing, poor coordination, and ongoing police hierarchical corruption, therefore rendering them mainly useless in tackling the escalating security issue (The Conversation, 2021).

In reaction to alleged threats of revived demonstrations, security agencies especially the State Security Service (SSS) also increased intelligence-gathering operations. The SSS revealed preparations by groups and individuals meant to seize official demonstrations for subversive uses. This resulted in increased security force presence in big cities including Lagos, Abuja, and Port Harcourt to discourage any comeback of instability (Premium Times, 2024). Particularly in view of the government's inability to participate in meaningful engagement with protest organisers, these preventive actions generated questions around excessive surveillance and the narrowing space for civic activity even when they may have avoided major disturbances (Reuters, 2024).

The Nigerian government also worked to repair the damage the violence connected to the demonstrations caused to infrastructure. For instance, the Lagos State Government started projects aimed at restoring public facilities impacted during the upheaval. These acts sought to bring about normalcy and highlight the government's will towards post-conflict rehabilitation. Critics counter that physical reconstruction came first rather than more thorough institutional reforms, therefore neglecting the basic complaints that set off the demonstrations. Reactive responses mixed with modest reform initiatives define the responses of Nigerian security agencies and state institutions to post-#EndSARS security issues overall. Although some structural reactions such as the judicial panels and police recruitment campaigns offered temporary relief, the lack of comprehensive, consistent, open reforms has helped to fuel a continuous rise in insecurity including higher rates of armed robbery, kidnapping, and extrajudicial killings.

Government and Security agencies responses to the Post Endsars security challenges

The dissolution of the Special Anti-Robbery Squad (SARS) in Nigeria following the extensive #End SARS demonstrations in 2020, has had major immediate and long-term security repercussions that still influence the stability of the nation. While the breakup of SARS was a reaction to justified complaints over police violence and human rights abuses, it is believed that it also left a security void aggravating current issues of violent crime and lawlessness. Following SARS's dissolution, violent crimes including kidnappings, armed robberies, and ritual killings which overburdened the already precarious security system surged noticeably (Adeyeye, Awotayo, & Omodunbi, 2024). The demonstrations themselves resulted in the damage and looting of police stations and armaments, therefore releasing many prisoners who have subsequently helped to contribute to increasing crime (Adeyeye et al., 2024; Ajibade, 2024). This loss of authority over security infrastructure compromised the operational capacity of the Nigerian Police Force at a crucial juncture, hence strengthening criminal networks (Ochi & Mark, 2021; Ifeoma, 2023).

Effective policing and conflict avoidance suffer when long-term disintegration deepens mistrust between people and security agencies (Ajibade, 2024.). Ignorance of thorough reforms and guarantees of responsibility has helped to prolong cycles of impunity and societal instability. The demonstrations

revealed more general socioeconomic issues including political marginalisation, poverty, and young unemployment that still go unresolved and keep unrest fuelled (Commodore & Frimpong, 2021). Analysts warn that without fundamental reforms in governance and security sector management, Nigeria runs the danger of experiencing more national security degradation whereby people caught between abusive security personnel and growing criminality are left vulnerable (Ajibade, 2024; Commodore & Frimpong, 2021).

Other security issues including insurgency, banditry, and community violence which interact with the aftermath of SARS's dissolution have also escalated throughout the post-#EndSARS period (Adeyeye et al., 2024). The spread of light weapons and small arms has aggravated these tensions and increased volatility of the security scene (Adeyeye et al., 2024).

The dynamics of Conflicts and Insecurities in the wake of the Endsars protest in Nigeria

The disbandment of SARS following the #EndSARS protests has extensively influenced the dynamics of conflict and insecurity in Nigeria. Following the demonstrations, national security suffered greatly in addition to a cruel repression of public space. Though seen as a victory for protestors, the breakup of SARS had unexpected effects on law enforcement capacity. Many states left a void devoid of a replacement unit with equal reach and operational efficacy that empowered criminal networks. The abrupt dissolution of SARS and the #EndSARS protest had significant security ramifications. Armed robberies, kidnappings, and communal violence surged in several Nigerian cities in the months following the demonstrations (The Guardian Nigeria, 2022). The demoralisation of police officials many of whom withdrew from active duty due of fear of reprisal or lack of public support has been linked to this rise in crime (The Guardian Nigeria, 2022). Particularly in areas already impacted by ethnic tensions, banditry, and insurgency, the compromised security apparatus gave non-state actors and criminal groups easy access to exploit, which resulted in increased local conflicts.

The symbolic dissolution of SARS devoid of a functional transition strategy brought attention to structural flaws in crime prevention and conflict management as well as the frailty of Nigeria's internal security architecture. The breakup of SARS did not immediately result in changes in security. Rather, it produced a security void that criminal components took advantage of. Along with the release of prisoners from prisons, the looting of police stations and armaments during the demonstrations caused more lawlessness and a rise in violent crimes including armed robberies and kidnapping. Akanle and Shokoya (2025) opined that these developments overwhelmed the already weak police system, which battled low morale, inadequate resources, and poor training. Although the movement effectively compelled the government to dissolve a police force infamous for violence and violations of human rights, the aftermath has seen a notable rise in insecurity, revealing structural flaws in Nigeria's government and law enforcement agencies.

The Nigerian government instituted the Special Weapons and Tactics (SWAT) unit in place of SARS after it formally broke up. But this action has been sharply attacked as symbolic and inadequate since it does not deal with the underlying reasons of police misconduct or rebuild public confidence (The Guardian, 2022). Reminiscent of the turbulent post-Civil War era in Nigeria, the security void left by the disintegration has coincided with an increase in violent crimes including robberies, kidnappings, ritual killings, and general lawlessness (The Guardian, 2022). Many Nigerians view the police and other security agencies as either incapacitated or purposefully negligent; some claim a conspiracy among security personnel allowing criminal activity to flourish as a kind of retribution for the protests (The Guardian, 2022).

The loss and theft of police armaments and facilities during the demonstrations is a major element aggravating insecurity. For instance, several police stations were destroyed and thousands of prisoners were released from prisons; many of them have not returned, so increasing the pool of criminals functioning with impunity (The Guardian, 2022). Local security initiatives and vigilante groups lacking the resources and firepower to combat progressively sophisticated criminal elements have been overwhelmed by this scenario (The Guardian, 2022). Furthermore, impeding efficient crime control are internal challenges of the police force. Many officials reluctant to join the new unit or lacking the training and drive to properly handle violent crimes have slow and unequal access from SARS to SWAT (The Guardian, 2022).

The conflict dynamics are further complicated by the larger socio-political setting. Reflecting deep-seated grievances over economic hardship, unemployment, and political exclusion, the #End SARS demonstrations marked a greater youth-led demand for systematic reforms and accountability in

government (International Policy Brief, 2023). Particularly in conflict-torn areas like the Northeast, where Boko Haram and ISWAP insurgencies still exist, the COVID-19 epidemic had already taxed Nigeria's socioeconomic fabric by exposing vulnerabilities in social protection systems and aggravating humanitarian crises (International Policy Brief, 2023).

Overlapping security challenges have therefore defined the post-#EndSARS period: insurgency in the Northeast, banditry and kidnappings in the Northwest, separatist agitations and communal violence in the Southeast, and organised crime in metropolitan areas (International Policy Brief, 2023). The demonstrations unintentionally generated security vacuums taken advantage of by militant and criminal groups as well as increased mistrust among people and state security apparatus. This mistrust fuels cycles of violence and instability and compromises the collaboration required for good policing (The Guardian, 2022; International Policy Brief, 2023). Akanle and Shokoya (2025) offer a sophisticated view of how the breakup of SARS has changed insecurity and conflict in Nigeria. It exposes how likely the cycle of violence and instability will continue without real reforms and inclusive government, so compromising Nigeria's chances for peace and progress.

Conclusion

The EndSARS protest is a symptom and driver of the growing conflict dynamics of insecurity in Nigeria. While the demonstration raised youth's consciousness, it also exposed the extent of state brutality, institutional decline, growing violence and unresolved socioeconomic issues. The clear reality of structural inequalities and governance shortcomings affecting security architecture of Nigeria became even clearer in the post-protest era. Thus, the cycle of repression, insecurity and protest without significant changes in youth empowerment, anti-corruption measures and security overhaul becomes normal weakening the developmental objectives and democracy of Nigeria. The aftermath of the protest especially the disbandment of SARS without matching structural reform has sent off fresh waves of insecurity and increased mistrust between people and state agencies. Instead of fixing the situation, the militarised reaction of the government and lack of real reform have aggravated already existing security issues in Nigeria. This study shows how poorly handled state-citizen relations, unresolved issues, and policy tokenism could support cycles of conflict and insecurity. Moreover, the study revealed recurrent themes of institutional degradation, the weaponising of state security against nonviolent protestors, and the incapacity of post-protest policy frameworks to solve underlying issues. The study underline how urgently Nigerian governance and security sector reform need a comprehensive, inclusive, and responsible approach.

Recommendations

1. **Comprehensive Police Reform:** The Nigerian government has to transcend basic interventions like SARS dissolution. It should apply real, systemic police reform with better welfare, training, and responsibility systems. Independent and equipped to punish misbehaving officials should be oversight agencies.
2. **Strengthening Civil Liberties and Rule of Law:** Under all situations, one's right to peaceful protest has to be safeguarded. Public confidence must be rebuilt by open investigation and prosecution of the arbitrary use of force against unarmed people as observed during the #EndSARS demonstrations.
3. **Youth Engagement and Inclusion:** The government should establish organised channels for young participation in policy-making, governance, and community security planning to solve the long-standing marginalising of Nigerian youth. This will assist to lessen the sense of exclusion driving civic disturbance.
4. **Institutional Accountability and Transparency:** Every state institution including security departments has to follow open and honest policies. Civil society participation in monitoring, internal audits, and regular public reporting help to build confidence and lower impunity.
5. **Early Warning and Conflict Prevention Mechanisms:** Creating strong early warning systems that track public opinion particularly on digital channels will enable legislators to identify and defuse possible flashpoints before they explode into full-scale social disturbance.
6. **Public Education and Awareness:** Particularly among young people, civic education should be included into the national curriculum and public dialogue to promote a society of rights awareness, responsibility, and nonviolent activism.

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Herder-Farmer or Farmer-Herder Crisis? A Theoretical Exploration of Terminology and Its Role in Crisis Perpetuation in Nigeria

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Abstract

The conflict commonly referred to as the "Herder-Farmer" or "Farmer-Herder" crisis has become a recurring feature of communal violence in Nigeria, particularly within the Middle Belt and other agrarian regions. While much scholarly attention has focused on the root causes, socio-economic impacts, and potential resolutions of the crisis, less attention has been paid to the language used to describe it. This study offers a theoretical exploration of the terminological variations "Herder-Farmer" versus "Farmer-Herder" and critically examines how these linguistic choices shape public perception, frame victim-aggressor identities, and potentially contribute to the perpetuation of the crisis. Grounded in Framing Theory, the study interrogates how media reports, policy documents, and academic literature deploy these terms and the implications of such usage for conflict escalation or de-escalation. Data were drawn from a purposive selection of national newspapers, governmental statements, and academic texts from 2010 to 2024. The findings reveal that terminological framing is not merely descriptive but often reflects deeper ideological, regional, and political biases that influence policy responses and social narratives. The study concludes that the language used to characterize the crisis is a significant, yet underexplored, dimension of the conflict's dynamics, and calls for a more critical and conscious use of terminology in conflict discourse.

Keywords: Herder, farmer, crisis, Nigeria

Introduction

The herder-farmer conflict in Nigeria has become one of the most persistent and deadly communal clashes in the country over the past two decades. It is often portrayed as a struggle over land and resources between predominantly nomadic Fulani herders and sedentary agrarian communities, particularly in Nigeria's Middle Belt region. Climate change, desertification, population pressure, and land degradation have pushed pastoralists further south in search of grazing land, frequently bringing them into conflict with farming communities (Benjaminsen & Ba, 2009; Okoli & Atelhe, 2014). The consequences of these clashes have been dire, resulting in thousands of deaths, displacement of populations, and the destruction of livelihoods (International Crisis Group, 2018).

Despite the increasing attention this crisis has garnered from the media, policymakers, and scholars, insufficient attention has been paid to the role of terminology and framing in shaping the dynamics and perceptions of the conflict. Terms such as "herder-farmer conflict" or "farmer-herder crisis" are often used interchangeably without critical reflection on their implications. These terms are not ideologically neutral; rather, they are embedded within socio-political contexts that often reinforce stereotypes, apportion blame, and frame particular groups as aggressors or victims (Blench, 2010; Adisa, 2012). This paper argues that naming and framing are critical in understanding and possibly perpetuating the crisis. The linguistic framing can exacerbate tensions by reinforcing ethno-religious narratives and pre-existing biases that align with political interests or media sensationalism.

This study is guided by two central research questions: First, does the naming of the herder-farmer conflict reflect underlying biases or assumptions? Second, how does terminology influence perceptions, attribution of blame, and the policy responses proposed or adopted? These questions aim to uncover the ways in which language and discourse shape the societal understanding of conflict and, consequently, the types of interventions deemed appropriate.

The significance of interrogating the terminology used to describe this crisis lies in its potential to contribute to peacebuilding, policy formulation, and intergroup relations in Nigeria. Language is a powerful tool in conflict; it can serve to mediate disputes, encourage empathy, and promote peace, or it can inflame divisions and justify violence (Fairclough, 2013; van Dijk, 1993). This paper aims to highlight the need for more balanced, inclusive, and context-sensitive discourse that will support more effective and equitable conflict resolution strategies by critically examining the terms used to describe the crisis. It contributes to the broader academic and policy debates about the intersection of language, power, and violence in ethnically diverse societies.

Literature Review

Historical Context of Herder-Farmer Relations in Nigeria

The history of herder-farmer relations in Nigeria is long and complex, dating back to pre-colonial times when seasonal movement and shared resource usage between Fulani pastoralists and sedentary

agricultural communities were guided by informal agreements and mutual cooperation. Traditionally, the Fulani herders, known for their transhumant livestock systems, migrated cyclically from the northern dry zones to the greener Middle Belt and southern regions during the dry season in search of water and pasture (Blench, 1994; Tonah, 2006). These seasonal migrations were largely peaceful and based on negotiated access to farmlands and water sources. Conflicts, when they occurred, were localized and resolved through traditional dispute resolution mechanisms embedded within communal systems (Moritz, 2010).

However, the increasing frequency and intensity of herder-farmer clashes in contemporary Nigeria have been linked to a convergence of historical, ecological, demographic, and political factors. Scholars have widely documented how desertification and climate change in the Sahelian region of northern Nigeria have reduced available grazing lands and water resources, forcing herders to migrate farther south into areas where population density is higher and land pressure is more intense (Benjaminsen et al., 2012; Okoli & Atelhe, 2014). These movements disrupt existing land tenure systems and often lead to competition over fertile lands between pastoralists and farmers, who view the encroachment as a direct threat to their livelihoods.

The colonial and postcolonial state also played a pivotal role in shaping the landscape of herder-farmer relations. During colonial rule, the British administration recognized transhumant pastoralism and delineated grazing routes and reserves across northern Nigeria. These gazetted grazing areas and cattle routes were aimed at reducing friction between herders and sedentary farmers (Waters-Bayer & Bayer, 1994). However, the post-independence Nigerian state failed to maintain or update these routes and reserves amid rapid urbanization, land privatization, and the expansion of agricultural activities. As a result, many of these routes have been encroached upon or erased, pushing herders into cultivated lands and sparking disputes (McGregor, 2014).

The identity dimension of the conflict has also evolved historically. Fulani herders, predominantly Muslim and perceived as ethnically distinct from many southern and Middle Belt farming communities, have increasingly been framed as “outsiders” or “invaders,” especially in regions where ethnicity and religion strongly intersect with political and territorial claims (Abbass, 2014; Ibrahim, 2017). This framing fuels tensions and fosters a climate of suspicion and mistrust, which transforms resource-based disputes into ethno-religious conflicts. The politicization of land and indigeneity has further exacerbated these divisions, particularly in Nigeria’s Middle Belt, where contested notions of who qualifies as a rightful landowner—“indigene” versus “settler”—complicate conflict resolution processes (Nyong & Fiki, 2005).

Moreover, population growth and land use change have transformed the rural economy, reducing the availability of communal lands and increasing the value of arable land. Farmers are now cultivating closer to waterways and across former grazing corridors, leaving little room for herd movement and increasing the probability of crop damage and retaliation. Several studies have shown that these shifting land use dynamics have turned previously negotiated spaces into contested territories, with growing incidents of violent encounters (Tonah, 2006; Ofem & Inyang, 2014). The expansion of agribusiness and land commercialization, especially by political elites, has also contributed to the marginalization of both pastoralists and smallholder farmers, intensifying competition over shrinking natural resources.

In conclusion, the historical trajectory of herder-farmer relations in Nigeria reveals a shift from mutual coexistence to violent contestation, driven by environmental degradation, policy failures, demographic pressure, and identity politics. Understanding this history is critical to any meaningful intervention aimed at resolving the crisis. It highlights the need for holistic, historically informed solutions that address both structural inequalities and cultural narratives embedded in the conflict.

Framing of Conflict in Media and Scholarship

Framing plays a powerful role in shaping public understanding, perception, and response to conflict. In the context of the herder-farmer conflict in Nigeria, how the crisis is named and framed in media reports, academic literature, NGO advocacy, and government discourse is far from neutral. Scholars have long argued that the words used to describe conflict actors, victims, and causes can influence whether an issue is interpreted as a criminal act, an ethno-religious crisis, a political problem, or a resource-based dispute (Entman, 1993; Galtung, 2002). In Nigeria, the herder-farmer clashes are often labeled differently depending on the narrator. Terms such as “Fulani herdsmen attacks,” “farmer-herder crisis,” or even “Fulani jihad” appear in various outlets, each carrying its own ideological and political weight (Olaniyan et al., 2015; Ibrahim, 2017).

Media narratives, especially in national newspapers and online platforms, frequently adopt sensational or ethnically loaded frames. The focus is often on “Fulani herdsmen” as the perpetrators, while

sedentary farmers are portrayed as victims (Okoli & Ogayi, 2018). This framing contributes to the stigmatization of the Fulani ethnic group and homogenizes their identity as inherently violent or threatening. Scholars have critiqued this tendency for failing to contextualize the conflict within broader structural issues such as environmental change, land use competition, and governance deficits (Benjaminsen et al., 2012). For instance, Mohammed (2017) emphasizes that the exclusive focus on ethnicity and violence obscures the economic and ecological dimensions of the crisis and reproduces a binary of aggressor versus victim, which deepens societal polarization.

NGOs and international organizations, while often striving for neutrality, are not immune to framing influences. Human rights reports and conflict assessment documents sometimes replicate dominant media framings, especially when they rely on unverified eyewitness accounts or secondary media sources (Bamiduro, 2021). Moreover, the categorization of the conflict as a “terrorist threat” by some government actors—especially under Nigeria’s anti-terrorism legal framework—has led to securitized responses that may exacerbate tensions rather than resolve underlying issues (Adamu & Ben, 2019). When state narratives align herder-farmer clashes with broader insurgencies such as Boko Haram or ISWAP, the result is often indiscriminate repression rather than restorative justice or inclusive dialogue.

In peace and conflict studies, the act of “naming” is not a passive or descriptive exercise—it is a constitutive act that defines what kind of problem exists and what solutions are deemed appropriate (Richmond, 2002; Mac Ginty, 2010). Naming confers legitimacy, directs attention, and guides action. For example, describing the crisis as a “resource-based conflict” invites interventions like land reform or resource governance, whereas framing it as “ethnic cleansing” may prompt humanitarian responses and legal actions against perceived aggressors. As Galtung (1996) argues, how a conflict is narrated shapes both the escalation of violence and the pathways to resolution.

Furthermore, naming reflects and reinforces power dynamics. Actors with greater institutional power—governments, media corporations, and international agencies—have a disproportionate influence in defining the dominant narrative of a conflict. This is evident in how the Nigerian government’s classification of certain herder groups as “foreign invaders” from neighboring countries reinforces exclusionary discourses and justifies militarized border controls (Chukwuma & Atama, 2021). Conversely, local pastoralist communities often struggle to have their voices heard or to frame the crisis in terms of their own displacement and marginalization.

Therefore, the framing of the herder-farmer crisis is not merely semantic; it has real consequences for peacebuilding, conflict resolution, and intergroup relations. Understanding the politics of naming and the framing mechanisms employed by various actors is essential to deconstructing biases, fostering inclusive dialogue, and developing more effective policy responses. As such, interrogating language and narrative structures must be a central task in both scholarly and practical engagements with the conflict.

Language and Power in Conflict

Language is never neutral in contexts of conflict; it is imbued with power and often functions as a strategic tool to shape perceptions, legitimize certain actors, and delegitimize others. In the herder-farmer crisis in Nigeria, the terminology used—both in formal policy discourse and in everyday communication—has played a significant role in escalating tensions, reinforcing stereotypes, and justifying certain types of state or community responses. As Foucault (1980) asserts, discourse is an instrument of power, and control over language often translates into control over meaning, perception, and ultimately, action.

Language used in the description of the herder-farmer conflict reflects not only underlying biases but also broader social and political agendas. For instance, the frequent identification of aggressors as “Fulani herdsmen” in media and political commentary reinforces an ethno-religious dimension that paints the entire Fulani ethnic group as violent and nomadic invaders (Okeke, 2014; Chiluwa & Adegoke, 2013). Such labeling not only contributes to stigmatization but also fuels intergroup animosity and retributive violence. As Volpato, Dimaggio, and Andrighetto (2017) explain, linguistic choices in conflict situations can dehumanize certain groups, making violence against them more socially acceptable.

Moreover, the use of generalized and categorical language erases the complexity of individual experiences and obscures the root causes of conflict. The term “herder-farmer clashes,” for example, suggests a symmetrical conflict between two groups with equal power and resources, whereas in reality, the conflict is shaped by asymmetric access to land, political protection, and legal redress mechanisms (Benjaminsen & Ba, 2009). Such framing thus limits nuanced understanding and can delegitimize grievances from either side depending on the prevailing narrative.

Language also serves as a vehicle for bias in policy formulation. When policymakers adopt conflict frames that cast one group as the perpetual aggressor, it often leads to securitized and punitive policy responses rather than dialogue-based or development-centered solutions (Adamu & Ben, 2019). The criminalization of Fulani pastoralists in some states of Nigeria, for instance, has resulted in anti-open grazing laws that are perceived by some communities as ethnically targeted policies, further aggravating distrust in the state and widening the rift between groups (Evershed, 2021).

Narratives play a pivotal role in shaping public opinion and state responses. Selective framing—highlighting certain events while omitting others—can drive the perception of a moral high ground for one group over the other. According to Entman (1993), framing involves selecting certain aspects of perceived reality and making them more salient to promote a particular problem definition, causal interpretation, moral evaluation, and treatment recommendation. For example, government reports that emphasize the criminal activities of herders while overlooking retaliatory violence by farming communities risk reinforcing an “us versus them” dichotomy that polarizes public attitudes (Chukwuma & Atama, 2021).

De-escalation, on the other hand, often requires deliberate reframing and inclusive language. Peacebuilders and conflict mediators stress the importance of adopting neutral, humanizing, and restorative narratives that recognize the shared suffering of both groups and frame the conflict in terms of mutual interests and collaborative problem-solving (Galtung, 1996; Lederach, 2003). In this context, replacing terms like “herdsmen attacks” with more neutral phrases such as “resource-based disputes” or “intercommunal tensions” may help reduce inflammatory responses and open pathways for negotiation and dialogue.

Theoretical Framework

This study employs **Framing Theory** by Goffman, 1974 and Entman, 1993 as its principal theoretical lens to explore how language, particularly terminology, shapes the public understanding and perpetuation of the herder-farmer conflict in Nigeria. Framing theory provides a robust conceptual foundation for analyzing how conflict narratives are constructed, reinforced, and contested in public discourse. It posits that the way an issue is presented—or “framed”—can significantly influence how it is interpreted and responded to by the public, policymakers, and stakeholders (Goffman, 1974; Entman, 1993).

Erving Goffman (1974) introduced the concept of frames as “schemata of interpretation,” which enable individuals to locate, perceive, identify, and label occurrences in their life and the world. According to Goffman, these interpretive frames help people make sense of complex situations by highlighting some aspects of reality while obscuring others. In a similar vein, Entman (1993) refined the concept by asserting that framing involves the selection and salience of certain aspects of perceived reality to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation. In essence, framing shapes not only what people think about an issue but also how they think about it.

Applied to the herder-farmer conflict in Nigeria, framing theory is highly relevant in interrogating the language used in academic, media, and political narratives. The recurring use of terms like “herder-farmer conflict” or “farmer-herder crisis” is not merely descriptive but actively constructs social realities. These terms frame the conflict as a binary, occupational dispute, often masking the complex interplay of historical grievances, environmental stress, ethnic tensions, religious identities, and state neglect (Okoli & Atelhe, 2014; Benjaminsen & Ba, 2009). For instance, framing the conflict as a “herder-farmer crisis” may implicitly position herders as the initiators of violence or as intruders in a settled agricultural landscape, especially when such framing appears in headlines following attacks or communal clashes.

Furthermore, media and political actors in Nigeria often adopt emotionally charged and ethnically biased frames. As Entman (2004) noted, media framing can influence public perception by assigning blame, identifying victims, and recommending policy solutions. In the Nigerian context, portrayals of Fulani herders as “invaders” or “militants” contribute to moral panic and justify exclusionary or repressive state responses, such as anti-open grazing laws or vigilante mobilizations (International Crisis Group, 2018; Abbass, 2014). These frames not only intensify intergroup hostility but also hinder constructive dialogue and long-term peacebuilding efforts.

Moreover, framing theory reveals the power dynamics behind naming: those who control the narrative often influence the policy agenda and public sentiment. Political elites and interest groups may exploit these frames to mobilize support, gain political mileage, or divert attention from governance failures. For example, the persistent framing of the conflict in ethno-religious terms has been shown to galvanize voter behavior and shape electoral rhetoric in Nigeria’s Middle Belt and Northern regions (Barkindo, 2016).

This study illuminates how the language used to describe the herder-farmer crisis is not neutral but politically and culturally loaded. This framework allows for a deeper understanding of how discourse constructs identities (e.g., aggressor vs. victim), rationalizes violence, and shapes interventions. It also underscores the need for a reframing of the conflict narrative toward more inclusive and nuanced terminologies—such as "resource-based conflict" or "rural livelihood tensions"—that capture the underlying drivers without reinforcing divisive stereotypes.

Ultimately, framing theory provides a vital lens through which to critically assess the role of discourse in conflict perpetuation and peacebuilding. It encourages scholars, journalists, and policymakers to be conscious of the frames they employ and to consider the broader social and political implications of their language choices.

Methodology

Although this study was conceptual and theoretical in orientation, it employed a qualitative content analysis to support its examination of how the terminology used in the framing of the herder-farmer conflict in Nigeria contributes to the conflict's perception, perpetuation, and response. The analysis drew from a selection of media reports, academic literature, and NGO publications, providing insight into how language shapes public discourse, policy formulation, and intergroup relations.

Data Collection Procedure

The data analyzed comprised a purposive sample of texts drawn from a range of influential sources. These included media outlets such as *The Punch*, *Premium Times*, *Vanguard*, *BBC Africa*, and *Al Jazeera English*, which covered conflict-related stories spanning the period from 2010 to 2024. In addition, peer-reviewed academic articles were retrieved from Google Scholar using keywords such as "herder-farmer conflict," "Fulani herdsmen," "conflict framing," and "communal violence in Nigeria." Furthermore, reports from non-governmental organizations (NGOs) like the International Crisis Group, Human Rights Watch, and Search for Common Ground were examined, as they offered valuable policy insights and field-based narratives on the conflict. These sources were deliberately selected due to their significant role in shaping both national and international perceptions and understandings of the herder-farmer crisis in Nigeria.

Analytical Approach

The study employed content analysis alongside elements of discourse analysis (Foucault, 1980) to explore how language and terminology were used to construct meaning and shape public attitudes toward the herder-farmer conflict. Each selected text was carefully examined to identify the frequency and context in which terms such as "herder attack," "farmer retaliation," "Fulani militia," and "communal clashes" were used. Attention was paid to the tone of the narratives—whether they were accusatory, sympathetic, neutral, or emotive—as well as the attribution of blame or victimhood, particularly how different actors were portrayed as instigators, defenders, or victims. The analysis also focused on how the causes of the conflict and proposed solutions were framed, whether as ethnic, religious, environmental, or political issues, thereby revealing the underlying assumptions embedded in various representations of the crisis.

Coding Strategy

A coding scheme was developed that combined both deductive and inductive approaches. Deductive categories were informed by existing theoretical frameworks such as framing theory and discourse theory, while inductive categories emerged organically from the data during analysis. Key coding themes included the labels used to describe the conflict, such as "Fulani herdsmen," "terrorists," and "armed farmers," which carried implicit connotations and framed the actors in particular ways. The conflict itself was framed through lenses such as ethnic confrontation, environmental stress, or a broader security crisis, reflecting varying interpretations of its root causes. Proposed solutions also varied, with references to military intervention, the creation of grazing reserves, intergroup dialogue, or financial compensation. Finally, the representation of key actors—farmers, herders, and government agencies—was analyzed to determine who was given voice within the narratives and how they were portrayed in terms of agency, culpability, and victimhood.

Ethical Considerations

In analyzing conflict-related texts, the study was sensitive to representation ethics to avoid reinforcing bias, stereotypes, or inflammatory narratives. The objective was to deconstruct the power of language in shaping understanding and response to the crisis, not to assign moral judgments to specific actors.

Findings and Discussion

Terminology as a Site of Power Struggle

The analysis of diverse source materials—including media reports, academic literature, and NGO publications—reveals that the terminology used to describe the herder-farmer conflict in Nigeria is far from neutral or merely descriptive. Instead, it constitutes a deeply political and ideologically charged site where power relations are played out through language. This study found that terminology significantly shapes public understanding of the conflict, assigning blame, moral standing, and legitimacy, which in turn influences the range of acceptable policy responses.

Media Reports: Popular Narratives and Public Perception

Media outlets such as *The Punch*, *Premium Times*, and *BBC Africa*, which have extensive national and international reach, frequently employ terms like “herder attacks,” “killer herdsmen,” and “Fulani militia” in their coverage spanning 2010 to 2024. These lexical choices predominantly cast the Fulani herders as primary aggressors, thereby framing the conflict through a security and ethnic lens that resonates with urban, politically engaged readerships. The emphasis on herders as instigators often eclipses the environmental or historical complexities of the crisis. This one-sided portrayal tends to solidify a narrative where farmers are the defenseless victims, reflecting Goffman’s (1974) framing theory that language “packages” events to influence audience perceptions of causality and legitimacy (Entman, 1993). This framing aligns with the socio-political positioning of media outlets that cater to largely agrarian and urban elites, whose interests may implicitly align with farmer communities.

Academic Literature

In contrast, peer-reviewed academic articles accessed primarily through platforms like Google Scholar often adopt more balanced and theoretically informed terminologies. Scholars writing from Nigerian and international universities, often with expertise in conflict studies, political ecology, or anthropology, use terms such as “pastoralist-agriculturalist tensions” or “resource-user conflicts” to emphasize structural drivers including desertification, demographic pressures, and governance failures (Omilola, 2021; Okoli & Atelhe, 2014). These sources demonstrate a growing scholarly sensitivity to the dangers of ethnicizing the conflict and a preference for systemic explanations that move beyond simplistic aggressor-victim binaries. Notably, these academic texts frequently invert the lexical ordering to “farmer-herder” or avoid binary labels altogether, illustrating how grammatical nuances can influence interpretation and policy relevance (Adamu & Ben, 2019; Benjaminsen & Ba, 2020). The socio-demographic profile of these sources—often urban-educated intellectuals and international researchers—enables a critical distance from immediate political pressures, allowing for more comprehensive and reflective analyses.

NGO Reports: Advocacy and Policy Influence

Reports from NGOs such as the International Crisis Group, Human Rights Watch, and Search for Common Ground occupy an intermediary space, combining field-based narratives with policy advocacy aimed at international donors, Nigerian policymakers, and local stakeholders. These documents often reflect a dual imperative: to highlight human rights abuses and call for pragmatic conflict resolution. While NGO reports sometimes replicate media framing by identifying “herder attacks” as initial triggers, they also tend to acknowledge retaliatory violence by farmers, framing these acts as “self-defense” (Human Rights Watch, 2018; International Crisis Group, 2017). This selective moral framing underscores Foucault’s (1980) argument about discourse as a mechanism of power, not only reflecting but shaping social order and control. The socio-demographic orientation of NGOs often transnational and donor-driven motivates framing that balances accountability with calls for dialogue, aiming to maintain donor interest and political legitimacy.

Power Dynamics in Naming

A notable finding across all document types is the uneven distribution of power over who names the conflict and how. Political elites, influential media houses, and dominant ethnic groups exercise

disproportionate influence in propagating terms that frame herders predominantly as aggressors and farmers as victims. For instance, government rhetoric increasingly employs securitized terms like “terrorists” to describe Fulani herders, especially after violent outbreaks. While this serves immediate political goals of signaling state control, it marginalizes the herders’ historical grievances related to land access and political exclusion, thereby hardening ethnic divides and justifying militarized policy approaches over inclusive dialogue (International Crisis Group, 2017).

The lexical ordering in the phrase “herder-farmer conflict,” consistently foregrounding “herder,” also conveys implicit assumptions of agency and blame, which rarely surface in policy discussions or media reports. This subtle but powerful linguistic feature shapes public perception and contributes to the social construction of the conflict as one-sided aggression (Adamu & Ben, 2019). Conversely, academic and some NGO discourses that adopt alternative phrasing and more systemic analyses reflect efforts to democratize the narrative space and promote understanding of the conflict’s ecological and socio-political complexities.

Conclusion

This study has demonstrated that the naming of the so-called “herder-farmer conflict” in Nigeria is not a neutral act but a deeply political process that influences how the crisis is perceived, who is blamed, and what responses are legitimized. Terminology serves as a powerful tool in framing narratives, directing public sentiment, shaping policy, and guiding international interventions. The widespread use of phrases such as “Fulani militia” or “killer herdsman” often essentializes one group as violent aggressors and another as passive victims, obscuring the complex, reciprocal, and historically rooted nature of the conflict.

Informed by framing theory and discourse analysis, this paper highlights how linguistic choices shape social realities and contribute to cycles of misunderstanding, resentment, and violence. As such, addressing the language used in discourse about the conflict is not merely a semantic exercise; it is central to peacebuilding, policy reform, and intergroup reconciliation.

Recommendations

1. Multi-Stakeholder Engagement in Reframing:

There is an urgent need for collaboration among media practitioners, academics, community leaders, and policymakers to develop more balanced and context-sensitive language. This collective reframing should avoid ethnic scapegoating and instead reflect the multi-causal, dynamic nature of the conflict.

2. Adoption of Alternative Terminology:

Alternatives such as “resource-use conflict,” “rural livelihoods contestation,” or “pastoralist-agriculturalist interface” should be adopted in place of charged terms like “herder-farmer conflict.” These alternatives move the conversation away from identity-based antagonisms and toward structural and ecological explanations.

3. Capacity Building for Responsible Reporting:

Journalists and editors should receive training on conflict-sensitive reporting to reduce sensationalism and bias in headlines and news stories. Media codes of conduct should incorporate guidelines for neutral and fair terminology.

4. Policy Discourse Reform:

Government communications and official policy documents should use inclusive, non-inflammatory language that reflects the diversity of actors and interests involved in the crisis. This approach can help de-escalate tensions and foster dialogue.

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Co-creating Knowledge and Security Synergy: The Dimensional Approach to Policing the States in South Western, Nigeria

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Abstract

The study examines co-creation of knowledge on security synergies birthing approaches to combat the recurring security threats in South-western, Nigeria. The prevailing security challenges in the region undermines the formalised institutional policing, defies professionalism of security agencies to enhance the sprout of regional criminal networks. Despite adoption of modern policing practices, crime and violence persisted. Therefore, the study identified notable gap in the nuanced understanding of dimensional security approaches to combating crime in towns, cities in South-west, Nigeria. The contingency policing theory provided the theoretical explanation; the descriptive research design was adopted. Relying on qualitative method, study areas was clustered into Ibadan, Osogbo, Ado-Ekiti, Ijebu Ode and Owo town. The Local security network comprising Amotekun security network, the Vigilante group of Nigeria (VGN), the Nigeria Police Force (NPF) and Nigeria Security and Civil Defence Corps (NSCDC) were purposively. Thirty Interviews were conducted with Amotekun groups (10) NPF (5), NSCDC (5), VGN (7) and community leaders (3) were sampled. Data were content analysed using deductive approach. The paper revealed that there is a cordial work relationship between Amotekun and other security outfit and the synergy has been very effective. Despite the successes of Amotekun, the security network is bedeviled with lack of modern security gadget which affect their operations with other agencies. It is imperative that government provides adequate gadget for Amotekun security network for the security of South Western States, Nigeria.

Keywords: Co-creating knowledge, security synergy, policing, Amotekun and Nigeria

Introduction

The adequate protection of people's lives and property is sacrosanct and an indispensable function performed by the government through the formation of security agencies across societies around the world (Iloh & Nwokedi 2019). Insecurity is not a new phenomenon, but its impact has been amplified by globalization, which has increased the interconnectedness of people and nations. The rise of external parties, such as terrorist groups and criminal organizations operating outside traditional state structures, further exacerbates the issue (Smith, 2020). Insecurity manifest in various forms, including physical violence, economic instability, social dislocation, and environmental degradation. These forms of insecurity are often interconnected, necessitating a multifaceted approach to address them effectively (Jones & Brown, 2018).

Insecurity in Africa is a complex issue that has been the subject of numerous studies and research efforts. This issue has gained increasing attention from scholars, policymakers, and the public as it threatens not only the stability of individual African countries but also the security of the region as a whole. One of the main causes of insecurity in Africa is the proliferation of armed groups and the illicit trafficking of small arms and light weaponry. These weapons are often used by non-state actors to engage in violent activities such as terrorism, insurgency, and armed robbery. In addition, weak state institutions, poor governance, corruption, and poverty have created fertile ground for the emergence and spread of violent extremist groups in Africa (Ero, 2019). Furthermore, the colonial legacy and the arbitrary borders drawn by colonial powers in Africa have contributed to conflicts and insecurity in the region. The legacy of colonialism has also led to social and economic inequality, ethnic tensions, and political instability, which have all contributed to the growth of armed groups and the escalation of violence (Ihonvbere, 2018).

Another contributing factor to insecurity in Africa is the impact of climate change, which has led to food and water scarcity, environmental degradation, and displacement of people. These conditions have created social and economic vulnerabilities that have been exploited by armed groups and criminal networks to perpetrate violence (Adelekan et al., 2018). To address insecurity in Africa, there is a need for a multi-dimensional approach that addresses the root causes of violence and builds resilient societies. This includes strengthening state institutions, promoting good governance, tackling corruption, addressing poverty and inequality, and investing in education, health, and infrastructure (UNECA, 2018).

However, the concept of street and community policing has emerged as a mechanism for tackling the insecurity challenges of Africa and Nigeria in particular. Some have argued that community policing can lead to over-policing and the targeting of marginalized communities (Okeshola and Mudiare, 2013). Additionally, the proliferation and recurrence of community policing in various forms and dimensions sparked a current discussion in Nigeria, with formations like the Hisbah police in the North and the Ebube-

Agu in Nigeria's south-eastern region. The Oodua Peoples' Congress (OPC) factions prevalent in the south-west region of Nigeria. More so, the "Amotekun" known as the leopard which represents courage, bravery, ambition, independence, toughness, patience, and wisdom has also emerged a regional organisation that works to combat and eradicate crime in the states of Lagos, Oyo, Ogun, Ondo, Osun, and Ekiti. These discussions center on the effectiveness of these formations and their relational roles with traditional security outfits such as the Nigerian Police.

Despite the emergence of these organizations, a notable gap persists in mitigating the high rate of highway kidnappings, herdsmen incursions into farms, and bank robberies in southwest Nigeria (Okeke, 2013). It is against this backdrop that this study examined with the use of qualitative method the impact of the Amotekun security Network in Akinyele and Ibadan North, synergy with other security outfit and challenges faced by the Amotekun network.

The study is organized into several sections. The subsequent section encompasses a review of the literature and theoretical framework, employing Travis Hirschi's social control theory. Following this, the methodology, discussion of findings, conclusion, and recommendations are presented. The study adopts a purely qualitative approach, utilizing a blend of in-depth and key informant interviews. The primary themes discussed include the impact, synergy, and challenges of the collaboration between Amotekun and other security outfits.

Literature Review

Brief History of Amotekun Security Network in Nigeria

In order to address the growing instability in the area, the governors of Nigeria's South-West geopolitical zone established Amotekun as a security organization in 2020. Amotekun was founded in response to years of bloody confrontations between farmers and ranchers in the area, as well as kidnappings and other criminal activity. This approach was to support the work being done by the local police force and other security organisations. The name Amotekun, which means "leopard" in Yoruba. (Global Voices, 2020). The initiative was established on January 9th, 2020 by the governors of the six Southwestern states of Nigeria (Urowayino et al., 2020). The creation of this security outfit was announced during a regional summit hosted by the Development Agenda for Western Nigeria Commission (DAWN) in Ibadan, the capital city of Oyo state, in June 2019 (Ojelu et al., 2020). To support the initiative, each of the six governors donated 20 vehicles, with the exception of Oyo state which donated 33 vehicles, for a total of 133 vehicles to launch the security outfit. Additionally, they purchased 100 units of motorcycles each, totaling 600 motorcycles, to aid the officers in carrying out their duties effectively (Bisi et al., 2020).

Crime Mitigation in Nigeria

The introduction of Amotekun has resulted in a significant decrease in crime rates in the south-western region including Akinyele and Ibadan North (Adeleke et al., 2020). The authors attributed this reduction to the presence of well-trained personnel, better coordination among security agencies and the provision of adequate equipment and logistics support. Crime is one of the major issues facing in the society today and it has had a negative impact on the country (Junaid, 2017). Crime prevention and mitigation refer to the way of discouraging instruments that breeds criminal activities and it can also be seen as the placement of structures and plans that will on the long run discourage attitudes and reduce negative effects of crime or its total eradication from the society (Adeboye, 2013). In Oyo State where they are most active, there have been 67 reported cases of attacks since January, 2020 which has led to 115 deaths and they have also been accused of being involved in crime and some of their personnel have been arrested for criminal offence at a particular time. One of the distinguishing characteristics that sets the Amotekun programme in the South West region distinct from other security groups is that it has a paramilitary structure and is made up of pre-existing community-based armed groups (CBAGs). With its establishment, it is anticipated that power transfer to the federating units will be more successful, potentially lowering security in the Southwest. Following developments in the Southwest and Southeast, the success of Amotekun has prompted requests for the creation of their own regional security organisations from a variety of interests in many parts of the nation. The Urhobo Progress Union (UPU), a significant sociocultural organisation in the Niger Delta region, has led calls for the governors of the area, particularly Ifeanyi Okowa of Delta State, to take the initiative in establishing a security organisation for the region in the South-South (Olumide et al., 2020).

Security Network and the impact on Crime Reduction

The use of security networks has been instrumental in reducing crime rates in various parts of the world. Security networks refer to the collaboration between law enforcement agencies, private security firms, and community members to prevent and deter criminal activities. This approach has been adopted in many countries, and studies have shown that it has led to significant reductions in crime rates. For example, in the United States, the implementation of security networks has led to a decrease in crime rates in various cities. A study conducted by the National Institute of Justice found that community policing, which is a form of security network, led to a 30% reduction in crime rates in the city of Chicago (National Institute of Justice, 2014). Similarly, a study by the International Association of Chiefs of Police found that the implementation of security networks in Atlanta led to a 10% decrease in crime rates (International Association of Chiefs of Police, 2017). In the United Kingdom, security networks have also been effective in reducing crime rates. A study by the Home Office found that the implementation of security networks led to a 20% reduction in crime rates in the city of Manchester (Home Office, 2018). Similarly, a study by the London Metropolitan Police found that the use of security networks led to a 15% decrease in crime rates in London (London Metropolitan Police, 2020). In developing countries, security networks have also been successful in reducing crime rates. For example, in Brazil, the implementation of community policing has led to a 50% decrease in crime rates in some areas (World Bank, 2017). Similarly, in South Africa, the implementation of security networks has led to a significant reduction in crime rates in various cities (SACN, 2018).

The use of security networks has been effective in reducing crime rates in various parts of the world. The collaboration between law enforcement agencies, private security firms, and community members has been instrumental in preventing and deterring criminal activities. These efforts have resulted in significant reductions in crime rates, and further implementation of security networks is recommended. Regional security and community policing was borne out of the public losing confidence in the police in terms of crime reduction. (Takagi et al., 2016) reported that community members' participation with shared values, beliefs, and social connections can contribute positively to reducing crime. (Lee et al., 2019) suggested that in order for community policing to be acknowledged, there needs to be some level of cooperation between the police and local residents to achieve clarity. Community policing entails a lot of practical and philosophical ideologies which is still evolving gradually). According to Nwanguma (2012), the Federal Government officially introduced the community policing approach to the Nigeria Police Force on April 27, 2004, using the Enugu state police command as a test site.

Security Network and Synergy that exist with other existing Security Outfit

The police force's shortcomings combined with high crime rate and a lack of trust in law enforcement has resulted in the creation of informal policing structure (IPS). These organizations provide the needed services to the police force in the aspect of crime mitigation and prevention. The effectiveness of alternative policing approaches has been the subject to different opinions. Nevertheless, it is generally acknowledged that alternative community policing, often known as vigilante groups, carry out their operations within the framework of the law and have been successful in preventing and curbing crime. This is because they have the ability to identify criminals, even when they attempt to conceal their identity (Aleyomi, 2013).

According to scholars, crime is not solely the responsibility of the criminal justice system but also a social problem that can be addressed by utilizing various ideas and abilities within society (Ikoh, 2013). In Nigeria, the relationship between the community and security agencies has given rise to civilian Joint Task forces, community guards, state police, and community policing, which have helped the Nigeria police and other security outfits to prevent and control crime. There are currently more than 2000 registered private security companies and organizations in Nigeria, including notable groups like the Oodua People's Congress, Bakassi Boys, Hisbah, and Amotekun. These groups were formed to protect their communities and have been successful in eradicating criminal elements. However, clashes have arisen between these groups and formal security agencies like the Nigeria Police Force, prompting some citizens and human rights groups to demand the regulation or elimination of vigilante activities in Nigeria.

Despite the shortcomings of every security group, it is believed that a strong collaboration between all security outfits and agencies is necessary to provide efficient and effective security for the over 200 million Nigerians, including foreigners, living and doing business in the country (Inyang & Abraham, 2013). The establishment of the Amotekun security network in southwestern Nigeria is expected to reduce the problem of inadequate manpower in the Nigerian Police Force and complement their efforts through effective and efficient police patrol in every region. The mode of operation of security networks involves monitoring network traffic, identifying security threats, and taking corrective measures to prevent or

mitigate potential security incidents. In addition to providing security, the Amotekun network is expected to serve as a backup for intelligence gathering, act as the CCTV in rural communities, and build regional integration and institutions, true federalism, and trust and confidence in the ability of the government to secure lives and properties.

Challenges of the synergy between Formal and Informal security outfit

Mahmoud and Usman (2014) found that positive results would only occur if there is cooperation and a cordial relationship between the police and informal security outfit in the area of reducing crime. They conducted their research on community policing & partnership: opportunities and challenges for state Nigeria. Because of the catchphrase that has gained popularity since the initiative's inception, "the fear of Amotekun is the beginning of wisdom for criminals," it will also lessen crime among the populace. If the initiative is monitored very well and it's well implemented, it will serve as a template for regional security outfit that would later be imbibed by other regions of the federation in combatting insecurity.

One of the major challenges of the synergy between formal and informal security outfits is the lack of coordination and communication between the two groups. Formal security outfits, such as the police, are usually centralized and have clear chains of command, while informal security outfits, such as neighborhood watch groups, are often decentralized and may lack proper coordination mechanisms. This lack of coordination and communication can lead to conflicts, misunderstandings, and duplication of efforts, which can undermine the effectiveness of both groups (Hills, 2014). Another challenge is the lack of standardization in training and operations between formal and informal security outfits. Formal security outfits have established training programs and standardized procedures that are regularly reviewed and updated. On the other hand, informal security outfits may lack adequate training and may operate based on individual experiences and perceptions of security threats (Hills, 2014). This lack of standardization can create a gap in the ability of both groups to work together effectively.

The relationship between formal and informal security outfits can also be strained by issues of trust and legitimacy. Formal security outfits may view informal security outfits as vigilantes who take the law into their own hands, while informal security outfits may view formal security outfits as ineffective and corrupt (Baker & Raffoul, 2019). This lack of trust and legitimacy can hinder the ability of both groups to work together towards common security goals. The initiative will serve as a morale booster for other security agencies in service delivery and as a check on them to improve on their efficiency too. Prominent Yoruba leaders have appealed to regional security outfits to synergize in Nigeria in order to enhance proper security and better coordination in the country.

Sustaining the synergy

The creation of the outfit has reduced the problem power among the Nigeria police and it has assisted the police in getting useful information among the people where its tentacles cannot reach and they complement the effort of the Nigeria Police through joint patrols in every perceived dangerous location in the region, the aim of creating the outfit is to rely on native intelligence and this will assist to gather information that will be used by other existing security outfit like the Nigeria Police and Nigeria security and civil defense corps to combat crime. The request was made at Iba Gani Adams' second installation as the Aare Onakankafé of Yoruba Land, which took place in Ikeja, Lagos, according to the News Agency of Nigeria. No matter what their titles or places, security agencies ought to work together, according to Joel Okei-Odumakin, the president of the Women Arise for Change Initiative. "They should make sure that those in charge of security continue to network," she said. In order to take the scorecard at the end and know where to spend more effort, which will guarantee better protection of lives and property, there should be enough synergy in how it is operated and coordinated.

She added that the project was excellent news for the southwest region and had been long delayed. She is confident that Amotekun will become incredibly effective at fighting crime with the right help. It will protect the lives and property of citizens by working with existing organisations, and it will enhance the Nigeria Police Force's community policing initiatives. According to Governor Rotimi Akeredolu, the Amotekun Security Project was created to support the work of other security agencies. Formalizing partnerships between formal and informal security outfits can help to ensure ongoing collaboration and coordination. This can include establishing joint task forces, sharing resources, and developing joint training programs (UNODC, 2016). Trust is essential for sustaining the synergy between formal and informal security outfits. Building trust requires ongoing communication, transparency, and a willingness to listen to and address concerns from all stakeholders (Cronin-Furman & Lake, 2021). Developing shared

goals and objectives can help to align the efforts of formal and informal security outfits and ensure that everyone is working towards the same end. This can help to prevent misunderstandings and ensure that resources are being used effectively (Lowe, 2017).

Encouraging information sharing between formal and informal security outfits can help to ensure that all stakeholders have access to the most up-to-date information about security threats and responses. This can help to prevent duplication of effort and ensure that resources are being used effectively (UNDP, 2015). Informal security outfits often have unique knowledge, skills, and resources that can be valuable in addressing security challenges. Recognizing and valuing their contributions can help to ensure ongoing collaboration and sustain the synergy between formal and informal security outfits (Okech, 2020). In the Philippines, the government has established partnerships between local police and community watch groups to combat crime and terrorism (Alvarez, 2019). In Mexico, the government has developed a community policing model that involves partnerships between formal security agencies and local residents, with positive results (Hernández, 2021).

Theoretical Framework

Contingency policing theory by Robert Trojanowicz and Dennis Crank argues that there is no universally applicable model for policing; rather, policing strategies must be flexible and adaptable to specific environmental conditions, including social, cultural, political, and economic contexts. The core of the theory rests on the idea that effective policing must respond to the unique needs and realities of different communities. It recognizes that security challenges vary across locations, and as such, policing approaches should be contingent upon these varying circumstances.

In relation to the paper, the contingency policing theory helps explain the importance of tailoring security frameworks to suit the peculiar dynamics of the South Western Nigerian states. These states face distinct security issues such as herder-farmer conflicts, kidnapping, armed robbery, and cult-related violence. The dimensional approach advocated in the paper—which emphasizes co-creating knowledge and fostering synergy between formal security operatives, local communities, and other non-state actors—mirrors the flexible and context-sensitive posture of contingency policing. By promoting a multi-layered and inclusive strategy that involves local knowledge, traditional institutions, and community participation, the paper aligns with the theory's assertion that policing must be contextually grounded.

Furthermore, the paper's focus on synergy and knowledge co-creation underscores the necessity of building trust and collaboration between the police and the public, which is another central concern of contingency policing theory. Rather than relying solely on top-down, centralized security systems, the dimensional approach recommends a bottom-up, community-involved model that reflects the social realities on the ground. Thus, the contingency policing theory not only justifies the need for a flexible, dynamic, and participatory model of policing but also supports the central thesis of the paper that effective security in South Western Nigeria requires a co-produced, knowledge-driven, and locally adaptable approach.

Methodology

This paper adopted a **descriptive research design** to explore the co-creation of knowledge and security synergy through a dimensional approach to policing in the South Western states of Nigeria. The descriptive design was selected because it allows for an in-depth examination and detailed description of existing security frameworks and collaborative policing practices within specific local contexts. This approach is appropriate for capturing the complexity of interactions among various security actors and community stakeholders in addressing localized security challenges.

The study employed a **qualitative research method** to generate rich, contextual insights into the perceptions, experiences, and operational dynamics of security networks in the region. The qualitative approach facilitated an understanding of the nuanced relationships and knowledge-sharing processes among the formal and informal security actors, which quantitative methods may not sufficiently capture. The study was conducted across five strategically selected towns within the South Western geopolitical zone of Nigeria: **Ibadan, Osogbo, Ado-Ekiti, Ijebu Ode, and Owo**. These locations were purposively chosen due to their diverse socio-political landscapes and varying security concerns, providing a broad representation of the regional security dynamics. The selection also reflected the operational presence of multiple security agencies and community-based organizations actively involved in policing and maintaining order.

Sampling and Participants

A **purposive sampling technique** was utilized to select participants directly involved in the local security networks, ensuring that respondents possessed relevant knowledge and experience regarding the policing structures under study. The focus was on key stakeholders within the local security apparatus, including:

- **Amotekun Security Network:** A regional security outfit tasked with community policing and crime prevention (10 participants).
- **Nigeria Police Force (NPF):** The official national law enforcement agency responsible for maintaining law and order (5 participants).
- **Nigeria Security and Civil Defence Corps (NSCDC):** A paramilitary organization supporting civil defence and internal security (5 participants).
- **Vigilante Group of Nigeria (VGN):** Community-based volunteer security operatives playing a complementary role in local policing (7 participants).
- **Community Leaders:** Traditional and opinion leaders who act as intermediaries between security agencies and local populations (3 participants).

In total, **thirty (30) in-depth interviews** were conducted, providing a comprehensive overview of the security ecosystem and its operational challenges.

Data Collection and Analysis

Data collection involved semi-structured interviews guided by open-ended questions designed to elicit detailed narratives about the roles, interactions, and collaborative mechanisms of the various security actors. This allowed participants to freely express their views on the strengths and limitations of existing policing frameworks, as well as opportunities for enhancing knowledge co-creation and security synergy.

The collected qualitative data were analyzed using **content analysis** with a **deductive approach**. The deductive framework was informed by the Contingency Policing Theory and the conceptual focus on co-creation and dimensional approaches to security. Data segments were coded and categorized based on pre-established themes derived from the theoretical framework and research objectives, such as flexibility in policing, community engagement, inter-agency collaboration, and contextual adaptation of security strategies. This methodical analysis enabled the identification of patterns and insights that underscore the effectiveness and challenges of the co-produced policing model in the South Western Nigerian context.

Discussion of Findings

Impact of Amotekun Security Network on Crime Reduction

The impact of Amotekun on crime reduction in Akinyele and Ibadan North is significant and noteworthy. Data collected from respondents indicate that Amotekun has made substantial contributions to reducing crime in these areas through joint patrols with other security outfits and continuous 24-hour patrols by its officers. Interviews with participants, particularly monarchs and traditional rulers, highlighted that Amotekun officials have been instrumental in mitigating major crimes in the community, including armed robbery, kidnapping, rape, and thuggery. A participant supported the claim that Amotekun has helped due to reduce crime in their area as stated below:

Amotekun is really trying in Akinyele local government and ward 3 particularly and criminal activities have reduced drastically and those troubling the area have been arrested and peace has returned to the community. (*Participant 1*)

The qualitative data concerning this objective were also used to complement the quantitative findings. A study by Tadele and Ayalew (2021) found that community-based security networks were effective in reducing crime rates in Ethiopia. This study examined the effectiveness of the community policing program implemented in the city of Hawassa, which involved the recruitment and training of community members to act as security officers within their neighborhoods. While Amotekun has been effective in addressing several security challenges within the community, it has also faced some negative reviews. Notably, in the Itutaba area of Ibadan North, some Amotekun officials were arrested for engaging in activities that violated their ethical standards. Such cases of misconduct and nefarious activities not only undermine the credibility of Amotekun but also contribute to the persistence of crime in the region. A participant stated thus:

There was a time they arrested some of the Amotekun officials at Idiomo at Ward 4, they were accused of stealing people's properties and burgling Shops and carting away items worth thousands but they were arrested and some of them have been sighted at Itutaba engaging in taking of hard drugs and mingling with known thugs. (*Participant 7*)

Despite the negative incidents, Amotekun has been widely praised by the majority of people in Akinyele and Ibadan North for its effectiveness in posing a significant threat to hoodlums and perpetrators of crime.

Synergy between Amotekun and other security outfits

There are many different ideas and skills embedded in society that can be used to limit crime, according to scholars who have developed the claim that crime is a societal problem rather than only a problem with the criminal justice system (Ikoh, 2013). This new trend, which includes community guards, state police, and community policing, has helped the Nigerian police and other security organisations in crime control and prevention because of the friendly relationship that exists between members of the community and security agents. Currently, the nation is home to more than 2000 legally established private security firms (Inyang and Ubong, 2013, citing Abraham and William (2005). The relationship between other existing security outfits cannot be overemphasized, as stated by one participant interviewed:

We have a good relationship with Amotekun and it have a good since their establishment. The police is at the forefront of everything, they complement our effort, they take directives from us and permission before they go on patrol. (*Participant 4*)

Another participant interviewed also spoke on the synergy that exists with Amotekun as stated below:

We have our core mandate and rules guiding our establishment as Civil defence and Amotekun has its own but our main goal is to protect lives and property, we are working together by going on joint patrol. (*Participant 22*)

Amotekun and Prompt response

The people of the southwest prefer to call Amotekun officials when they perceive a pending danger instead of calling any other existing security outfit. (Igwin, 2015) suggests that the pattern of resolving issues require a lot of capacity building and action plan than traditional style police response to insecurity. The police and the community would work together to discover the problems and proffer solutions and implement the solution and this will encourage joint collaboration between the police and community. The people need to be reoriented by the police on the strategy and method to use in order to clamp down on criminals in the society (Alao, 2015).

Nte (2012) observed that there is no significant relationship between the police partnership with the community and crime reduction and control. The community remains separated and unsupportive of the effort of the police, who will normally depend on crime detection and investigation in such hostile environment. The relationship with the community reduces due to corruption, inefficiency, ineffectiveness, and the application of violence in discharging their duties.

Amotekun is really trying in our area here. If we have any criminal case or we apprehend any hoodlum and we threaten them to call the police, they are not really scared maybe because some of them have a good relationship with the police but anytime they hear Amotekun, they start pleading. (*Participant 9*)

The data gotten from the respondents and the interviews conducted showed that Amotekun security Network performance has been acceptable to people in Akinyele and Ibadan North, in terms of improved security situation, prompt response and availability of their personnel as at when needed. The Impact of Amotekun has been felt as participants interviewed suggested that people prefer to call Amotekun in any crime situation than any other existing outfit because of the way they handle cases and their zero tolerance to crime.

Amotekun and Modus operandi on patrol

The Amotekun security network of south western Nigeria was founded in response to the police force's shortcomings in order to reduce crime, prevent its occurrence, and provide a secure environment (Olaitan, 2020; Egbunike, 2020). The problem of insufficient manpower in the Nigerian Police force will be solved by the formation of Amotekun. By conducting effective and efficient police patrol in every zone, it would supplement the efforts of the Nigerian Police Force. (Mahmoud & Usman, 2014) found that positive results would only occur if there is cooperation and a cordial relationship between the police and informal security outfit in the area of reducing crime. They conducted their research on community policing & partnership: opportunities and challenges for state Nigeria.

To further support this statement of literature, a participant said that:

The mode of operation has been so positive and straight forward, we patrol day and night especially during the festive period and we also worked together often. ***(Participant 10)***

Another interviewee also spoke on the modus operandi between Amotekun and other existing outfit on patrol and crime reduction, the participant opined that:

What I know is that we do joint patrol when needed and they call us for reinforcement or backup when needed and handover for probing. ***(Participant 15)***

Challenges of the synergy between Amotekun and other existing outfit and solution

The synergy that exists between Amotekun and other existing outfit cannot be taken with levity. According to Guardian Newspaper published on the 25th of February, 2022, Governor Rotimi Akeredolu stated that the establishment of Amotekun Security initiative intended to support other security agencies' efforts. (Mahmoud & Usman, 2014) found that positive results would only occur if there is cooperation and a cordial relationship between the police and informal security outfit in the area of reducing crime. They conducted their research on community policing & partnership: opportunities and challenges for state Nigeria. To further support this, participant interviewed also noted various challenges affecting the synergy relating to detection of accused, arrest of the accused and justice served.

A participant supported the issue of challenges facing the synergy are many. In his word he stated:

One major challenge is the issue of role clarity. Initially, there was confusion regarding the specific duties and boundaries of Amotekun officials compared to those of the police and civil defence officers. This sometimes led to overlaps and jurisdictional conflicts. To address this, continued orientation and clear delineation of roles are necessary, ensuring each entity understands its responsibilities and limitations. ***(Participant 18)***

Another participant also noted:

Another challenge is communication and coordination. Effective communication channels are crucial for joint operations, but sometimes there are breakdowns or delays in relaying information. Establishing a robust communication framework, including regular inter-agency meetings and shared communication tools, could help mitigate this issue. ***(Participant 17)***

Challenges in the synergy between Amotekun and other security outfits in crime detection, arrest, and justice administration are inevitable, yet addressing these challenges with effective solutions is essential. A participant suggested a solution to the challenges:

The only thing is for them to keep maintaining the status quo that established them and they should not take laws into their hands and we have a good relationship. *(Participant 10)*

Another participant also said that:

The solution is that the Amotekun officials need to be trained properly on what to do and not to do so they will not go beyond their boundaries because sometimes they will have tortured a suspect severely before handing over to the police. *(Participant 7)*

Sustainability of the synergy between Amotekun and other existing security outfit

Building trust requires ongoing communication, transparency, and a willingness to listen to and address concerns from all stakeholders (Cronin-Furman & Lake, 2021). Developing shared goals and objectives can help to align the efforts of formal and informal security outfits and ensure that everyone is working towards the same end. This can help to prevent misunderstandings and ensure that resources are being used effectively (Lowe, 2017).

A participant gave a deep insight into this by stating that:

It is already here to stay because we have mutual understanding It is only when they first came that they were a little ignorant but after going to training they know what to do and the police is the number one. *(Participant 19)*

Another participant said also gave some other solutions on the sustainability of the synergy:

Training and retraining because the act that established the Nigeria Security and civil defence corps is a federal act while that of Amotekun as you know is not a federal act and the perception towards community policing is different and if the synergy is to be sustained then there should be continuous training. *(Participant 20)*

Conclusion

In conclusion, the collaborative relationship and synergy between Amotekun and other security networks, such as the Nigerian Police and the Nigerian Security and Civil Defence Corps, are very positive. According to participants interviewed, including police officers and civil defence officers, the relationship, while initially challenged by role identification and boundary issues for Amotekun officials, has improved significantly due to orientation from the police. Now, Amotekun officials work seamlessly with the police on joint patrols, particularly in Akinyele, where they face frequent cases of kidnapping and Fulani herdsmen invasions. Amotekun provides crucial backup, especially when responding to distress calls in areas where their familiarity with the terrain is advantageous. While the synergy is generally cordial and encouraging, it is not without challenges. Nonetheless, the study establish that this cooperation is sustainable and essential for jointly curbing crime and ensuring community safety.

Recommendation

The study recommends that Amotekun officials undergo regular training and retraining to ensure they understand and adhere to the ethical standards of their roles, as findings indicate instances of them overstepping their authority by making arrests and prosecutions independently instead of deferring to superior agencies. Additionally, leveraging local intelligence is crucial for early detection and reduction of major crimes. The government should provide adequate remuneration and pension plans for Amotekun officials to prevent corruption and ensure job security. It is also essential for the federal government to fully integrate Amotekun into national law, and the southwest government should advocate for this approval. Furthermore, the government should equip Amotekun with necessary resources such as vehicles, bikes, and modern arms and ammunition to enhance their operational effectiveness.

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Death Anxiety, Coping Styles, and Life Satisfaction Among Residents of Regions Affected by Banditry and Terrorism in North-East Nigeria

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Abstract

Persistent insecurity stemming from widespread acts of banditry and terrorism significantly undermines life satisfaction, especially in conflict-affected regions of Northern Nigeria. There is limited empirical attention given to how individuals cope with death anxiety and how such coping mechanisms influence their overall behavioural functioning. A cross-sectional survey design was employed involving 312 adult participants selected through stratified random sampling from communities severely affected by violence in Northern Nigeria. Standardized instruments; Death Anxiety Scale (DAS), Brief COPE Inventory, and Satisfaction with Life Scale (SWLS) were administered. Data analysis included Pearson correlation, ANOVA, and multiple regression techniques. There was a significant negative correlation between death anxiety and life satisfaction ($r = -0.47, p < .01$); Coping styles significantly moderated this relationship. Emotion-focused coping was negatively associated with life satisfaction, while problem-focused coping emerged as a significant positive predictor ($\beta = 0.35, p < .01$). Overall, coping styles and death anxiety jointly accounted for 42.6% of the variance in life satisfaction. The findings emphasize the psychological burden of prolonged exposure to violence and the protective influence of adaptive coping mechanisms. Strengthening problem-focused coping strategies may serve as an effective intervention for enhancing well-being in conflict-impacted populations. It was recommended that exposure to terrorism and banditry adversely affects mental health and life satisfaction. However, the use of adaptive coping styles; particularly problem-focused strategies, can mitigate these negative effects. Psychosocial interventions tailored to conflict zones are germane for supporting affected communities.

Keywords: Banditry, coping styles, death anxiety, life satisfaction, terrorism

Introduction

Background to the Study

Banditry and terrorism are interrelated forms of organized violence that have increasingly threatened national security and socio-economic development in Nigeria. Banditry typically refers to violent crimes such as cattle rustling, armed robbery, kidnapping, and village raids, usually perpetrated by loosely organized groups of outlaws for economic gain (Oxford English Dictionary, 1989; Okoro, 2022). Historically, it has existed since pre-colonial times, manifesting in localized theft and violence. In the Nigerian context, Egwu (2016) defines banditry narrowly as cattle raiding, while Uche and Iwuamadi (2018) broaden the scope to include a range of violent crimes such as arson, rape, drug trafficking, and the massacre of rural populations frequently linked to armed herdsmen.

Terrorism, on the other hand, involves the use of violence or threats to instill fear, often driven by ideological, political, or religious motives. Groups such as Boko Haram, the Islamic State West Africa Province (ISWAP), and Ansaru have engaged in bombings, mass killings, suicide attacks, and abductions, particularly in the North-East (Udounwa, 2013; Shalangwa, 2013). While terrorism is often ideologically or religiously motivated, banditry is typically profit-driven. However, recent trends show a convergence between the two, as some bandit groups adopt terrorist tactics, and alliances are increasingly formed between terrorist factions and criminal gangs, blurring the lines between ideological extremism and economic violence (Okoli & Ugwu, 2019).

According to Abdullahi (2019), armed bandit groups often operate along rural and forested borders, sometimes with support from local collaborators or complicit security operatives. Okoli and Okpaleke (2014) note similarities between banditry and armed robbery, while emphasizing the increasing politicization and sophistication of these crimes. Moreover, Olaniyan and Yahaya (2016) argue that terrorism and banditry are symptoms of deeper structural challenges such as weak governance, ineffective security institutions, porous borders, arms proliferation, ungoverned spaces, corruption, and chronic poverty.

The combined impact of banditry and terrorism has been devastating particularly in the North-West, North-East, and parts of the North-Central regions. In states such as Zamfara, Katsina, Kaduna, Borno, Yobe, Niger, and Sokoto, entire communities have been displaced, economic activities disrupted, and schools closed due to rising insecurity. For instance, Sahara Reporters (2020) documented the theft of over 18,000 cattle between 2013 and 2023 in the North-West (Bashir, 2014; Tauna, 2016), while Abdullahi (2019) reported 431 bandit attacks between January and July 2019, resulting in over 3,400 deaths. Meanwhile, terrorist groups in the North-East have carried out bombings, mass abductions (such as the Chibok and Dapchi schoolgirls), and attacks on military and civilian targets alike.

In many affected areas, civilians suffer the brunt of the violence facing killings, kidnappings, rape, and displacement (Akowe & Kayode, 2014; Adeniyi, 2015; Mburu, 1999). Women and children are particularly vulnerable, often subjected to sexual violence or used as leverage in ransom negotiations. The situation has turned many rural and border communities into lawless zones, weakening trust in the state and fueling cycles of retaliation and insurgency. In summary, the rising convergence between banditry and terrorism has compounded Nigeria's security crisis, demanding a multi-pronged response that addresses not only the symptoms but also the structural root causes ranging from poor governance and unemployment to corruption and weak law enforcement (Suleiman, 2017; Kuna & Jibrin, 2016).

Statement of the Problem

Nigeria is currently grappling with a deepening security crisis characterized by the convergence of banditry and terrorism, both of which have escalated in scale, sophistication, and brutality over the past decade. Banditry, once perceived as localized cattle rustling and rural theft, has evolved into large-scale violent criminality including kidnapping for ransom, mass killings, sexual violence, arson, and village raids, particularly in the North-West and North-Central regions (Uche & Iwuamadi, 2018; Okoli & Ugwu, 2019). Simultaneously, terrorism spearheaded by groups such as Boko Haram and ISWAP continues to ravage the North-East, with ideologically driven attacks involving bombings, suicide missions, and mass abductions (Udounwa, 2013; Shalangwa, 2013).

This convergence of terrorism and banditry has severely disrupted local economies, triggered widespread internal displacement, led to the closure of educational institutions, eroded public confidence in state security apparatuses, and facilitated the proliferation of ungoverned spaces that now serve as operational bases for violent non-state actors (Olaniyan & Yahaya, 2016; Suleiman, 2017). Despite numerous military campaigns and security interventions, both threats remain pervasive and, in many instances, have become deeply entrenched due to factors such as porous national borders, the proliferation of small arms and light weapons, rising youth unemployment, ineffective intelligence systems, and the alleged complicity of certain state officials.

As a result, residents frequently experience death anxiety and a range of psychological disturbances, including deteriorating mental and physical health, economic disempowerment, and a decline in agricultural productivity, which collectively contribute to widespread food insecurity and systemic starvation. This raises critical questions: To what extent do coping strategies enhance life satisfaction amid persistent death anxiety? Furthermore, what are the interrelated effects between death anxiety, coping mechanisms, and life satisfaction? Therefore, this study explores death anxiety, coping styles, and life satisfaction among residents of regions affected by banditry and terrorism in North-East Nigeria.

Literature Review

Conceptual Review

Death anxiety, also referred to as thanatophobia, denotes the fear and apprehension associated with the awareness and anticipation of death, dying, mortality, and non-existence. It encompasses motivational, emotional, and cognitive components, which vary depending on an individual's sociocultural background, personal experiences, and developmental stage. Emotionally, death anxiety is influenced by both implicit and explicit memories and is closely tied to brain structures involved in the fight-or-flight response. From a cognitive standpoint, it involves a person's understanding of death, including their beliefs, attitudes, thoughts, and mental imagery related to dying and the afterlife (Lehto & Stein, 2009).

Empirical studies have shown that about 10% of individuals experience death anxiety, with approximately 3% exhibiting an intense fear of death. Such anxiety may pertain to the death of oneself or others, as well as concerns about the process and consequences of dying. Several factors contribute to death anxiety, including age, gender, culture, physical health, and mental well-being. It has also been linked to various psychological disorders such as obsessive-compulsive disorder (OCD), depression, and

eating disorders. However, cognitive behavioral therapy (CBT) has been identified as an effective therapeutic approach for managing and reducing symptoms of death anxiety.

Life satisfaction refers to an individual's cognitive and affective evaluation of their life circumstances. Key psychological constructs such as hope, meaning in life, and perceived life satisfaction significantly influence how people respond to threatening or distressing situations. In contexts of prolonged exposure to danger or adversity, a reduction in life satisfaction may adversely affect one's perception of current and future life conditions.

Research indicates that individuals who are dissatisfied with their lives often desire significant changes in their lifestyle or environment. They are more likely to suffer from poor health, inadequate social support, sleep disturbances, and maladaptive coping strategies. Conversely, those with high life satisfaction typically enjoy better health, stronger social networks, and greater resilience, enabling them to navigate adverse circumstances more effectively.

Coping strategies refer to the behaviors, thoughts, or actions individuals adopt to manage stressful or challenging situations. Effective coping entails actively addressing problems or modifying one's response to stressors. These strategies can mitigate the negative impact of stress by influencing how the brain processes perceived threats.

The physiological stress response is governed by the sympathetic nervous system, which activates the fight-or-flight mechanism. This response triggers various bodily changes, such as increased heart rate, elevated blood pressure, heightened alertness, and redistribution of blood to major muscle groups, all designed to prepare the body to confront or escape danger. While these reactions are adaptive in acute stress situations, chronic stress can keep the body in a prolonged state of hyperarousal, leading to sleep disturbances, appetite changes, gastrointestinal issues, headaches, muscle pain, and emotional symptoms such as irritability, sadness, and disinterest in activities.

Theoretical Framework

This study applied multiple theories in understanding relationships among the study variables. Terror Management Theory (TMT), developed by Greenberg, Pyszczynski, and Solomon (1986), offers a compelling explanation for how individuals manage the existential fear associated with the awareness of mortality. According to the theory, the knowledge of our inevitable death creates a potential for overwhelming anxiety known as death anxiety which individuals suppress or manage through cultural worldviews, religious beliefs, and self-esteem-enhancing behaviors. These elements act as psychological buffers that help people maintain a sense of meaning and value in the face of mortality. In the context of this study, particularly in northern Nigeria where terrorism and banditry are persistent threats, daily exposure to violence, loss, and displacement exacerbates individuals' awareness of death, thus triggering heightened death anxiety (Suleiman, 2017; Olaniyan & Yahaya, 2016). Many affected individuals may turn to their faith, community identity, and traditional norms to cope. However, when these social and cultural buffers are eroded by persistent insecurity, displacement, or economic hardship, life satisfaction tends to decline and psychological disturbances increase. TMT thus provides a foundational framework for understanding how the fear of death, when intensified by prolonged conflict and insecurity, influences both emotional regulation and coping behaviors.

The Cognitive Appraisal Theory of Stress and Coping, proposed by Lazarus and Folkman (1984), emphasizes that stress responses are determined by how individuals perceive and evaluate (or appraise) a potentially threatening situation, and whether they believe they have the resources to cope with it. When faced with chronic threats such as terrorism and banditry, individuals assess both the severity of the threat and their capacity to respond. Those who appraise the situation as manageable may adopt adaptive coping strategies such as seeking social support, engaging in community activities, or drawing strength from religious or cultural practices. Conversely, those who perceive the threat as overwhelming and beyond their control may develop maladaptive responses such as anxiety, depression, or avoidance. This theory is particularly useful for explaining the relationship between death anxiety, coping strategies, and life satisfaction among populations affected by violence. It highlights the role of coping as a mediator: individuals with strong problem-solving or emotion-regulating strategies are more likely to maintain psychological well-being and life satisfaction, even under chronic stress, while those with fewer resources may struggle with mental health challenges.

Existential Positive Psychology (EPP), advanced by Wong (2010), provides a meaningful lens through which to view the interaction between adversity, meaning, and psychological resilience. EPP blends traditional existential concerns such as death, suffering, and the search for meaning with the tenets

of positive psychology, which emphasize strengths like hope, purpose, and optimism. In situations of chronic insecurity, such as the violent contexts created by terrorism and banditry in Nigeria, individuals often confront the fragility and unpredictability of life. This exposure can threaten their sense of purpose and lead to existential despair. However, EPP suggests that people can regain emotional balance by cultivating meaning in their suffering through religious devotion, humanitarian service, or a renewed sense of life purpose. Individuals who succeed in finding meaning, even amid suffering, often experience higher levels of resilience and life satisfaction. As such, EPP helps explain why some individuals affected by persistent insecurity maintain psychological well-being: their adaptive coping is rooted not only in managing stress, but in transforming it into an opportunity for personal growth and existential strength.

Related Studies

Studies have consistently shown that death anxiety significantly diminishes life satisfaction among populations exposed to conflict. In Northern Nigeria, where communities have been ravaged by Boko Haram insurgency and herdsmen-farmer clashes, individuals report heightened anxiety over personal safety, fear of dying, and uncertainty about the future (Omeje & Ogbu, 2015; Okeke-Ihejirika et al., 2022). These fears often result in psychological distress, trauma, and depressive symptoms, all of which are strongly linked to lower satisfaction with life.

The relationship between death anxiety, coping strategies, and life satisfaction has been extensively explored across diverse populations, revealing significant interdependencies. Death anxiety, a central existential concern, often triggers both emotional and cognitive responses that shape individuals' well-being and adaptive functioning. Several studies confirm that death anxiety negatively impacts life satisfaction. For example, Karabağ Aydın and Fidan (2022), in their study of nurses during the COVID-19 pandemic, found that increased death anxiety significantly reduced life satisfaction. This pattern was similarly reported by Ermiş (2023) in a study involving university students, where those with higher death anxiety had notably lower levels of life satisfaction.

Importantly, life satisfaction is often mediated by factors such as perception of immunity and sleep, further influencing death anxiety levels. This inverse relationship is further corroborated by Saeed and Bokharey (2016) in a retirement context, highlighting that retirees with higher life satisfaction tend to report lower death anxiety. In terms of emotion-focused and problem-focused coping, findings suggest these strategies play mediating or moderating roles in how death anxiety is managed. For instance,

Ogbonnaya et al. (2022) reported that high death anxiety among street-level bureaucrats undermined self-regulation and job performance, particularly in those with poor emotional coping capacity. However, individuals with high trait mindfulness as an emotion-focused coping resource were better able to mitigate the psychological impact of death anxiety. Similarly, Baghdadi et al. (2021) found that interventions aimed at improving emotional intelligence, a core component of emotional coping, significantly reduced death anxiety in older adults.

Furthermore, problem-focused coping mechanisms such as spiritual well-being and religious coping have also been shown to buffer the adverse effects of death anxiety. Rababa, Hayajneh, and Bani-Iss (2021) demonstrated that older adults with higher religious coping and spiritual well-being reported significantly lower death anxiety. These findings suggest that engaging meaningfully with existential concerns through structured belief systems constitutes an effective cognitive coping strategy.

Gender and social exposure also moderate these relationships. For example, Dutta and Kaur (2014) observed that women with frequent professional exposure to death displayed significantly higher death anxiety and fear of dying, particularly concerning others. Likewise, Yüksel, Serezli, and Bostancıoğlu (2024) noted that gender and educational level significantly influenced levels of death anxiety and life satisfaction, with women reporting higher levels of anxiety.

Another study showed that coping mechanisms, both emotion-focused and problem-focused, have been identified as critical moderators in relationship between coping and life satisfaction. Emotion-focused strategies such as religious coping, emotional expression, and social support are commonly employed in African settings. For instance, Olanrewaju et al. (2020) found that residents in Borno State, Nigeria, relied heavily on religious and communal coping strategies to buffer the psychological effects of terrorism. These coping mechanisms helped reduce the impact of death anxiety, thereby indirectly supporting life satisfaction.

Moreover, Farahi and Khalatbari (2019) found that Acceptance and Commitment Therapy (ACT) a cognitive-behavioral intervention fostering problem-solving and emotional acceptance enhanced life expectancy and reduced death anxiety among women with cancer. The ACT model, which blends emotion

regulation with cognitive restructuring, exemplifies an integrative approach to managing death-related fears. A nuanced mediational analysis by Kumpasoğlu et al. (2021) further ties together these constructs. They found that life satisfaction mediated the link between narcissism and social media addiction, while death anxiety mediated the relationship between Machiavellianism and addiction tendencies. The dual mediation of life satisfaction and death anxiety in the relationship between psychopathy and addiction underscores the intertwined nature of existential distress and coping satisfaction.

On the other hand, problem-focused coping involving practical efforts to manage or alter stressors also plays a role, though often limited by structural constraints such as poverty, displacement, and weak governance. However, where possible, community-driven interventions such as self-help groups, NGO psychosocial support, and vocational training programs have been found to enhance agency and improve perceived life quality among conflict survivors (Adegbite & Ayinla, 2021).

From a psychological standpoint, emotional regulation and resilience are crucial in how residents of terrorized zones cope with the omnipresent fear of death. For example, Ogbonnaya et al. (2022), in their study on Nigerian civil workers exposed to occupational death threats, observed that trait mindfulness and emotional self-regulation served as buffers against the psychological effects of death anxiety. Similarly, Baghdadi et al. (2021) emphasized the role of emotional intelligence in reducing existential anxiety among older populations, a finding applicable to internally displaced persons (IDPs) in Nigeria and other terror-prone areas.

Beyond individual-level coping, cultural and spiritual worldviews in African societies offer a broader lens to understand how people interpret and manage death anxiety. Traditional beliefs in ancestral protection, divine destiny, and collective mourning rituals provide meaning in the face of mortality, thus contributing to life satisfaction despite adversity (Mbiti, 1990; Idemudia et al., 2013). Moreover, gender, age, and educational level have been shown to shape the interplay between death anxiety, coping, and life satisfaction. Women and young people, who are more vulnerable to sexual violence, abduction, or conscription by armed groups, often report higher levels of fear and emotional distress (UNDP, 2021). This demographic variation necessitates tailored psychological interventions to strengthen coping efficacy and mental health outcomes.

In conclusion, findings across African contexts reveal a consistent pattern: death anxiety significantly undermines life satisfaction in terrorized environments, but the presence of effective coping strategies particularly emotion-focused techniques such as religious faith, emotional support, and cultural resilience can mitigate this impact. Strengthening these coping resources through culturally relevant and community-based mental health interventions remains a vital strategy for improving the well-being of residents in Nigeria's conflict-ridden zones.

Research Propositions

Hypothesis One (Correlation Hypothesis):

There will be significant relationships between death anxiety, coping styles, and life satisfaction among residents of regions affected by banditry and terrorism in North-East Nigeria.

Hypothesis Two (Regression Hypothesis):

Death anxiety and coping styles (problem-focused and emotion-focused) will both jointly and independently predict life satisfaction among residents of regions affected by banditry and terrorism in North-East Nigeria.

Methodology

This study adopted a self-report, ex-post facto research design, which was considered appropriate for examining relationships among naturally occurring psychological variables without the need for experimental manipulation. This design enabled the researchers to investigate the predictive relationships between death anxiety, various coping strategies (namely problem-focused, emotion-focused, and avoidant), and life satisfaction among individuals residing in North-East Nigeria a region severely affected by persistent insecurity, terrorism, and acts of banditry. The design supported the use of correlational and regression analyses to explore both the strength and direction of these relationships.

Population and Sampling Technique

The population for this study consisted of adult residents (both male and female) of the North-East geopolitical zone of Nigeria, aged between 18 and 64 years. This region has been extensively impacted

by years of violent conflict, insecurity, and socio-economic instability due to terrorist and banditry activities. A total of 589 participants were recruited using a snowball sampling technique. This approach was implemented via online platforms, allowing the research team to reach a broad demographic segment, especially in areas where insecurity posed barriers to traditional sampling methods.

Inclusion and Exclusion Criteria: To participate in the study, individuals were required to meet specific inclusion criteria: they had to be 18 years or older, be residents of North-East Nigeria, and possess the ability to read and comprehend English. Individuals who were below 18 years of age or who resided outside the North-East region were excluded from participation in order to maintain the integrity and focus of the study's objectives.

Instruments

Three standardized psychological instruments were employed in this study to measure the core variables of interest: death anxiety, life satisfaction, and coping strategies. The Death Anxiety Scale (DAS), developed by Donald Templer in 1970, was used to assess participants' fear of death and dying. The scale consisted of 20 dichotomous items, with each item requiring a 'Yes' or 'No' response, scored as 1 and 0, respectively. The DAS was self-administered and appropriate for both individual and group settings, providing a brief yet comprehensive measure of thanatophobia.

In terms of psychometric properties, the scale demonstrated a split-half reliability coefficient of 0.93, indicating excellent internal consistency. Its validity was supported by expert evaluations, resulting in a validity index of 0.74, which confirmed the scale's construct and content validity in assessing anxiety related to death. Life Satisfaction Scale: To evaluate the subjective perception of one's overall quality of life, the study employed the Satisfaction with Life Scale (SWLS), originally developed by Ed Diener, Robert A. Emmons, Randy J. Larsen, and Sharon Griffin in 1985. The version used in this research comprised 20 items, organized on a 5-point Likert scale, ranging from strongly disagree to strongly agree. Of these, twelve items captured positive evaluations of life satisfaction, while eight items focused on dissatisfaction or negative outlooks.

The reliability of the SWLS was affirmed through split-half and test-retest measures across various age groups. Among young adults, the split-half reliability was 0.79, and test-retest reliability was 0.77. For middle-aged adults, values were 0.83 and 0.73, respectively, while older adults yielded reliability scores of 0.75 (split-half) and 0.78 (test-retest). The construct validity of the scale was demonstrated through statistically significant correlations across demographic groups at the $p < .01$ level. Additionally, its content validity was confirmed by five senior academic psychologists, who reviewed the items and endorsed their relevance to the domains of life satisfaction and dissatisfaction.

Brief COPE Inventory: The third instrument utilized in the study was the Brief COPE Inventory, developed by Charles S. Carver in 1997, as a short-form adaptation of the original 60-item COPE Inventory (Carver, Scheier, & Weintraub, 1989). The Brief COPE consisted of 28 items, each rated on a 4-point Likert scale, and was designed to capture a broad range of coping responses used by individuals during stress and adversity.

The scale was divided into two major domains: Problem-Focused Coping, which included active coping, planning, and the use of instrumental support; and Emotion-Focused Coping, including positive reframing, emotional support, religion, and acceptance; and the internal consistency of the Brief COPE was well established, with Cronbach's alpha values for the subscales ranging between 0.70 and 0.90, reflecting good reliability across different populations. The validity of the instrument had been confirmed in various high-stress contexts, such as natural disasters and health crises, affirming its factor structure and theoretical robustness in measuring coping responses in diverse and vulnerable populations.

Procedure

The data collection process was conducted online due to security concerns and geographical barriers within the study region. Participants received a brief overview of the study's objectives and were assured of anonymity and confidentiality. Informed consent was obtained electronically before participation commenced. Respondents completed a structured online questionnaire, which included four major sections: demographic information, the Death Anxiety Scale, the Life Satisfaction Scale, and the Brief COPE Inventory. Each section provided detailed instructions to guide accurate and reflective responses.

Data Analysis

The dataset obtained from the 589 participants was systematically coded using Microsoft Excel and analyzed with the Statistical Package for the Social Sciences (SPSS). Three major statistical procedures were employed to address the study objectives: Descriptive statistics were used to summarize demographic data and compute mean and standard deviation scores for each of the scales. The Pearson Product-Moment Correlation Coefficient was applied to evaluate the relationships between death anxiety, coping styles, and life satisfaction. A Multiple Regression Analysis was conducted to determine the predictive influence of death anxiety and coping strategies specifically problem-focused and emotion-focused coping on life satisfaction.

Results and Findings

Data collected were coded and analysed using SPSS version 25.0, to explore inferential statistics suitable for the research hypotheses. 312 valid responses were used for the data computations. Zero -order correlations and multiple regression analysis were conducted in the study.

Table 1: Summary of Pearson Correlation Showing Relationships between Death Anxiety, Coping styles and life satisfactions

Variables	Death Anxiety	Problem focus coping	Emotion coping	Life satisfaction	$\bar{X}$	SD
Death anxiety	1	-.471**	.157	-.78**	52.59	5.73
Problem focus coping		1	.412**	.675**	28.30	4.55
Emotion coping			1	-.503**	14.29	3.28
Life satisfaction				1	67.58	7.65

** Correlation is significant at the 0.01 level (2-tailed)

Table 1 presents the interrelationships between **death anxiety**, **coping styles**, and **life satisfaction** among residents of North-East Nigeria a region that has faced prolonged insecurity due to banditry and terrorism. The hypothesis stated that there would be significant relationships among these psychological constructs within this high-risk population. Findings from the Pearson correlation analysis lend strong support to this hypothesis, revealing important insights into how existential threats and coping mechanisms influence psychological well-being in such contexts.

One of the key findings is the **negative and statistically significant correlation between death anxiety and problem-focused coping** ($r = -0.471$, $p < 0.01$). This suggests that individuals experiencing higher levels of death anxiety are less likely to engage in constructive, problem-solving coping strategies. In the context of North-East Nigeria, where communities are frequently exposed to unpredictable violence, displacement, and loss of loved ones, such heightened anxiety can lead to feelings of helplessness and reduce the perceived efficacy of proactive coping. The chronic nature of insecurity may diminish individuals' motivation or perceived ability to take meaningful actions to improve their living conditions, thereby weakening the application of problem-focused strategies.

In contrast, the relationship between **death anxiety and emotion-focused coping** was weakly positive ($r = 0.157$) and not statistically significant. This finding indicates that higher levels of death anxiety do not significantly predict increased reliance on emotion-focused coping. This outcome may reflect emotional desensitization or the overwhelming nature of persistent trauma. In highly terrorised zones, people may struggle to even access or regulate their emotions, leading to emotional numbness rather than active emotional expression or control. This suggests that emotional coping may not be a reliable outlet or buffer for the psychological distress induced by persistent existential threats in this region.

When coping styles were examined in relation to **life satisfaction**, clear patterns emerged. **Problem-focused coping showed a strong positive correlation with life satisfaction** ($r = 0.675$, $p < 0.01$), indicating that individuals who actively engage in goal-oriented coping tend to report greater overall satisfaction with life. This finding underscores the potential protective role of adaptive coping even in adverse environments. Despite the challenges posed by insecurity, those who maintain a sense of control

through planning, seeking solutions, or resource mobilization may find greater meaning and stability in their daily lives, which enhances their overall well-being.

Conversely, **emotion-focused coping was negatively associated with life satisfaction** ($r = -0.503$, $p < 0.01$). This means that individuals who rely more heavily on emotional regulation strategies such as withdrawal, denial, or venting tend to experience lower levels of life satisfaction. In contexts of chronic threat and instability, these strategies may offer only temporary relief and may even exacerbate distress over time. The ineffectiveness of emotion-focused coping in sustaining psychological well-being in such high-risk settings likely reflects the mismatch between emotional disengagement and the real, ongoing nature of threats to survival.

Finally, the study revealed a **very strong negative correlation between death anxiety and life satisfaction** ($r = -0.780$, $p < 0.01$). This finding is particularly striking and highlights the profound impact that fear of death can have on individuals' perceived quality of life. In regions where the threat of sudden violence, abduction, or death looms large, the psychological burden can be overwhelming. Constant exposure to insecurity and trauma likely erodes hope, diminishes a sense of purpose, and restricts the capacity to envision a stable future all of which are crucial for a sense of life satisfaction.

In conclusion, the findings of this study affirm that significant relationships exist among death anxiety, coping styles, and life satisfaction in the context of North-East Nigeria's insecurity crisis. Higher death anxiety is associated with both reduced use of adaptive coping and significantly lower life satisfaction. While problem-focused coping emerges as a beneficial strategy for enhancing life satisfaction, emotion-focused coping appears counterproductive. These insights are critical for informing psychological interventions and support programs in terror-affected communities. Interventions should aim to reduce death anxiety and strengthen adaptive coping strategies, especially those that promote agency and problem-solving, in order to foster resilience and enhance overall well-being among affected populations.

Table 2: Multiple Regressions Showing the Influence of Death Anxiety, Problem Solving Coping and Emotional Reaction Coping on life satisfaction

Predictors	β	t-value	Sig	R	R ²	F	P
Death anxiety	.470	4.830	<.01				
Problem focus coping	.076	2.759	<.05	.498	.248	10.572	<.01
Emotion coping	-.134	-1.459	>.05				

DV₁: life satisfaction

Table 2 indicates the predictive influence of **death anxiety**, **problem-focused coping**, and **emotion-focused coping on life satisfaction** among individuals living in regions affected by persistent insecurity, banditry, and terrorism in North-East Nigeria. The guiding hypothesis posited that these psychological variables would **jointly and independently** predict life satisfaction among the affected population.

The results of the multiple regression analysis, as presented in **Table 4.2**, indicate that the model as a whole is statistically significant. With an **R-value of 0.498** and an **R² of 0.248**, the model explains approximately **24.8% of the variance in life satisfaction**. The **F-value of 10.572** ($p < .01$) further confirms the overall significance of the model, indicating that the combined predictors death anxiety, problem-focused coping, and emotion-focused coping **jointly have a meaningful impact** on individuals' life satisfaction. This finding supports the first part of the hypothesis and affirms that these factors are significant in understanding psychological well-being in crisis contexts such as North-East Nigeria.

Examining the predictors individually, **death anxiety** emerged as a **significant and positive predictor** of life satisfaction ($t = 4.830$, $p < .01$, $\beta = .470$). This result may seem counterintuitive, especially when considered alongside earlier correlation results that showed a negative relationship. However, in high-risk settings, this finding can be interpreted through the lens of **Terror Management Theory** (Greenberg et al., 1997), which suggests that a heightened awareness of mortality can lead individuals to seek meaning, strengthen cultural values, or draw closer to family and faith thus enhancing life satisfaction. In this case, experiencing death anxiety may provoke existential reflection, fostering a deeper appreciation for life and motivating protective behaviors, such as strengthening social bonds or spiritual engagement.

Problem-focused coping also significantly predicted life satisfaction ($t = 2.759, p < .05, \beta = .076$). This positive relationship aligns with existing literature suggesting that individuals who engage in constructive, goal-oriented strategies in response to stress tend to maintain or improve their subjective well-being. Among residents of the North-East, this may include efforts to secure livelihoods, protect family members, or participate in community-based safety measures. Such active responses may provide a sense of agency, control, and hope, contributing to overall life satisfaction despite prevailing threats.

On the other hand, **emotion-focused coping** did not significantly predict life satisfaction ($t = -1.459, p > .05, \beta = -0.134$). Although the beta weight is negative suggesting that greater reliance on emotion-focused strategies may reduce life satisfaction this relationship was not statistically significant. This result may indicate that while emotional coping is commonly used, especially in environments of persistent trauma, it may not lead to sustainable improvements in well-being. Emotion-focused strategies, such as denial, withdrawal, or rumination, might offer temporary relief but do not effectively address the root causes of distress or improve life circumstances in the long term.

Discussion of Findings

The study confirmed significant interrelationships among death anxiety, coping styles, and life satisfaction among residents of North-East Nigeria, a region impacted by chronic insecurity. This supports prior findings (e.g., Ogbonnaya et al., 2022; Karabağ Aydın & Fidan, 2022) that anxiety undermines adaptive coping. A weak and non-significant positive correlation was found between death anxiety and emotion-focused coping ($r = 0.157$), possibly reflecting emotional numbness in trauma-saturated environments. This aligns with Baghdadi et al. (2021) and Ermiş (2023), who noted limited effectiveness of emotion-focused strategies in high-stress contexts. This finding aligns with the observations of Ogbonnaya et al. (2022), who reported that intense death anxiety among bureaucrats exposed to constant occupational stress undermined their capacity for self-regulation and reduced engagement in proactive coping. Similarly, Karabağ Aydın and Fidan (2022), studying Turkish nurses during the COVID-19 pandemic, found that higher death anxiety was associated with decreased use of problem-solving coping strategies, leading to diminished psychological resilience.

Moreso, problem-focused coping had a strong positive correlation with life satisfaction ($r = 0.675$), indicating its protective role. This supports findings by Saeed and Bokharey (2016) on the resilience-enhancing effects of proactive coping. Emotion-focused coping was negatively associated with life satisfaction ($r = -0.503$), implying that reliance on emotional strategies may worsen distress over time, consistent with Omeje and Ogbu (2015). Finally, death anxiety had a very strong negative correlation with life satisfaction ($r = -0.780$), highlighting its profound detrimental impact on well-being. This echoes results from Okeke-Ihejirika et al. (2022), Karabağ Aydın and Fidan (2022), and Ermiş (2023), all of whom linked high death anxiety with lower life satisfaction in high-risk populations.

Additionally, the study found that 24.8% of the variance in life satisfaction can be explained by the combined influence of death anxiety, problem-focused coping, and emotion-focused coping. This result affirms previous findings that psychological factors like anxiety and coping strategies meaningfully shape subjective well-being, especially in crisis settings (Ermiş, 2023; Karabağ Aydın & Fidan, 2022). In conflict-affected populations, where structural stability is compromised, psychological adaptation becomes central to life satisfaction (Omeje & Ogbu, 2015).

Interestingly, death anxiety emerged as a significant positive predictor of life satisfaction ($\beta = 0.470, t = 4.830, p < .01$). This finding may appear paradoxical given the earlier negative correlation between death anxiety and life satisfaction. However, this apparent contradiction can be understood through the lens of Terror Management Theory (TMT).

According to Greenberg et al. (1997), when individuals are reminded of their mortality, they may engage in behaviors that affirm meaning, cultural identity, or personal values as a way of buffering existential dread. In the context of North-East Nigeria, experiencing death anxiety may heighten spiritual consciousness, reinforce familial ties, or promote prosocial community behaviors—all of which can enhance subjective well-being despite external threats.

In a more explicit term, this is supported by Okeke-Ihejirika et al. (2022), who noted that in Northern Nigerian communities, religious participation, collective resilience, and a sense of cultural duty often emerged in response to insecurity, indirectly enhancing life satisfaction. Similarly, Saeed and Bokharey (2016) found that individuals with higher death salience sometimes reported increased meaning in life and deeper interpersonal engagement, particularly when protective belief systems (e.g., faith, tradition) were activated.

However, problem-focused coping also significantly and positively predicted life satisfaction ($\beta = 0.076$, $t = 2.759$, $p < .05$). This finding reinforces a well-documented principle in stress and coping literature: individuals who actively engage with problems through planning, seeking help, or taking preventive measures tend to report higher psychological well-being (Lazarus & Folkman, 1984; Baghdadi et al., 2021). In a terror-affected setting, such coping may include securing alternative livelihoods, forming neighborhood watch groups, or assisting in the rehabilitation of displaced persons. These efforts may restore a sense of agency and mastery, helping individuals reclaim control over their circumstances, as also shown by Karabağ Aydın and Fidan (2022) and Ogbonnaya et al. (2022) in high-stress professions. In Nigerian communities affected by Boko Haram, Omeje and Ogbu (2015) observed that self-help strategies and organized community responses were often more empowering and contributed significantly to resilience and subjective life satisfaction.

Conclusions

This study explored the interrelationships and predictive influences of death anxiety, problem-focused coping, and emotion-focused coping on life satisfaction among residents of North-East Nigeria, a region plagued by persistent insecurity due to terrorism, banditry, and violence.

Pearson correlation analysis confirmed that death anxiety negatively correlates with both problem-focused coping and life satisfaction, while problem-focused coping positively correlates with life satisfaction. Emotion-focused coping negatively correlates with life satisfaction, although its relationship with death anxiety was weak and non-significant.

Bivariate results showed a negative correlation between death anxiety and life satisfaction, regression analysis revealed that death anxiety positively predicted life satisfaction, possibly reflecting adaptive existential responses such as stronger faith, increased family bonding, or cultural reaffirmation.

Also, it was concluded that problem-focused coping was a significant positive predictor of life satisfaction, emphasizing the importance of constructive coping strategies in sustaining well-being in high-threat environments. In contrast, emotion-focused coping, though negatively associated with life satisfaction, did not significantly predict it in the regression model—suggesting its limited utility in chronically insecure settings.

Recommendations

Based on the conclusions drawn from this study, the following recommendations are proposed for policymakers, mental health professionals, community leaders, and humanitarian agencies working in terror-affected regions:

- Psychological interventions should incorporate death anxiety education and management as part of trauma-informed care. Psychoeducation, group counseling, and existential therapy can help individuals reframe mortality awareness into a source of meaning, resilience, and purposeful living.
- Programs targeting internally displaced persons (IDPs) and terror survivors should emphasize problem-solving training, decision-making skills, and community resilience-building exercises.
- Psychosocial support centers should focus on strengthening individual agency, including livelihood skills, community engagement, and adaptive planning strategies that can enhance self-efficacy and satisfaction.
- Given the religious orientation of many communities in North-East Nigeria, faith-based organizations should be empowered to deliver culturally congruent mental health support, blending spiritual guidance with evidence-based psychological practices.
- Collaborations with imams, pastors, and community elders can foster more effective outreach and trust-building among affected populations.
- Mental health should be prioritized in post-conflict rehabilitation policies, with dedicated funding for psychological services in IDP camps and local clinics.
- Future studies should explore mediators and moderators, such as resilience, social support, and religious coping, to deepen understanding of how psychological variables interact under prolonged insecurity.

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An Examination of the Role of Banditry on Education in Federal Government College Kwali Abuja

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Abstract

The Study examines the impact of banditry on the educational development of Federal Government College Kwali Abuja. In the course of this study, data were sourced from two major sources; the Secondary and the Primary Sources. The Secondary sources were from existing literature on Banditry and Education while Interview method, Focus Group Discussion were adopted as the main primary source of data. In addition, Qualitative method of analysis was adopted to present and analyse data based on the objectives of the study, within the theoretical framework of frustration-aggression theory. The Study concludes that banditry in the study area has become so alarming as it caused the school closure due to the threat and warning from the bandits. A situation that forced the suspension of school activities. Based on the findings, the study suggests that certain measures need to be taken in order to reduce the incidences of banditry in the study area, some of which are: acquiring adequate security presence in the school premises and its surroundings, adequate surveillance within and outside the school premises, enhancing people-centred approach in tackling banditry, prompt response from the security agencies, adequate and quick intervention from the Federal Governments.

Keywords: Banditry, development, education, insecurity, school, Kwali

Introduction

One of the contemporary problems that has engulfed the Nigerian state is security challenges ranging from the alarming Niger-Delta militancy, the Boko-Haram insurgency which has been rebirth most recently, and the current banditry activities which have caused a lot of humanitarian crises in both the rural and urban areas of Nigeria. Security is the state or condition of being free from danger or threat in the daily activities of human beings (Imam, 2014). It is the freedom to move freely and participate in social, cultural, economic, and political activities without any threat to life and property from any individual or group. Security also encapsulates a peaceful engagement of persons and communities in their daily activities without being subjected to fear of danger, destruction of their properties, injuries. Ensuring the security of lives and properties is the primary responsibility of the state. It is because of this that the government has established several security forces to ensure and maintain security within the country and even to respond to external aggressions and threats. This is why Kofi Anan (1998) argued that:

Today we know that “security” means far more than the absence of conflict. We know that lasting peace requires a broader vision encompassing areas such as education, health, democracy, and human rights, protection against environmental degradation, and the proliferation of deadly weapons. We know that we cannot be secure amidst starvation, that we cannot build peace without alleviating poverty, and that we cannot build freedom on the foundations of injustice. These pillars of what we now understand as the people-centered concept of human security is interrelated and mutually reinforcing. (*Kofi Anan, 1998, p 13*)

Within the context of the above argument, it is imperative to understand that the overall wellbeing of citizens within a particular geographical area and the stability of the political system that is driven by competency, commitment, sacrifice, absence corruption and complacency and ensuring the

accomplishment of fundamental human rights of the citizens, entails the security architecture of the state. The presence of security therefore, should guarantee the prevention of breakdown of law and order in the state. But it is puzzling that insecurity has degenerated into a violent crisis that led to the loss of lives, properties, livestock, displacement of people, disruption of education, and other socio-economic activities. A situation like this, if left unresolved, is capable of seriously threatening peaceful co-existence, access to education, and worsening the unemployment situation and economic meltdown in the entire country.

Banditry as a violent situation unleashed on rural communities which reorganized armed violence through plunder, extortions, armed robbery, kidnapping for ransom, raping of women and children, village raids and setting them ablaze, terrorism, illegal mining, the rustling of cattle, and murder as a means of fluid occupation by criminals. Banditry, as one of the insecurity challenges affecting the North-Western region of Nigeria, has recently, been affecting the educational development of the affected areas. The impacts of armed banditry have led to the total collapsed of political, religious, economic, cultural, agricultural and educational activities in the areas affected. In the area of education, banditry is responsible for the abduction and kidnapping of students and teachers, killing of students and teachers, destruction of educational facilities, disruption of academic activities and closure of schools in the affected areas.

Just as in the North-Western region of Nigeria where banditry has become one of the major problems bedeviling the region. Banditry has also become a security challenge in the North-Central States including Federal Capital Territory Abuja. This has become a problem that led to the kidnapping of residents for ransom, killing of victims in some instance and threat to education which led to closure of some schools in the capital. The activities of bandits in the Capital have continued to scared parents, teachers and all stake holders that are saddled with the responsibilities of effective functions and management of schools in Abuja. Federal Government College Kwali fall under the bandit's threat that led to the closure of the school.

Despite trends that suggest entrenchment of democratic elections and peaceful regime change at both national and sub-national levels, the democratic institutions of parliament, the judiciary, political parties, and civil society organisations, all have remained weak and fragile in tackling the scourge of banditry in Kwali LGA, and it has been affecting access to education most especially in the Federal College of Education Kwali which led to the unfortunate closure of the school as a result of the threats and warning from the bandits that are operating freely in the ungoverned forest areas. It is on this background that the study examines the role of banditry on education in Federal Government College Kwali, Abuja.

Literature Review

Banditry

Banditry has existed and operated in different parts of the world since the 19th century, when bandits riding mostly on horse backs moved from their hideouts to attack villages and then retreated to their hideouts. In Europe, bandits have existed in mainly mountainous areas of Italy, Spain, Greece, and Turkey (Cassia, 1993). In Asia, bandits have existed in several countries such as Iran, Philippines and India (Bankoff, 1998). In India, bandits are called Daku in Hindi language which the British colonialist coined as "dacoity" during the colonial period. Thus, dacoity has become a term for banditry in the Indian subcontinent where bandits have operated for many years in North and North Central India.

One of the notable dacoits was Gabbar Singh who inspired the famous 1975 Bollywood film- Sholay (Flames), a motion picture that was dramatically acted to depict the activities of his life and time. Therefore, banditry has a rich and lucrative history throughout the south of Asia and despite continued anti-banditry efforts, the problem of banditry persists in India presently (Dmella, 2018). There have been several cases where traditional praise singers and oral historians narrated how the activities of such bandits affected trade and other economic pursuits in the pre-colonial period. Historically, armed banditry was an organized cross-border crime. The Asebenawa, Tuaregs, Fulani and Gobirawa from both British and French territories formed the major culprits (Rufai, 2021). This is to say that banditry is not a new phenomenon, just as in the case of Europe and Asia, it also has a long history of occurrence in Nigeria with a lot of consequential effect.

In some pre-industrial societies, peasants see bandits differently from the State, not as outlaws, hoodlums and miscreants, but as avengers and bread winners. However, a bandit in traditional African setting is entirely an opposite to that of America and Europe, the former specialized in armed robbery and other related crimes (Currot & Fink, 2008). The most common feature of banditry in Africa has been maiming, killing and wanton destruction of properties and hence, it has a direct relationship with cattle

rustling (Rufai, 2017). But what are the circumstances on ground that trigger this act of criminality that is entirely different from that of Europe and Asia?

Rufai (2021) says bandits are simply shepherds who formally lived in a settlement but suddenly converted into gangs. It has therefore been said that bandits are refined money launderers whose mode of operation is to steal cows, sell them and buy more well-fed cows and take them to neighboring countries for sale after which the proceeds are invested among others in obtaining firearms and ammunition. They use drones, CCTV for surveillance (Rufai, 2021). To Anka (2017), "banditry is the practice of raiding and attacking victims by members of an armed group, whether or not it was planned, using weapons of offense or defense, especially in semi-organized groups, with the goal of overpowering the victim and getting loot or achieving some political goals." (Anka, 2017).

The intriguing thing about these bandits is that even though they come together for the same cause, they are surprisingly divided along diverse camps. The desire and pursuit for more refined weapons was not greatly inspired by the fashion for killings, but largely against other rival groups. Acquisition of firearms and inter-gang rivalry are common forms of banditry (Rufai, 2021). It has been noted that in the North-Western region of Nigeria, the sub region has been carefully divided into camps of bandits with each and every area/zone earmarked to a certain leader.

In the light of the above, Abubakar Abdallah (alias Dogo Gide) controls Niger and Kaduna States as his territories. As expected, he has smaller camps under him with leaders who pledge allegiance to him. Katsina State was controlled by the late Auwalun Daudawa and Dangote Bazamfare, while the Eastern flank of Sokoto State falls under the jurisdiction of Bello Turji (Rufai, 2021). There is more and more evidence that terrorists and bandits are working together in the North-Western region of Nigeria. This is explicitly obvious from the ways and manners they operate, like in the recruitment of people and sharing of logistics and weapons, as well as the fact that the area is a good place to carry out attacks because of its location and the fact that both groups are very good at the political economy of "kidnap for ransom," which is used to fund criminal enterprises (Anka, 2017).

With the globalization syndrome, the manifestation of banditry has turned into a global phenomenon. Without a doubt, bandits of this era are more lethal. Slatta (1994) observes how bandits operate in the shadows in uninhabited areas. And such people are seen by the society as bad and worthless. Since banditry has changed drastically within the years, with greater enlargement in Africa, this, therefore, has a lot of effect on the agricultural and economic development of the rural area in terms of productivity and sustenance. The rural area is so isolated that the presence of security agency is limited and therefore permits the bandits to carry out attacks on communities, farmlands, rustle cattle at will and audaciously.

Education

Basic education plays a leading role in both personal and societal development. It provides individuals with the skills and knowledge necessary to participate fully in their communities and lead fulfilling lives. Simultaneously, a well-educated population is essential to a country's economic and social progress. One of the most important benefits of basic education is its ability to empower individuals and give them the confidence and skills needed for success (UNESCO 1994). Basic quality education gives people the knowledge and skills to understand their rights and responsibilities as well as the tools to transform their own lives and those of their families and communities. This includes ideals such as literacy, numeracy, and problem-solving skills as well as knowledge about health and the environment (United Nations Educational, Scientific, and Cultural Organization (UNESCO), 2022).

Basic education is also closely linked to economic development. Studies have shown that countries with higher educational levels tend to have stronger economies and lower poverty rates. For example, China's two-decade aggressive spending to reduce illiteracy has increased productivity. Moreover, basic education helps reduce hunger and poverty through feeding programs initiated in schools. It is believed that increasing primary school enrolment will reduce poverty by 12 per cent (Grant, 2017). Education can lead to technological and scientific advances that drive economic growth because educated individuals are more likely to find good jobs and contribute to their communities. Basic education can have positive social and cultural effects. It can help promote social cohesion and reduce inequality as it provides opportunities for people from diverse backgrounds to come together and learn from each other. Education can help preserve cultural traditions and values as it provides a way for communities to pass on important knowledge and skills to future generations (Amadioha & Akor, 2020).

Nigeria's Security Challenges

Security is the protection of assets including people against damage, injury, or loss from internal or external causes (Abolurin, 2011). Albert (2013) also defines security as the survival of the state and the protection of individuals and groups within the state (Abolurin, 2011). Thus, we can infer from the above definitions that the sovereignty of a nation-state may be determined by its ability to safeguard citizens and their resources against any attack, being from within or outside the state territory (Abolurin, 2011).

There are rising insecurity in many developing countries especially those in the continent of Africa. This is manifested in civil wars (Central African Republic, Libya and South Sudan), attack by terrorist groups (Cameroon, Kenya and Somalia), political upheavals (Guinea Bissau and Sudan), and militants attacks (DR Congo and Egypt). The insecurity is beyond the capability of some nations to the extent that foreign troops are invited to assist in tackling the insecurity. Examples include the presence of United States troops in Niger Republic and French troops in Mali. In order to form a common front against the rising insecurity, countries have been organizing a conference of the Committee of Intelligence and Security Services in Africa (CISSA) whose 16th edition was hosted at Abuja, Nigeria in July 2019 (Ladan & Iguda, 2019). This justifies the fact that insecurity is now a global pandemic with all the affected countries having their own peculiar narratives and experiences. Therefore, it requires a collective effort of State and non-State actors in order to overcome the security challenges affecting many modern nations of the world.

From a national security perspective, it is possible to make several deductions on Nigeria's threat analysis in the last decade. Communities, especially those living in Nigeria's Zamfara, Kaduna, Niger, Sokoto, Kebbi and Katsina states in the North-West and the North-Central have been at the receiving end of armed banditry for several years now (Saddique, 2021 in *Dialy Trust*, 24 May, 2021).

Banditry and Educational Development

Basic education in Nigeria has long been fraught with numerous challenges such as widespread poverty, inadequate funding, poor infrastructure, low enrollment, and high dropout rates (Jokodola, 2021). Recent threats to education in northern Nigeria include banditry. An example of the impact of banditry on education in Nigeria occurred in 2019, when armed bandits abducted several teachers and students from the Government Girls Secondary School in Moriki, Zamfara State (Obiejese, 2019).

School abductions have become recurring phenomena occurring in succession. Between April 2014 and June 2021, militants and bandits abducted 1548 pupils in 11 consecutive events in Northern Nigeria (Okafor, 2021). These mass kidnappings took place in primary, secondary, and higher institutions of learning in the Zamfara, Niger, Katsina, and Kaduna States. The majority of the instances occur at night, with the victims being carried into the forests (Onuoha & Akogwa, 2022). Table 1 presents selected incidents of bandit attacks on schools in Northern Nigeria.

Table 1. Selected incidents of bandit attacks on schools 2020-2023

SN	Date	Location	Incident
1	January, 20 2023	Doma, Nasarawa	6 primary school pupils of Alwaza Community School
2	April 13, 2022	Tsafe, Zamfara State	Five female students were abducted from College of Health Science and Technology
3	September 1, 2021	Maradun, Zamfara state	73 Students were abducted from Government Day Secondary school,
4	August 18, 2021	Faskari, Katsina	9 pupils and 1 staff were abducted from an Islamic school in Sakakai village
5	July 5, 2021	Chikun, Kaduna	121 students were abducted from Bethel Baptist High School
6	June 17,	Birnin Yauri, Kebbi state	80 students and 5 staff were abducted from Federal Government College
7	April 20, 2021	Chikun, Kaduna	20 students and 2 staff were kidnapped from Greenfield University
8	March 15, 2021	Birnin Gwari, Kaduna	Several pupils and teachers were abducted in LEA Primary School in Rama
9	March 11, 2021	Afaka, Kaduna	39 students were kidnapped from College of Forestry
10	February 26, 2021	Jangebe, Zamfara state,	317 girls were abducted from the Government Girls Secondary School
12	February 17, 2021	Kagara, Niger state	27 students and 15 staff were abducted from Government Science College
12	December 11, 2020	Kankara, Katsina state	344 boys were abducted from Government Science

			Secondary School

Source: Authors compilation from dailies

The consequences of these attacks go beyond the immediate trauma experienced by the students and staff. The closure of schools due to banditry can have long-term effects on children's education and their future prospects. Research has shown that even a short period of disruption to schooling can negatively impact children's cognitive development and future academic achievement (Miller & Hui, 2022). Furthermore, fear of attack can prevent parents from sending their children to school, further exacerbating the problem.

Destruction of Schools and other Educational Facilities

The impact of banditry on educational infrastructure has been extensively studied and documented (Miller and Hui 2022). In a report by the Global Coalition to Protect Education from Attack [GCPEA] (2022), more than 5,000 recorded incidents of attacks on education and military usage of schools and colleges in 2020 and 2021 injured more than 9,000 students and teachers in at least 85 different nations (including Nigeria) and destroyed the infrastructure. The proliferation of armed groups and criminal organizations, including bandits, has had a devastating impact on education systems in conflict-affected areas. In many cases, schools have been destroyed or used as military bases, teachers have been targeted for attacks or recruitment, and students have been kidnapped or recruited as soldiers.

This has resulted in the widespread disruption of education, with many children being unable to attend school or receive inadequate education due to the lack of trained teachers and resources. The GCPEA report estimates that, in conflict-affected countries, over 75% of schools are closed or only partially functioning, leading to a significant gap in education for children in these areas (GCPEA, 2022). The impact of banditry on educational infrastructure is not limited to conflict-affected countries. In areas with high levels of criminal activity, schools may also be targeted for theft or extortion, leading to similar disruptions in education.

The Teacher's Registration Council of Nigeria notes that between 2009 and 2022, attacks on education by bandits and insurgent groups in northeast Nigeria led to the death of 2,295 teachers, closure of 1,500 schools, denial of 600,000 children's access to education, and the destruction of over 910 schools (Tyessi, 2022). This was substantiated by Salim Musa Umar, the chairman of Farmers Herders Initiative for Peace and Development Africa (FHIPD – AFRICA) in a report presented by Tribune Online (2022a), between 2014 and 2022, bandits destroyed 1,500 schools, killed over 2,000 teachers and displaced 19,000 school children in Nigeria.

Disruption of School Schedules and Attendance due to Security Concerns

Due to attacks on schools, student attendance and enrolment has been dismal (Federal Ministry of Education, 2021). Between 2017 and 2020, the enrolment of students in secondary schools was drastically reduced in Zamfara, Kaduna, and Katsina (Rosenje et al., 2022). To curtail such attacks, some state governments in Nigeria have shut down all schools. At some point, Borno State closed all the schools. In Tegna, Niger State, 136 students were abducted from Salihi Tanko Islamic School on May 30, 2021. Eleven students were later released, because they were too young to walk long distances. As a result of this attack, several primary, technical, and high schools were closed in neighboring communities, including Wushishi, where bandits were reportedly planning an attack on a secondary school and polytechnic (Sevenscan, 2021). In Kaduna, many primary and secondary school students have refused to resume school for fear of bandit attacks (Gabriel, 2022). In Katsina, over 19 primary schools were closed in 2022. It was reported that closure affected the learning activities of over 9,113 pupils made up of 4,294 girls and 4,819 boys. In most cases, pupils have been moved to neighboring communities such as Kankara to continue their studies (Enna, 2022).

Children's education is compromised when schools are closed. Covering work and syllabus is impossible due to insecurity and school closures. Many schools have closed because of security concerns. Secondary schools prone to crises have been closed for several months. Many state authorities have mandated the closure of boarding schools in response to the recent wave of kidnappings by criminal organizations demanding ransom. To maintain security, the governors of six states in the area—Niger, Kano, Katsina, Jigawa, Zamfara, Sokoto, and Yobe in the North East—have shuttered some or all of the boarding schools in the most hazardous local government areas (Sancha et al., 2022).

Measures such as lockdowns and evacuations have disrupted traditional school schedules and attendance patterns, leading to negative effects on students' learning and development. School disruptions affect students' academic performance. Due to school closures, public schools in Zamfara and Sokoto

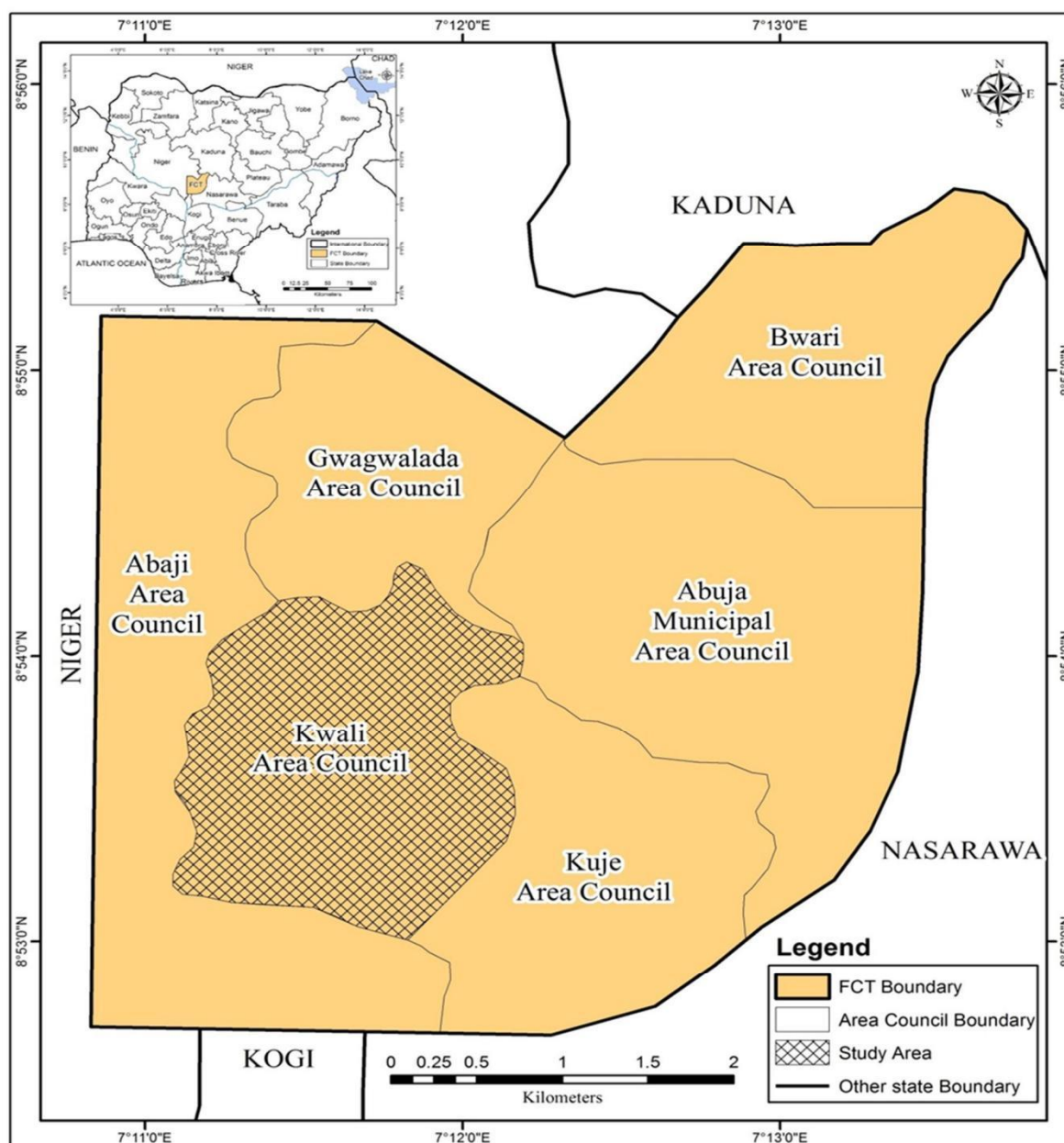
states could not present candidates for the May/June West African Senior School Certificate Examination (WASSCE) 2022, setting a bad precedent.

Description of the Study Area

Kwali was created on October 1, 1996 by the military administration of General Sani Abacha. Kwali has an area of 1,206 km and a population of 85, 837 as at the 2006 census. The study area is located between Latitude 8°28' - 8° 54' North of the Equator and Longitude 6°50' -7° 13' East of the Green Witch Meridian. It is among the six area councils that make up the Federal Capital Territory (FCT) Abuja (see Figure 2). The area council is situated at the South-Western part of the FCT. It is bordered to the north by Gwagwalada, to the east by Kuje and to the west by Abaji area councils respectively. The area comprises of eight districts (See Figure 3) and has a total land area of 1,700,400 Km².

Relief and drainage

The FCT is an area made up of hills with dissected terrains and undulating plains. It has the lowest elevations 70 metres above sea level particularly in the flood plain of River Gurara. It is from this floodplain that the land rises irregularly in the eastern, northern as well as northwestern directions. The relief occupies about 48 percent of the total land area of the FCT. The Gawu hills found in the area consist of a complex of massively dissected rock outcrops that rise between 230 metres and 610 meters above sea level. The summit of this massif is an undulating surface and it is bounded in all sides by ridges and scarps that descend into the surrounding plains. There are many streams that radiate from it in all directions notably Rivers Usuma and Gurara (Balogun, 2001). The study area is drained by River Usuma which is an important tributary of River Gurara and is the largest and major river within the study area.



Discussion of Findings

The major findings of the study after conducting extensive research on the subject matter have come up with the following findings on the role of banditry on the educational in Federal Government College Kwali. The study discovers that there is increase in the level of security threat in Federal Government College Kwali during the study period as a result of the activities of bandits which brought the major activities of the school to a standstill. Education root of societal development which provide the society with the need expert that can gear the wheels of development. This situation has caused many to lose their jobs and lives and has resulted to hunger and starvation.

The study finds out that there is less presence of security personnel in the study areas before the threats warning from the bandits and this has given the bandits the opportunity to attack various communities around the school at will. Considering the extent to which banditry has affected the education of the study area, it has been discovered that the activities of bandits in Federal Government College Kwali have affects school calendar, following the closure of the school in 2019.

Conclusion

In conclusion, banditry which started with cattle rustling has metamorphosed into an economically based form of criminality; incorporating into it kidnapping, arson, rape, armed robbery, killing of innocent citizens and other forms of vileness. The incidence has succeeded in the closure of many schools and kidnapping of students. Banditry has seriously affected the educational development of Federal Government College Kwali, Abuja, and other schools across the country. This can be seen in the way many schools are closed and abandoned for several academic sessions. The threats of bandits in the Federal Government College Kwali have caused the closure of the school which affected the school calendar and also increase the fear of uncertainty among the students, parents and the school administrators.

Recommendations

Given the foregoing, this study after putting various views into consideration came up with the following recommendations that will serve as a guide and also an instrument for policy action that must be taken in order to reduce the incidence of banditry in Federal Government College Kwali, Abuja and Nigeria at large. Below are the recommendations:

- I. The Government at all levels should properly create awareness on the implication of banditry, and also how to quickly respond to incidence of banditry through prompt reporting of the movement of strangers within and outside the schools. This will help in reducing the activities of bandits that is affecting the schools in Abuja.
- II. The government must incorporate the traditional rulers at various levels, the vigilante groups and other members of the communities around the school into the fight against banditry. This is because the traditional rulers are closer to the people and can effectively contribute by providing the security agencies with information on the influx of strangers in their various communities. This will go a long way in reducing the threats by bandits.
- III. There should be adequate support and intervention of the Federal, State, and Local Government authorities in the fight against banditry. Through that, the security can be easily mobilized for quick response to emergencies.
- IV. Adequate security personnel and logistics should be provided in the flashpoint areas where the bandits have turned into their hideouts. This will help the security to confront the bandits that are coming in many to attack schools.
- V. There should be synergy among various security networks that are saddled with the responsibility of providing the citizens of this area with the protection of lives and properties. Lack of synergy among the security agencies will make the fight against banditry a difficult one.

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Integrated Multimodal Transport Systems for urban mobility in Lagos: Prospects and Challenges

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Abstract

Integrated multimodal transport systems (IMTS) provide a strategic means of improving urban mobility in Lagos, a fast expanding megacity beset by fragmented transit choices and extreme traffic congestion. Focussing on the integration of road, rail, and water transport to increase accessibility, lower travel time, and support sustainable urban growth, this paper investigates the opportunities and challenges of IMTs in Lagos. Using a qualitative research approach, the study examines peer-reviewed journal papers, policy documents, transportation infrastructure projects, and stakeholder initiatives including Lagos Metropolitan Area Transport Authority's transport initiatives such as; Bus Rapid Transit (BRT), light rail networks, and environmentally friendly water travel options. The results show that although IMTS has great ability to change Lagos's urban mobility scene by encouraging seamless connectivity and lowering environmental effects, some obstacles prevent its complete realisation. Among these difficulties are poor infrastructure, scattered regulations, limited financing, and the predominance of unofficial transportation providers. Furthermore, aggravating implementation challenges are fast urbanisation and the absence of integrated land-use and transportation planning. The study comes to the conclusion that effective implementation of IMTS in Lagos calls for coordinated governance, more investment in multimodal infrastructure, involvement of stakeholders, and acceptance of smart technology for uniform ticketing and real-time information. The consequences highlight the importance of thorough policies matching transport planning with urban development objectives to attain equitable and sustainable mobility. This study adds to the increasing corpus of knowledge on urban transport integration in developing megacities and provides useful information for planners and legislators seeking to improve mobility in Lagos and related surroundings.

Keywords: Integrated multimodal transport, urban mobility, Lagos, transport infrastructure, sustainable transport, and implementation challenges

Introduction

Globally, urban mobility is undergoing a fundamental transformation as cities are transitioning from the current urban mobility practices to a more sustainable model (Grande-Ayala, Marin, & Rincon-Garcia, 2024). The transport infrastructures of global cities are becoming strained due to the rapid expansion of urban population. Urban mobility is exceptionally difficult due to the amount and diversity of traffic, the various modes of transport, and the numerous sources and destinations (Sowoputi & Saalam, 2018). Historically, urban mobility has predominantly concentrated on passengers for an extended period, as cities serve as centres of human activity characterised by intricate traffic patterns related to commuting, commerce, and leisure, urban mobility has become important as passengers. Urbanisation has become an important phenomenon regarding mobility of people in urban areas due to the increasing proportion of the global population relocating to urban areas. Urban mobility issues have become crucial to address in order to provide mobility access to both passengers and goods in metropolitan areas (Rodrigue, Jean-Paul, 2013). Oshodi, Unuigboje and Salau (2023) assert that urban economic development hinges on the accessibility of individuals, commodities, services, and information. According to Rode et al. (2014), greater economies of scale, agglomeration effects, and networking advantages enhance the quality and efficiency of access.

In developed countries, urban mobility stands as a key focus of policy discussions, with multimodal systems identified as the keystone of sustainable urban mobility and sustainable urban development. Cities such as New York, London, Beijing, and Tokyo have seen economic growth and social balance in addition to enhanced efficiency due to the comprehensive transit networks that incorporate rail, bus, cycling, and pedestrian infrastructure (UITP, 2023; iRAP, 2024; VTPI, 2024; European Commission, 2024). As prominently showcased in these urban areas, resources are systematically allocated for the deployment of real-time tracking systems and contactless payment platforms to deliver efficient and environmentally friendly urban transport efficiency, reinforcing the global focus on cutting carbon footprints and accomplishing the Sustainable Development Goals (SDGs) has made multimodal transportation options more advanced and sustainable globally (Kramarz & Przybylska, 2021; United Nations, 2021).

Urban mobility is a fundamental component of sustainable city development, directly influencing economic productivity, environmental quality, and social equity. In rapidly growing cities like Lagos, Nigeria, urban mobility challenges have intensified due to population growth, unplanned urbanization,

and increased motorization. Integrated Multimodal Transport Systems (IMTS), which coordinate multiple transport modes such as buses, rail, and waterways, are increasingly recognized as a viable solution to enhance urban mobility, reduce congestion, and lower emissions. Integrated multimodal transport systems (IMTS) have emerged as a critical strategy for addressing the complex urban mobility challenges faced by rapidly growing megacities like Lagos, Nigeria. Lagos, with an estimated population exceeding 20 million, is Africa's largest city and economic nerve center, yet it suffers from severe traffic congestion, environmental pollution, and inefficient public transportation networks (Abdul, 2024; *Guardian*, 2025). The city's transport landscape is characterized by a fragmented mix of formal and informal modes, including buses, minibuses (Danfo), taxis, ferries, and emerging rail services, which operate largely in isolation, leading to inefficiencies and commuter inconvenience (Abdul, 2024).

The Lagos State Government, through the Lagos Metropolitan Area Transport Authority (LAMATA), has recognized the urgent need to develop an integrated multimodal transport system that combines rail, road, and water transport to improve connectivity, reduce travel times, and enhance urban mobility (MITV Nigeria, 2025; *Guardian*, 2025). This approach aligns with the state's THEMES+ agenda, which prioritizes transportation planning, traffic management reforms, and sustainable development to support Lagos's growth trajectory (MITV Nigeria, 2025). Key initiatives include expanding the Bus Rapid Transit (BRT) network, increasing the fleet of electric and Compressed Natural Gas (CNG) buses, developing light rail corridors, and revitalizing water transport through the introduction of water taxis and ferries (*Guardian*, 2025; News Central TV, 2025).

Lagos has major implementation challenges despite these big ambitions and continuous developments. Rapid urbanisation of the city has exceeded infrastructure development, leading to insufficient transport options, bad road maintenance, and limited right-of-way for newly proposed transport routes (Afolabi, 2017; *Guardian*, 2025). While poor public awareness and behaviour impede adoption of new systems, the predominance of informal transit companies hinders control and integration attempts (*Guardian*, 2025). Furthermore, creating finance and governance challenges are the uncertain macroeconomic climate and delayed policy alignment (*Guardian*, 2025). Though studies indicate these are not the main obstacles to commuter satisfaction, operational issues still exist in the BRT system including congestion and ticketing inefficiencies (Oluwaseyi, 2024). With IMTS in Lagos offering commuters flexible, quick, environmentally sustainable transport choices, the future of urban transportation seems bright. Development of interchanges meant for frictionless transfers and the integration of payment systems—like the Cowry Card used across modes showcase advancement towards a unified network (*Guardian*, 2025). Moreover, especially in the areas of rail and water transport, public-private partnerships are fundamental for developing infrastructure and services (*Guardian*, 2025).

In essence, Lagos's integrated multimodal transportation system has great potential to solve urban mobility issues; but, its success depends on overcoming infrastructural shortcomings, regulatory fragmentation, financial restrictions, and public acceptability. Realising a sustainable, equitable, and efficient urban transport future for Lagos (Abdul, 2024; *Guardian*, 2025) depends on coordinated government, strategic investment, and utilising technology startups for creative ideas.

Statement of Problem

The biggest metropolis and economic centre in Nigeria, Lagos suffers severe urban mobility issues characterized by traffic congestion, disjointed transportation options, and environmental degradation. The Lagos State Government and agencies such as LAMATA keep working to create an integrated multimodal transportation system (IMTS), although the city still struggles with poor infrastructure, ineffective connectivity, and regulatory complexities. The realisation of a sustainable and effective urban transport network is hampered by the predominance of informal transport operators and lack of smooth integration between road, rail, and water transportation means. These difficulties compromise environmental sustainability, economic output, and commuter quality of living. Therefore, to guide policy and planning interventions, it is absolutely necessary to evaluate the prospects of IMTS in Lagos and identify challenges to its effective utilisation

Several studies have examined urban mobility, but there is paucity of studies on how the integration of multimodal transports system in urban mobility in Lagos. For instance, Owoputi (2021) investigates the prospect of multimodal transportation to address urban complexity in Lagos. Without empirical interaction with commuter behaviour, user pleasure, or operational reality on the ground, the study, however, takes a mostly conceptual and systems-analytic lens. Adeniran (2023) similarly offers a detailed overview of Lagos's multimodal infrastructure problems, citing institutional constraints, poor

maintenance, and connectivity problems. The study recommends strategic enhancements, but it doesn't have a main data-driven method to assess how current multimodal systems satisfy commuters' practical mobility needs. Emphasising access, equity, and institutional responsibility, Grande-Ayala et al. (2024) present the Social Sustainability of Urban Mobility (SSUM) paradigm to assess urban mobility in the Global South. Although the paradigm has great intellectual value, it has not yet been tested in actual African urban environments; Lagos offers a perfect scenario for such empirical validation.

The study by Odeleye (2015) emphasises that the part multimodal transport plays in trade facilitation and national infrastructure development. His work points up financial and policy constraints in Nigeria, but it ignores the localised urban dynamics or the commuter-level effects of multimodal networks in places like Lagos. Analysing non-motorized transport strategies and urban mobility solutions, Buhari et al. (2020) draw attention to the discrepancy between Lagos's fast urbanisation and motorisation tendencies. While the study highlights regulatory shortcomings, it does not evaluate how multimodal solutions impact daily travel experiences, access to opportunities, or system efficiency.

There is a lack of an in-depth analysis of user behavior, public acceptance, and the socioeconomic impacts of transitioning from fragmented to integrated systems. Specifically, there is limited empirical evidence on how Lagos can overcome the entrenched fragmentation and informal sector dominance to achieve seamless multimodal integration that is inclusive, sustainable, and scalable. Therefore, this study aims to fill these gaps by providing a comprehensive, multidisciplinary examination of the prospects and challenges of Integrated Multimodal Transport Systems for urban mobility in Lagos, drawing lessons from both local realities and global best practices, and offering actionable recommendations tailored to the city's complex context.

Aim

The study examines the prospects and challenges of integrated multimodal transport systems in Lagos.

Objectives

1. To analyze the current state of urban transport and the level of integration among different modes in Lagos.
2. To identify the key prospects and benefits of implementing an integrated multimodal transport system in Lagos.
3. To investigate the major challenges and barriers hindering the successful implementation of IMTS in Lagos.
4. To evaluate the role of government policies, private sector participation, and technological innovations in facilitating IMTS.
5. To propose strategic recommendations for improving the planning, coordination, and operation of integrated multimodal transport systems in Lagos.

Research Questions

1. What is the current status of urban transport integration in Lagos?
2. What are the potential benefits and prospects of adopting an integrated multimodal transport system in Lagos?
3. What are the primary challenges and barriers to the implementation of IMTS in Lagos?
4. How do government policies, private sector involvement, and technology impact the development of IMTS in Lagos?
5. What strategies can be employed to overcome implementation challenges and enhance the effectiveness of integrated multimodal transport systems in Lagos?

Literature Review

Urban Mobility: Concepts and Global Perspectives

Urban mobility refers to the ability of people to move efficiently and safely within urban areas to access employment, education, healthcare, and social activities (GSMA, 2024). It encompasses various transport modes, infrastructure, policies, and user behaviors. Sustainable urban mobility prioritizes accessibility, affordability, safety, and environmental sustainability (GSMA, 2024). Globally, cities are adopting integrated transport solutions to reduce reliance on private vehicles, curb emissions, and improve quality of life (Oliver Wyman Forum, 2023).

The World Bank and other international organizations emphasize that urban mobility is a key driver of economic growth and social inclusion, particularly in developing megacities where informal transport modes dominate (GSMA, 2024). However, rapid urbanization often outpaces transport infrastructure development, leading to congestion, pollution, and inequitable access (GSMA, 2024; UrbanBetter, 2024). Non-motorized transport (NMT), such as walking and cycling, is also critical for sustainable mobility but is frequently neglected in urban planning (UrbanBetter, 2024).

Urban Mobility Challenges in Lagos

Lagos, with an estimated population of over 20 million and a daily mobility demand exceeding 170 billion passenger-kilometers, exemplifies the challenges of urban mobility in a rapidly growing African megacity (Oliver Wyman Forum, 2023). The city's transport system is characterized by:

Congestion and long travel times: Lagos residents spend up to 40% of their income on transport, with peak-hour prices rising up to nine times due to demand surges and poor infrastructure (GSMA, 2024). Average trip times for short distances can exceed two hours (Alade, Olaseni, & Mobolaji, 2018).

Fragmented and informal transport modes: The transport landscape includes formal buses, minibuses (Danfo), motorcycle taxis, and informal water taxis. These modes operate largely independently, with limited coordination or regulation (GSMA, 2024; Alade et al., 2018).

Environmental and health impacts: The transport sector accounts for nearly 20% of Lagos's greenhouse gas emissions, contributing to air pollution and respiratory diseases (UrbanBetter, 2024; Lagos State Government, 2024). The proliferation of private vehicles exacerbates emissions and congestion (Oliver Wyman Forum, 2023).

Infrastructure deficits: Inadequate and poorly maintained roads, terminals, and lack of dedicated lanes for buses and non-motorized transport hinder efficient movement (Alade et al., 2018; UrbanBetter, 2024).

Social inequities: The poorest residents often face exclusion from affordable and safe transport options, with informal transport modes sometimes unaffordable or unsafe (GSMA, 2024).

The Concept of Multimodal transportation

Multimodal transportation refers to the conveyance of goods utilising a minimum of two distinct modes of transport, governed by a multimodal transportation contract, from a location in one country where the goods are received by the multimodal transport operator to a specified delivery destination. This definition was first comprehensively articulated at the 1980 United Nations Convention on Multimodal Transportation. Multimodal transport entails the administration of all available transport modes, including air, maritime, rail, road, pipeline, and subsurface, to facilitate the effective and efficient movement of individuals and goods (Owoputi, 2021). It is the extension of transport networks beyond their singular core structure. Another perspective is to view it as the development of the transit system from a port-to-port framework to an overland infrastructure, so shifting focus from the maritime component (Owoputi, 2021). Increasingly, contemporary international transport operations require the amalgamation of several transport modalities and the management of vast trade and transport data.

Integrated Multimodal Transport Systems (IMTS): Definition and Importance

IMTS refers to the coordinated use of multiple transport modes within a unified system, enabling seamless transfers, unified ticketing, and optimized route planning to improve efficiency and user experience (Owoputi, 2021). IMTS aims to reduce private vehicle dependency, lower emissions, and enhance accessibility by linking buses, rail, ferries, and non-motorized transport (Owoputi, 2021). Globally, IMTS has been adopted in cities to address congestion and sustainability goals. Successful systems feature integrated infrastructure, digital payment platforms, real-time information, and coordinated governance (Owoputi, 2021; GSMA, 2024). IMTS also supports economic growth by improving freight and passenger movement and reducing logistics costs (Oliver Wyman Forum, 2023).

Prospects of IMTS in Lagos

Lagos has embarked on several initiatives to develop an IMTS, led by the Lagos Metropolitan Area Transport Authority (LAMATA) and supported by the state government's THEMES+ agenda (Guardian, 2025; MITV Nigeria, 2025). Key prospects include:

Lagos's Bus Rapid Transit (BRT) system has significantly improved urban mobility by enhancing commuter safety and comfort while reducing CO₂ emissions by approximately 9%. The system currently

transports up to 10,000 passengers per hour during peak periods, demonstrating its capacity to serve large volumes efficiently (IGC, 2025; Alade et al., 2018). Since its inception in 2008, the BRT has expanded from the initial Mile 12 to CMS corridor to additional routes, including the Oshodi-Abule-Egba corridor, with daily ridership exceeding 200,000 passengers, surpassing original expectations by more than 150% (Urbanet, 2025). The introduction of high-occupancy vehicles has replaced many unregulated minibuses, reducing congestion, noise pollution, and air pollution along BRT corridors. The system has also contributed to a 30% reduction in accidents compared to the previous informal transport modes, alongside a 30 to 50% fare reduction and a 40% decrease in commute times, thereby improving overall commuter experience and urban health (Think Global Health, 2023).

The development of light rail corridors and the “OMI EKO” water taxi initiative represent Lagos’s efforts to diversify its transport modes and alleviate road congestion. The light rail system, with operational Blue and Red Lines and ongoing expansions, aims to provide high-capacity, reliable alternatives to road transport, while the water taxi services utilize Lagos’s extensive waterways to offer eco-friendly and efficient commuter options (Guardian, 2025; News Central TV, 2025). These modes are being integrated with existing transport services through new interchanges designed to facilitate seamless transfers between buses, rail, and ferries (LAMATA, 2024).

By running electric and Compressed Natural Gas (CNG) buses to lower emissions and enhance air quality, Lagos is also switching public transport towards greener energy. These projects complement the larger climate action targets of the state as well as attempt to reduce the environmental impact of the transport industry (LAMATA, 2024). Digital innovations support these initiatives by means of contactless payment systems like the Cowry Card, mobile apps offering real-time transit information, and data-driven traffic management systems improving operational efficiency and convenience across several transport modes (LAMATA, 2024; GSMA, 2024).

Moreover, Lagos is dedicated to inclusiveness and accessibility in its transportation architecture, building systems that allow women, children, the elderly, and persons with impairments. This shows a more general will to social inclusion and fair urban mobility (LAMATA, 2024). These projects taken together complement Lagos's climate action goals and the worldwide movement towards sustainable urban transport, so establishing Lagos as a leader in integrated, multimodal, and environmentally conscious urban mobility solutions (Oliver Wyman Forum, 2023; Lagos State Government, 2024).

Implementation Challenges of IMTS in Lagos

Although Integrated Multimodal Transport Systems (IMTS) have bright future prospects in Lagos, the city suffers major obstacles that hinder efficient implementation. The inadequate and generally neglected current transport infrastructure restricts the capacity to provide seamless intermodal connections necessary for effective multimodal transportation (Alade et al., 2018; UrbanBetter, 2024). To support integration across buses, rail, and rivers, roads, terminals, and rail facilities call for significant improvements and expansions. Dominating most of the transport market, informal transport providers oppose control and complicate attempts to combine official and unofficial forms into a single system (GSMA, 2024). This informal power compromises coordination and enforcement, hence generating operational inefficiencies and safety issues.

Further adding to these difficulties is regulatory and institutional fragmentation. Many government organisations with overlapping responsibilities lessen coordination and produce inefficiencies in transportation planning and regulation. The inadequate regulatory systems for digital and multimodal transport impede the capacity to properly control developing transport technology and services (GSMA, 2024). Major hurdles include also funding and economic issues. Though Nigeria's macroeconomic volatility and fiscal restrictions cause financial shortages and uncertainty that impede long-term project implementation, capital-intensive infrastructure projects need continuous investment (Abdul, 2024).

Particularly water taxis and non-motorized transportation, social and behavioural constraints influence the acceptance of new travel options. Low public knowledge, safety issues, and opposition to change limit ridership and acceptance of these alternatives, therefore lowering their possible capacity to ease congestion and increase mobility (UrbanBetter, 2024). Furthermore, restricting good planning and regulation are data and technological inadequacies. Evidence-based decision-making and enforcement (GSMA, 2024) are hampered by the low availability of thorough public transport data and insufficient capacity to control technologically enabled mobility services. These difficulties slow down IMTS development overall and lower its efficacy in tackling urban transportation issues in Lagos. Dealing with these entwined issues calls for coordinated policy responses, better infrastructure investment, regulatory

reform, and public involvement to build confidence and acceptance of combined transportation solutions. The whole advantages of IMTS in Lagos would stay unfulfilled without addressing these problems.

Role of Digital Innovation and Partnerships

Digital technologies offer opportunities to overcome some of Lagos's IMTS challenges. Mobile payment platforms facilitate fare integration and formalize informal transport pricing (GSMA, 2024). Geographic Information Systems (GIS) and big data analytics support infrastructure planning and traffic management (GSMA, 2024). Mobile apps improve rider safety and operational efficiency, especially for women and underserved populations (GSMA, 2024). Government-innovator partnerships have emerged as vital for scaling digital mobility solutions. Companies like Gokada, Max.ng, and Shuttlers exemplify digital-enabled urban mobility innovations in Lagos, although trust and regulatory predictability remain concerns (GSMA, 2024).

Non-Motorized Transport and Sustainable Urban Mobility

Non-motorized transport (NMT) such as walking and cycling is critical for sustainable urban mobility but remains underdeveloped in Lagos (UrbanBetter, 2024). The city's transport sector contributes nearly 20% of greenhouse gas emissions, with vehicle emissions causing significant health impacts (UrbanBetter, 2024; Lagos State Government, 2024). Initiatives like the Awa Bike project and advocacy for dedicated cycling and pedestrian infrastructure reflect growing recognition of NMT's importance (UrbanBetter, 2024). However, policy enforcement, infrastructure redesign, and public education are needed to scale NMT adoption. Safe, inclusive, and accessible infrastructure will enhance mobility equity and reduce environmental impacts (UrbanBetter, 2024).

Lessons from Other Cities and Policy Implications

Comparative studies highlight that successful IMTS implementation requires strong governance, integrated land-use and transport planning, stakeholder engagement, and phased investment (Owoputi, 2021). Cities that have effectively integrated transport modes demonstrate the value of unified ticketing, interoperable infrastructure, and supportive regulatory frameworks (Owoputi, 2021). For Lagos, strengthening institutional coordination, securing sustainable funding, and fostering public-private partnerships are critical. Policies must prioritize inclusivity, environmental sustainability, and resilience to climate change (LAMATA, 2024; Oliver Wyman Forum, 2023).

Methodology

This study uses a qualitative research design depending only on secondary sources to investigate the prospects and implementation difficulties of Integrated Multimodal Transport Systems (IMTS) for urban mobility in Lagos. Particularly appropriate given the great availability of pertinent datasets, government reports, academic publications, and digital data sources linked to Lagos's transport sector, the use of secondary data allows a comprehensive analysis of existing knowledge, policies, empirical studies, and data trends without the need for primary data collecting. Secondary data were gathered from several reliable sources: academic literature, peer-reviewed journals, government and institutional reports, digital and big data sources, media and industry publications. Peer-reviewed publications and academic literature provide case studies on urban mobility, transport integration, and sustainability in Lagos and related megacities together with theoretical frameworks and empirical results. Official data on transport infrastructure, policy efforts, and implementation status were provided by government and institutional reports from Lagos Metropolitan Area Transport Authority (LAMATA), Lagos State Government, and international development organisations. Digital and big data sources include GPS monitoring, cell phone call detail records (CDRs), and web platforms revealed travel trends, congestion, and modal use. Media and business reports provided current data on developing initiatives, viewpoints of stakeholders, and new issues.

Data collection involved systematic desktop research and document analysis, including literature review to identify and synthesize scholarly articles, conference papers, and theses related to urban mobility and IMTS in Lagos and comparable contexts. Policy and project document analysis was conducted by examining strategic plans, transport master plans, environmental impact assessments, and progress reports from government agencies and transport authorities. Big data and digital data review involved analyzing studies utilizing automated data collection methods such as GPS data, mobile phone CDRs, and sensor data to understand travel demand and supply-side transport metrics. Media content analysis reviewed news reports and video documentaries to capture recent developments, public

sentiment, and stakeholder commentary. The collected secondary data were analyzed qualitatively using thematic content analysis to identify key themes related to the current state of urban mobility and transport integration in Lagos, prospects and benefits of IMTS adoption, implementation challenges including infrastructural, regulatory, financial, and social barriers, and the role of digital innovation and governance in facilitating IMTS. Cross-validation of data from multiple sources was conducted to ensure reliability and triangulation of findings. Quantitative data extracted from reports, such as ridership statistics, emission reductions, and travel times, were descriptively summarized to support qualitative insights.

Rich and diverse datasets justify the selection of secondary data as Lagos's transport industry has been under great attention and many data sources offer complete coverage without the necessity of expensive and time-consuming original data collecting. With automated sources like GPS and mobile phone records giving high-density temporal and spatial insights difficult to acquire through conventional surveys alone, secondary data also provide access to real-time and historical data. Moreover, the utilisation of secondary data lets one quickly synthesise current knowledge and helps to avoid possible ethical problems with direct human subject research. Limitations of this strategy, however, include possible biases in original data, limited control over data collecting procedures and possible gaps in data coverage or obsolete information, variance in data quality and approaches between sources. Cross-referencing several sources and meticulously examining data dependability helps to offset these restrictions and guarantees a robust result.

Findings

Urban Transport Context in Lagos

One of the fastest-growing megacities worldwide, Lagos boasts over 20 million residents and is expected to rise above 30 million by 2030 (Alade, Olaseni, & Mobolaji, 2018). With commercial motorbikes, private cars and unofficial minibuses (Danfo) dominating the scene, the city's transport system is mostly road based. Severe traffic congestion brought on by this dominance has commuters averaging two hours for routes about ten kilometres (Alade et al., 2018). With poorly planned and maintained auto parks, bus stops and terminals unable to enable effective passenger transfers or multimodal integration, the transportation infrastructure is inadequate (Alade et al., 2018). Established to handle these problems, the Lagos Metropolitan Area Transport Authority (LAMATA) developed light rail networks (Alade et al., 2018) and mass transit systems like the Bus Rapid Transit (BRT). Nonetheless, with unofficial operators controlling most of the market, the public transit system remains fractured and mostly unmonitored, hindering attempts for integration and control (Alade et al., 2018; Abdul, 2024.). Lack of integrated land-use and transportation planning aggravates mobility problems even more by restricting access and depending more on personal transportation (Alade et al., 2018).

Importance of Multimodal Transport Systems

Aiming to maximise efficiency, lower travel time, and enhance user experience (Owoputi, 2021), multimodal transportation is the coordinated use of two or more modes. In order to offer seamless connectivity (Owoputi, 2021), Integrated Multimodal Transport Systems (IMTS) aim to consolidate infrastructure, operations, ticketing, and information systems spanning buses, rail, and waterways). Globally, IMTS are acknowledged as essential for sustainable urban development, so improving economic output, cutting congestion, and so reducing emissions (Owoputi, 2021). By offering alternatives to road-based mobility, integrating newly developed rail and water transit systems, and enabling effective transfers, IMTS has the potential to solve important urban problems in Lagos (Abdul, 2024). Two examples of continuous attempts to modernise and combine Lagos's transport system are the creation of a uniform payment system the Cowry Card and the arrival of electric buses and water taxis (Guardian, 2025; Abdul, 2024).

In Lagos, multimodal transport systems provide great environmental, financial, and social advantages as well as addressing important urban mobility issues. Integration of multimodal transport in Lagos is expected to significantly ease road congestion, so lowering estimated yearly CO₂ emissions of 178,000 metric tonnes, thus supporting the climate action targets of the city and improving air quality (Global Future Cities, 2024). Greater intermodal connectivity and the extension of transport networks have also presented many chances for private sector investment, therefore fostering economic development and employment creation inside Lagos State (Global Future Cities, 2024). Specifically in residential areas not covered by Bus Rapid Transit (BRT), the Lagos State Government's recent acquisition of 500 First and Last Mile (FLM) buses intends to provide inclusive, safe and convenient public transportation access.

Part of a planned fleet of 5,000, Major causes of traffic congestion and pollution are private vehicles, hence this project represents attempts to increase accessibility and lower dependency on them (Global Future Cities, 2024).

With a mix of formal and informal forms of transport, Lagos's system suffers from inefficiencies coming from lack of integration, hence extending journey times and commuting difficulty. Thus, attaining better transitions between transportation modes, lowering delays, and enhancing general user experience depends on multimodal transportation systems (Abdul, 2024). Offering creative solutions for payment integration, route optimisation, and real-time passenger information, which together improve the efficiency and appeal of public transportation, technology companies are becoming more and more important in this change (Abdul, 2024). Adoption of such technologies helps Lagos to create a more coherent, environmentally efficient, and user-friendly transportation system.

Reducing traffic congestion and travel times in fast urbanising places like Lagos depends on public and multimodal transport networks offering a substitute for private motor vehicle dependence (BusinessDay, 2024). By improving access to fundamental services, generating employment, and increasing corporate activity, multimodal systems help to drive more general socioeconomic growth (Traffic Radio, 2024). With Lagos's mass transit projects including stainless-steel trains running on an independent energy network transport roughly 250,000 commuters daily and help to reduce the city's infamous traffic congestion, which sometimes causes commuters to spend up to three hours in gridlock (World Steel, 2023). Along transit lines, the mass transport system also boosts urban productivity and generates employment prospects, therefore supporting local businesses (World Steel, 2023).

The Blue and Red Lines of the Lagos Rail Mass Transit system marks a significant breakthrough in multimodal urban transportation, estimated to daily carry over one million commuters. These train lines are meant to interact with current road and water systems to give Lagos's over 20 million citizens flawless mobility (Independent Nigeria, 2025). Modern infrastructure and low electric power use of the rail system show a dedication to sustainable urban transit, therefore lowering traffic congestion and pollution. Comprising six rail lines, fourteen BRT corridors, and more than twenty water routes, the Lagos Rail Mass Transit Master Plan seeks to position Lagos among cities with effective and integrated transport systems worldwide (Independent Nigeria, 2025).

These advances notwithstanding the difficulties reaching complete multimodal integration. Private vehicles and unofficial forms of transit predominate in Lagos, which struggle to keep pace with rising demand and cause congestion and safety concerns (Adeniran, 2023). The efficacy of multimodal transport infrastructure is limited by neglect, poor connectivity, and inadequate services. Dealing with these issues calls for coordinated public transport system development, public transport infrastructure investment, and the implementation of new technologies including driverless cars to improve service delivery (Adeniran 2023).

Prospects of IMTS in Lagos

Many studies show IMTS's prospects in Lagos as a transforming solution for urban mobility. To help sustainable development, the THEMES+ agenda of the Lagos State Government gives traffic management changes, cleaner energy adoption, and transport integration top priority (MITV Nigeria, 2025). With dedicated lanes carrying up to 10,000 passengers per hour at peak hours, the BRT system's development shows how capacity of mass transportation can help to ease congestion (Alade et al., 2018). Furthermore, providing multimodal options to lower road traffic and pollution are the continuous development of light rail routes and the revitalisation of water transport throughout the "OMI EKO" ferry program (Guardian, 2025; News Central TV, 2025). By minimising travel time, lowering transportation expenses, and enhancing access to employment and services, IMTS also offers financial gains (Owoputi, 2021). Given Lagos's position as the commercial centre of Nigeria, integrating several forms of transport can help the city become more competitive by means of improved goods transportation and lower logistical costs (Owoputi, 2021). Environmentally, moving commuters from private cars to public transport options backed by IMTS will help to lower greenhouse gas emissions and improve air quality (Alade et al., 2018).

Implementation Challenges

Lagos has great difficulties putting an efficient IMTS into use in spite of these opportunities. One important obstacle is the ageing and insufficient infrastructure that reduces the prospect for smooth modal integration. Many times, inadequate or badly maintained, roads, ports, and rail infrastructure limit

operational efficiency (Alade et al., 2018; Abdul, 2024). The predominance of unofficial transportation providers like Danfo buses and motorcycle taxis hinders efforts at regulation and integration since these operators oppose formalisation and usually operate outside official routes and schedules (Alade et al., 2018). Further impeding advancement are financial restrictions and poor institutional capability. Nigeria's macroeconomic unpredictability and conflicting budgetary objectives complicate the major capital expenditure needed for the development of multimodal infrastructure (Abdul, 2024). Furthermore, underdeveloped are legal and regulatory systems for multimodal transport; overlapping mandates and poor enforcement lower the policy efficacy (OAL Law, 2023). Social and behavioural elements also affect execution. Ridership on newly introduced modes including water taxis and light rail is influenced by low public knowledge of new transportation choices, opposition to change, and safety issues (Alade et al., 2018). Moreover, the absence of integrated land-use planning leads to transport routes that contradict residential and business growth therefore lowers the possible advantages of IMTS (Alade et al., 2018).

Policy and Institutional Framework

The Lagos State Government has made strides in establishing agencies and policies to support IMTS. LAMATA oversees mass transit development, while the Lagos State Traffic Management Authority (LASTMA) manages traffic flow and enforcement (Alade et al., 2018). The Lagos Climate Change Adaptation Strategy (LAS-CCAS) recognizes multimodal transport as a key climate mitigation measure, promoting cleaner vehicle technologies and non-motorized transport (Alade et al., 2018). However, policy implementation remains slow and fragmented. Coordination among agencies is often weak, and political will fluctuates with changes in administration (Alade et al., 2018; Abdul, 2024). The absence of a comprehensive, legislated transport master plan with enforceable mandates limits the ability to scale and sustain IMTS initiatives (Alade et al., 2018).

Technological Innovations and Future Directions

Technology plays a vital role in enabling IMTS. The adoption of smart ticketing systems, real-time passenger information, and vehicle tracking can improve service reliability and user experience (Abdul, 2024). Lagos has begun implementing the Cowry Card, a unified payment system usable across buses, rail, and ferries, facilitating seamless transfers (Guardian, 2025). Emerging technologies such as electric and compressed natural gas (CNG) buses contribute to environmental sustainability goals (Guardian, 2025). Furthermore, enhancing operational efficiency and safety could be the possible arrival of intelligent transport systems and autonomous cars (Adeniran, 2023).

Lessons from Other Cities and Applicability to Lagos

Research on multimodal transport in other megacities underline the need of coordinated planning, stakeholder cooperation, and progressive application (Owoputi, 2021). Successful IMTS deployment cities usually have strong institutional structures, committed financing, and public participation plans. By improving governance, investing in infrastructure, and developing alliances with private sector and technology suppliers (Adeniran, 2023 Lagos may learn from these events).

Conclusion and Recommendations

The study comes to the conclusion that integrated multimodal transport systems have great chances for enhancing urban mobility, sustainability, and economic productivity in Lagos. The results show that the present urban transport system of Lagos is marked by fragmentation, infrastructural shortcomings, and a predominance of unofficial transit options, which taken together impede effective and sustainable mobility. Still, the creation of IMTS offers major chances to ease traffic congestion, lower environmental effects, improve access and economic output. Lagos's dedication to multimodal integration and sustainable urban development is shown by projects like light rail routes, water transit systems, and Bus Rapid Transit (BRT) system. The realisation of these advantages is restricted, though, by obstacles including poor infrastructure, regulatory fragmentation, limited financing, and popular opposition to other modes of transportation. Successful implementation of IMTS is made possible in great part by government policy, business sector involvement, and technology innovation. Overcoming current obstacles and creating a flawless, user-friendly transportation network depends on coordinated government, strategic investment, and acceptance of digital technology.

The study recommends that the the Lagos State Government should enhance institutional coordination among transport authorities to guarantee consistent planning, control, and application of

IMTS projects. By including land-use and transport planning into a thorough transport master plan, infrastructure development will be maximised and access will be enhanced. Second, multimodal infrastructure investment has to be given top priority including building intermodal terminals, widening bus dedicated lanes and improving rail and water transportation systems. Third, in order to guarantee safety, interoperability, and data privacy, regulatory systems should be changed to formalize informal transportation operators and provide an environment for digital mobility innovations. Fourth, methods for public awareness campaigns and stakeholder involvement are required to raise acceptance and rider count of integrated transport choices. Fifth, using intelligent transport technologies and data analytics will help traffic control and operational effectiveness to be enhanced. To close finance shortages and hasten the scale-up of IMTS, public-private partnerships and mobilisation of international development funding will ultimately be absolutely vital. Future studies should concentrate on empirical evaluations of continuing programs and the creation of context-specific models for multimodal integration in fast urbanising African megacities.

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Terrorism and Soft Power: Interrogation of the Clogs in the Wheels of Nigerian Efforts in Combating Terrorism

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Abstract

One of the major security challenges affecting both developed and developing countries alike is the issue of terrorism. In Africa, countries like Kenya, Mali, Niger, and Nigeria are facing terrorist attacks. Each of these countries also engages in seamless efforts to combat terrorism. Nigeria in particular has been facing terrorist attacks since 2009, when Boko Haram struck its first attacks. Since then, to date, a series of attacks, both large and small scale, has been mounted on innocent Nigerians. Successive governments equally made concerted efforts to curb and combat terrorism in Nigeria. However, it seems those efforts have yielded little or no results. The perception in some quarters was that President Goodluck Jonathan did not do enough to fight against terror and that President Buhari, being a northerner and ex-serviceman, would do better. In fairness to him, he equally demonstrated more commitment to fighting these terrorists as he shifted military headquarters to Maiduguri. Despite all these, the situation still remains the same. Why is it difficult for Nigeria to get rid of terror despite efforts to do so? This study examines factors that serve as clogs in the wheel of Nigerian efforts to put an end to terrorism in Nigeria. The research adopts primary and secondary data with the use of interviews, textbooks, journals, online documents, and documentaries. It also adopts Protracted Social Conflict (PSC). The research finds that there are still socio-political and structural problems in Nigerian society that hinder all efforts to combat terrorism. The research recommends that all efforts to combat terrorism should not be concentrated more on the military approach but must also involve a soft approach or the civil aspect of counterterrorism.

Keywords: Media, social media, Nigeria, and national security

Introduction

Terrorism is an attack on innocent persons for the purpose of gaining socio-political or economic gains. Many lives have been lost in developing and developed countries alike through terrorist attacks. Each state confronting the menace of terrorism equally confronts it frantically to put it under control. Developed countries have shown better capacity in curbing terrorism than developing countries. Perhaps it is partly because fighting terrorism requires financial commitment and because factors that trigger terrorism are more prominent in developing countries. For instance, America has shown a high level of capacity to prevent further terrorist attacks in America. Since the 2001 attacks on the World Trade Center and the Pentagon and two other places, there have never been any major attacks. Similarly, Saudi Arabia, which is a middle-power country, equally demonstrated a high level of capacity. Therefore, since 12 May 2003, when there was a horrific coordinated suicide attack that killed 35 people by attacking three housing units in Riyadh, there have not been major terrorist attacks in Saudi Arabia. Similarly, Kenya suffered its worst terrorist attack in 2019 when al-Shabaab (AS) attacked the Dusit D2 hotel complex in Nairobi. The use of a suicide vest and the targeting of civilians were notable. However, the case in Nigeria is different, as terrorist attacks are unabated. In other words, the attacks are continual to date. In fact, it seems terrorists are challenging the capacity of Nigerian security.

Nigeria has not been able to curb terrorism. Of importance to note is that terrorism became a security challenge with the emergence of Boko Haram and the Indigenous People of Biafra (IPOB) in Nigeria. Boko Haram is an Islamic organization that has the name Jamā'at Ahl as-Sunnah lid-Da'wah wa'l-Jihād. It means a group of the People of Sunnah for Dawah and Jihad. However, it became an insurgent group with a clash between the group and Nigerian security in 2007. The then government of Yaradua cracked down on them, and their leader, Muhammad Yusff, was killed while in the custody of security men. The group retreated but regrouped in 2009. Since then, the group has become a self-proclaimed jihadist militant group based in northeastern Nigeria and also active in Chad, Niger, northern Cameroon, and Mali. In November 2013, the United States designated Boko Haram as a terrorist group. The group has claimed thousands of lives and properties of both Nigerians and foreigners.

Another terrorist group that has shaken Nigeria's security to its bone marrow is IPOB. This group was established in 2012 by Nnamdi Kanu. He also serves as one of the pioneer leaders of the group, while Uche Mefor is deputy leader. IPOB is a separatist group, as it intends to re-establish the former Republic of Biafra. Biafra broke away from Nigeria in 1967 before the Nigerian Civil War and was disbanded after losing in 1970. Since IPOB was established, several lives have been lost to the attacks of this group. It does not only target Nigerian security and properties but also attacks civilians, especially those perceived to be working for the government or working against their interests. For example, 30 people were killed on the Okigwe-Owerri road in Imo State by IPOB gunmen (Amnesty International, 2025). In a security report it was noticed that "there is an increase in conflict and bloodshed. Once one of Nigeria's more tranquil regions, the Southeast has seen an increase in violence. Given the increase in crime and security concerns in the area, the last several months have been terrible". It was said further that, "in the first five months of 2021, 63 accidents were reported, resulting in about 254 fatalities. With 101 deaths, Ebonyi State led the incidence table, followed by Imo State with 60. 33 people died in Abia State, compared to 37 in Anambra State. With 22 fatalities, Enugu finished the table with the lowest mortality count" (Friedrich, 2025; Nwagbo and Ofoke, 2025).

Terrorism in general has caused Nigeria a lot of havoc, which is not limited to loss of lives and properties, lost respect, and a good image and dignity among the community of nations. This has discouraged and dragged both local and foreign investors away from Nigeria. Successive governments have tried to combat terrorism since its inception. For instance, President Musa Yar'Adua dealt decisively with Boko Haram and put them under control. However, it reappeared in 2009 when Yaradua was sick. The then acting president, Goodluck Jonathan, equally confronted the group, but it seems the group was triumphant during his administration, as some local governments were under Boko Haram control. President Buhari, who came later, also made some efforts. He even shifted military commands to Maiduguri on the day he was sworn in. This shows his commitment to fight against Boko Haram and other terrorist groups in the region. However, what could amaze observers and students of security and strategic studies is that terrorists are still successfully staging attacks not only on civilians but also on military bases. What could have been the reason for inability to put terrorists under control? What are the clogs in the wheel of Nigerian counterterrorism efforts? These questions are begging for answers. This paper is an attempt to investigate reasons why terrorism, especially Boko Haram, has not yet been defeated despite the will to do so.

Theoretical framework

This paper makes use of Protracted Social Conflict (PSC) as a theoretical postulation. PSC was propounded by Edward Azar (1991). He links protracted violent conflicts within communal groups to their desperate need for necessities like acceptance, social recognition, and security. It also covers equitable involvement in the economy and access to political institutions. PSC theory opposes the idea that domestic and foreign politics are different and instead examines the interactions of intrastate players, including communities, tribes, and ethnic groupings. According to Agara and Ajisebiyawo (2017), a state's function in the domestic connection between intrastate actors is to either please or frustrate them. This determines whether the state averts or encourages conflict.

Protracted Social Conflict theory focuses on intra-state relationships between major actors, with Azar (1986, 1990) identifying four major variables: community content, deprivation of human needs, governance and state role, and international linkages. Disarticulation between states and racial, religious, ethnic, and cultural groups can promote tense conflicts. Deprivation of human needs, failure to address grievances, and rigid authority structures can lead to protracted social conflicts. International linkages influence the formation of domestic social and political institutions and the role of the state. Agara and Ajisebiyawo (2017) trace protracted social conflict to past experiences, fear, and belief, as well as experiences from other states. Antagonistic actions are often seen as threatening, shrinking the space for compromise and accommodation.

Protracted social conflict is appropriate for the study, especially if we are to understand why terrorism exists and persists in Nigeria. Communal content and deprivation of human needs assumptions shall apprise us of why there are protracted conflicts in the northeastern part of Nigeria and give reasons why Nigerian efforts have not yet finally put an end to terrorism despite international support and the federal government and state governments' concerted efforts.

Methodology

The research is qualitative research. It relies heavily on qualitative information, which is devoid of numeric figures and other statistical tools. It, however, makes use of both the primary and secondary methods of data gathering. For primary data, interviews are adopted to inquire about necessary

information from experts in peace and conflict, residents of the affected area, soldiers who participated in Operation Lafia Dole, and workers of NGOs working in the affected areas of northeastern states, especially Borno and Yobe. Secondary data were sourced through textbooks, journals, online documents, and documentaries. The paper uses content analysis to analyze both primary and secondary data.

Results and Discussions

In reaction to the above question, the interviewees were emphatic that these boil down to a series of factors. According to Professor Tajudeen Akanji, Director of the Institute of Peace and Strategic Studies at the University of Ibadan, Nigeria is facing serious challenges in fighting terrorism because of an inadequate legal framework. He explained that Nigeria's legal framework system is lopsided and cumbersome to the extent that there is a lacuna in the legal framework. He cited the example of the litigation problem that it is not clear yet whether the trial of the suspected Boko Haram members arrested is a duty of the federal government or the state government. Akanji laments that "if it is a federal government exclusive, there are not enough courts to try these accused within a reasonable time. Furthermore, a special court has not been created to fast-track the process. And if trial is the responsibility of state governments, states in Nigeria have little capacity to try them successively. Not only that, are you aware that some of these accused were brought to Lagos for detention and trial? In the North, the legal framework there is the Penal Code, while in the South it is the Criminal Code. Which of these legal frameworks do the states want to prosecute them with?" (Interview conducted with Professor Tajudeen Akanji on May 11, 2021). This report corroborated the findings of Human Rights Watch (2018), which also lamented the flawed trials of Boko Haram suspects.

Another identified reason for Nigeria's incapacitation to curb terrorism is the problem with the structure of Nigerian security or security architecture. Professor Akanji (2021) maintained that there is a gap between the Office of National Security Adviser (ONSA) and the Chief of Army Staff. The ONSA to the President is situated under the President's Office, but the office is not so recognized by the military as expected of them. This, according to Professor Akanji, has led to the inability of ONSA to be able to coordinate the implementation of the counterterrorism strategy. He explained further that what really played out in the field was that the military had direct contact with the president, and they gave little or no recognition to ONSA. As such, the efforts have little or no monitoring; rather, all the components that are supposed to work together in fighting against terror only work haphazardly.

The aforementioned issue was linked to a lack of cooperation among government agencies in charge of fighting against terrorists. Specifically, security agencies such as the army, police, customs, and immigration officers, as well as the civilian Joint Task Force (JTF), are not working in unison. There was little or no sharing of intelligent information. This lack of cooperation was also noticed between the military and civilians or natives. People did not give much cooperation to the MJTF, partly because of religious affinity and partly because of a lack of trust in modern government, having failed in the provision of means of livelihood for them over the years. There are even cases of giving terrorists intelligent information about Nigerian troops. Recent complaints of soldiers testify to this assertion (Ezinwa and Agbani, 2020).

An additional factor militating against the war on terrorism is Nigeria's economic issues, as explained by Professor Tajudeen Akanji (2021). He lamented that to fight against terrorists as it is expected requires spending an exorbitant amount of money. In developed economies like America and Britain, it is easier to address the conditions conducive to the spread of terrorism as prescribed by the first pillar of the United Nations Counter-Terrorism Strategy (United Nations, 2014). Unlike the American counter-terrorism strategy in Afghanistan, which consisted of combating the Taliban and feeding the masses, particularly the Northern Alliance, which provided American troops with support against their adversary, the situation in Nigeria was not the same (Relief Web, 2001). Foods were not following the bullets, and this is not unconnected with the economic status of Nigeria. "Similarly, combatting terrorists is expensive. Is it the building capacity of the military and other agencies that we would talk about? All are money-consuming". Prof. Akanji and Dr. Raji lamented.

Accentuating why it is that terrorism has not yet been curbed in Nigeria despite the will to do so, Prof. Akanji believes that there are a lot of things we have not addressed, and until we address them, terrorism cannot be defeated. Those things are economic problems, bad governance, the elimination of the middle class, and human rights abuses. This position is supported by the work of Emmanuel (2021). Akanji equally laments that the kinetic approach in fighting against terrorists is just a reactionary measure to counter terrorism and that there is a need for the government to address eight pillars of peace: low level

of corruption, sound business environment, efficient and well-functioning government, equitable distribution of resources, free flow of information, acceptance of the rights of others, high level of human capital, and good relations with labor, etc. (Vision of Humanity, 2022).

There is a document called the National Counterterrorism Strategy (NACTEST). There is little awareness about the document and what it contains. Professor Akanji lamented that a lot of stakeholders who actually have roles to play in the implementation of NACTEST are not aware of it, let alone know their expected roles. He said he even interacted with members of the National Assembly and some House of Assembly Committee Members on National Security. They admitted their innocence regarding the document. Dr. Raji Shittu also seconded this view that the government is not doing enough to bring on board all stakeholders in the fight against terrorism. Dr. Raji emphasized that the government appears to prioritize the military approach over other aspects of counter-terrorism. He also added that the government has not been able to properly define who the terrorists are and what they really want because people are still mixing the issue of terrorism up with all other insecurity issues in Nigeria. He lamented that that is the reason some people are comparing the terrorists with Niger Delta militants, bandits, ritualists, and armed robbers. Dr. Raji Shittu took a theoretical approach as well. He explained that there are some theories that try to show the importance of a non-military approach. Social theory, for instance, tells us the importance of bringing in more people to participate in counter-terrorism. The structural theory of terrorism also explains that the way a society is structured determines the nature of the crisis it experiences. An unjust society can only bring about violence, and vice versa. Biological theory also explains that human beings need guidance and counselors, and if this is not done, there is a likelihood for such human beings to be wicked. Therefore, we need religious leaders and counselors to talk to youths to deradicalize them. The work of Associate Professor Raji Shittu corroborates his stand here (Shittu, Adekayaoja, Agaku, Hamzat, 2021).

In the view of Anonymous 1 (a Nigerian soldier who participated in Operation Lafia Dole between 2015 and 2019), he lamented that the Nigerian army, in particular, and Nigerian forces are trying their best, but the onus is in the hands of politicians. He buttressed his point by saying that the government controls the force; therefore, the government's readiness to curb terrorism would greatly determine the role of the forces and their performance. Therefore, there is a need for politicians to be more committed to the counter-terrorism crusade.

Like the report of **Segun and Segun (2024) and Bolaji (2025)**, Anonymous 1 explained further that another factor affecting the efforts of counter-terrorism is the role of saboteurs among security forces. "These traitors relate information to the terrorists before an attack is made. Thus, this does not make our efforts to be successful" (Anonymous 1). Dr. Sarafa Ganiyu (a lecturer and a resident of Yola, Adamawa State) shared the same view. He explained that the choice of the Chief of Army Staff is always politicized, which always causes grudges among the military and in turn makes some soldiers justify their saboteur acts. Saboteurs are not only among Nigeria's forces but also among foreign forces. Anonymous 1 accused Chadian soldiers of aiding some terrorists. He explained:

After the creation of MJTF, Nigerian soldiers and other forces from Niger and Chad fought on the same line against Boko Haram under the command of the Nigerian commandant, but suddenly, Chadian soldiers withdrew from this cooperation and decided to guard their borders. Henceforth, attacks by Boko Haram took another dimension, causing devastation in the struggle against the terrorists. (Anonymous 1, a Nigerian soldier who participated in Operation Lafia Dole between 2015 and 2019).

Closely related to the above point is that the masses are not also helpful. Dr. Sarafa Ganiyu was the sole respondent who held this viewpoint. He believed that some civilians were harboring terrorists in their midst. According to him, some communities give intelligence to terrorists against the military. This makes it difficult for the military to overcome the terrorists. Another dimension of the role of the masses is the polarization between political parties and religions. Some people in the Northeast have supported either the ruling or opposition parties at some point. This, to some extent, determines their support for the government and military against the terrorists. Religion is another dividing factor. Dr. Sarafa Ganiyu submits that some see fighting against terrorists as a war against Islam. Consequently, they give little or no support to the government.

Another factor responsible for terrorism's failure to be curbed in Nigeria is the politicization of everything in Nigeria, including insecurity. Dr. Sarafa Ganiyu (a lecturer and a resident of Yola, Adamawa State) raised this point and explained that even right from the beginning of the Boko Haram menace, political

parties have been pointing accusing fingers at one another. He said President Jonathan, ab initio, accused President Buhari and CPC of being responsible for their attacks to make the country ungovernable for him. It took time before he took them seriously. So, the same President Buhari did not also believe that the PDP was not behind the re-emergence of terrorists and all other insecurities in Nigeria. Similarly, political parties and religions divide the military. Prof. Akanji also seconded this view that politicians always look for one way or another to discredit one another. Therefore, the persistence of terrorism in Nigeria is not unconnected with the plots of politicians.

Anonymous 1 equally complained about the level of equipment that they were/are using. He protested about the fact that Nigerian soldiers are still using those old weapons used by the 1963 N.A., which was *Fabrique Nationale Herstal*, self-identified as FN Herstal or simply FN. This personal weapon, according to him, does not work well during the rainy season or if it is affected by dust. He said, unlike the AK-47, which is water compliant and could be used anywhere, everywhere, and in any condition, even inside water. He explained further that the FN has a capacity of firing 20 rounds, but if it is affected by water or dust, it would be difficult for it to complete this process. Dr. Raji Shittu also corroborated the fact that there is a crisis of sufficient and adequate equipment for Nigerian soldiers. He equally added that they do not have enough equipment for intelligent gathering.

On the issue of collaboration among the forces in Nigeria, scholars have different views. Prof. Akanji was of the opinion that they are not doing well at all. He buttressed his position with the fact that each force is now taking credit for a job well done. He cited the example of the police and the Department of State Security (DSS), which would be looking for the same criminal but would find it difficult to share intelligent information with each other. Prof. Akanji believes that this is happening among the forces fighting against terrorism in Nigeria and is greatly affecting their performance. This stand of Professor Akanji is supported by reports from government officials, including President Isahak Daura (2024) and Nwachukwu J. O. (2024).

Contrary to this view, it was held by the soldier interviewed (Anonymous 1). He answered in the affirmative. He stated that they had real relationships and collaboration with other forces such as police, customs, immigration officers, and so on. He cited cases when customs would discover some terrorist camps, and they would notify them for prompt action. He equally added that they shared intelligent information with one another and that there was also collaboration between land, air force, and naval officers. Closely related to the above is collaboration with other countries. Dr. Raji Shittu argued that Nigeria is doing great in this area. "You will be hearing from MJTF, which is a collaboration between Nigerian forces and its laboring states in fighting terrorism." States like Chad, Niger, and Cameroon are cooperative with Nigeria. The US is also helpful. The only challenge in getting US assistance is the issue of human rights violations. Once that is improved, the US is ready to improve its support in fighting terrorism" (Dr. Raji Shittu).

Moreover, apart from the points raised by interviewees above, the submission of Mr. Ibrahim Jumu'at (a staff member of the Danish Refugee Council (DRC), a non-governmental organization taking care of victims of terrorism in the North-East) is that terrorism and counter-terrorism have been turned into business. Terrorists have seen it as a means of livelihood. Some youths have seen the government as unserious, only ready to take care of them when they engage in violence. The same is true of so-called counterterrorism. He lamented that those stakeholders in counterterrorism have turned it into a business, which they would never expect to come to an end. He explained further that the government would not like it to end because of the money the government is gaining from NGOs who pay exorbitant amounts of money as tax to the government. This money is likely realizable from companies' taxes or whatsoever. The military too would prefer to keep the war going because of the special benefits some stakeholders among the military enjoy from the war. Only young military men are suffering and dying from the process. Communities are also benefiting from the process. While some are collaborating with the terrorists and getting richer from the process, others are benefiting from the government for empowerment or from NGOs for empowerment or employment. These people see the crisis as beneficial to them, and it must not just end so soon.

From the points raised by scholars and stakeholders in the war on terrorism, one could conclude that terrorism is yet to be put under control in Nigeria, unlike America and European countries, because there are still legal, economic, social, political, and structural problems in Nigerian society; a gap between the office of NSA and the military; the government concentrated more on the military approach and neglected the civil aspect of counterterrorism; there are many saboteurs among the soldiers; equipment used in

fighting terrorism is inadequate and substandard; and stakeholders have turned counterterrorism into business.

Conclusion and recommendations

As soon as terrorism emerged, counterterrorism strategy equally emerged. The global war on terrorism started in recent times in the United States after the attacks on the World Trade Center. Both developed countries like Britain and developing countries like Kenya are making efforts to fight against terror. Nigeria equally swung into action and demonstrated its commitment to putting an end to terrorism. Several efforts were put in place, ranging from police actions and reactions to military involvement in operations, joint task forces among Nigerian forces, and collaboration with other states in the neighborhood. NACTEST was also launched in 2016 by President Muhammadu Buhari and was given the political will it deserves. This is noticed from his body language and policies and his command to shift army headquarters to Maiduguri. Despite these efforts, the menace of terrorism still persists. This paper has investigated the possible factors responsible for these challenges.

From our findings, Nigerian counter terrorism effort is as effective as its capability as developing country. It has successfully uprooted the terrorist from areas they had previously occupied. It has also succeeded in sending them away from Sambisa Forest. However, terrorists are still engaging in guerilla war. They have also resulted to kidnaping, suicide bombing, and sporadic attacks. These attacks have challenged earlier victory announced by the government. Could we just say that defeat on terrorist Boko Haram declared by previous government and recent one is not sustainable. This problem of unsustainability is not unconnected with following challenges: firstly, there is a fundamental problem of dichotomy between the office of National Security Adviser and the military. This gap really created vacuum in efficient fight against terrorists. Secondly, corruption which has eaten deep into the fabric of Nigerians is still reflecting in fighting against terrorism in Nigeria. It has been discovered from the work that many stakeholders have turned war against terrorists into business. Literatures consulted and all the interviewees unanimously identified corruption as a major reason for the persistence of terrorism in Nigeria. Either military, politicians, contractors, or civil societies, many of them were suspected to be guilty of this menace. Also, some interviewees identified equipment. Soldiers that were interviewed stressed the role of insufficient and substandard weapons in reversing victory over the terrorists. Another challenge is that the terrorist outfit had changed from local to international as they had connected with other international terrorist groups in sub-Saharan Africa. Thus, the Nigerian government should strengthen its strategy in the area of collaboration with other states since the level of Nigerian cooperation with other nations has determined her level of achievement. Moreover, there is a challenge of inadequacy in the provision of needed social amenities, which could assist in curbing crime in the affected part of Nigeria. Only stability of electricity supply can go a long way to combat terrorism and crime-related issues. Next is the nature of the socio-political and economic structure of the country, which was also identified by scholars that were interviewed and some literature. In tandem with Protracted Social Conflict, it has been argued that terrorism triumphs in an unjust environment. Finally, it has been mentioned that many Nigerians are not patriotic enough to fight against terrorism, as some still connive with them against the Nigerian state; even some security men are not exonerated from this heinous act.

Since terrorism is a social menace, scholars have argued that it can never be eradicated. However, it could be curbed if adequate steps are taken. Hence, this paper recommends that corruption should be reduced to the nearest minimum in Nigeria. It is often said that it is either we kill corruption or we allow corruption to ruin our dear nation. Before corruption finally ruins this country, it is better to be controlled. Since the impact of corruption on keeping terrorism flourishing is high, there is a need to curb corruption to allow for curbing terrorism as well. The lamentation of the military and all other concerned Nigerians is the state of weapons being used by Nigerian forces while terrorism uses superior weapons. It is therefore needed to recommend the provision of necessary equipment for MJTF so that this war can end as soon as possible. The world has become a global village. This fact has been exploited by the terrorist by networking with other terrorist groups in the world. What then disturbs Nigeria to also form alliances with other nation-states in the world to end this menace? Cooperation with foreign countries in terms of intelligent information sharing, training and strategy, and access to modern equipment should form the basis for the cooperation.

Fighting terrorism is quite expensive; hence, there is a need to seek financial support from the United Nations and developed countries as well. In advanced countries where crime and terrorism are adequately combated, there are adequate social amenities. These amenities make it easy for them to detect crime and criminals at ease. Provision of needed social amenities in Nigeria will go a long way to curb terrorism in

Nigeria. These amenities include, but are not limited to availability of good roads, electricity, crime-detective gadgets, satellites, etc. A good road, for instance, can make road users move at a speed that could ensure their safety. Restructuring the socio-political and economic structure of the country is another crucial suggestion. Nigeria's structure presently is made in such a way that few benefit from the wealth of the country. There is an urgent need to restructure Nigeria to allow even development. Resources in the nation are more than enough to cater for everyone's needs if properly managed. Then the idea of using youths for political gains and afterward dumping them should stop. Political structure should be restructured in such a way that people's mandate is not robbed by desperate politicians, as is shown in the formation of Boko Haram. Reorientation for people to be patriotic should be taken with high esteem. The above point has made some people feel unpatriotic. It is quite disheartening that some Nigerians still act as saboteurs, giving terrorists information about Nigerian soldiers' movements. This is a high-level unpatriotic act. This has to change. The issue of reorientation has to be total and general since this ailment is felt all around the country. Vandalization of the state's properties, killing of security men, and agitation for separation and secession are all products of a lack of patriotism and loyalty to the Nigerian state. Finally, there is a need for total compliance with global templates, especially in the area of human rights. The reason being that no one could have any justification to perpetuate any terrorist act in the future.

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‘Democracy’ As Gateway to Resource Conflicts: Democratic Changes, External Powers, and Political Instability in Sudan

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Abstract

Sudan's transition to democratic rule has been put to test. One of the offshoots of some difficult years of political instability is the clash between the Sudanese military led by General Abdel Fattah al-Burhan and the paramilitary Rapid Support Forces (RSF) headed by General Mohamed Hamdan Dagalo. This reinstates Sudan as important playground for external powers as they exert their strategic influence and control over Sudan's critical infrastructures, including gold mining, oil exploration, maritime ports and trading routes to the Red Sea and Gulf of Aden. The qualitative methods of data collection and analysis were used to interrogate the activities of some external powers such as the United States of America, China, and Russia. Contrary to prevailing views, we show that changes in democratic practices in Sudan legitimize and improve external control of local resources, and not the experience of political instability itself. Political instability in Sudan primarily manifests as a symptom of resistance to new democratic changes – although it further improves and complements the interests of external powers. We emphasize the need to entrench more popular democratic principles and values, provide security, and facilitate peacebuilding processes in order to address the crisis and reduce external foothold in the country.

Keywords: Democracy, external power, regime change, oil exploration, gold mining, Military-Rapid Support Forces

Introduction

Guaranteeing the implementation of democratization via successful elections, declaration of results and consolidation of democracy, has been the hampering issues in developing countries particularly in Sudan over its history of dictatorship, military coup, Omar al Bashir leadership crisis, and ongoing clash & political instability between the Sudanese military led by General Abdel Fattah al-Burhan and the paramilitary Rapid Support Forces (RSF) headed by General Mohamed Hamdan Dagalo (ACLED, 2024; Verhoeven, 2023; African Centre for Strategic Studies, 2024; Basher, 2023). Sudan's transition to democratic rule has been put to test due to the prevailing contradictions of colonialism, coup d'etate, power struggles & clash of elite's interest, ethnic and religious domination, securitization and drafting of Janjaweed into Rapid Support Forces by President Bashir regime, major powers interest and influence on its strategic resources access and exploitation (Verhoeven, 2023; ACLED, 2024; Loanes, 2023; ACLED, 2023; Akua, 2023; Bashir, 2023; Al Sharif, 2023; Aljazeera, 2019; Alneel, 2023; Basher, 2023; Copnall, 2023; Human Right Watch, 2023; Bociaga, 2023; Claire, 2023). Republic of Sudan witnessed 16 failed and successful coup attempts since its independence (Ali, 2023).

The forgone challenges in the republic of Sudan, has made the quest of enthroning viable democratic governance as an exercise in futility due to multidimensional interest of major powers in the country (Yeranian, 2023; Sudan Tribune, 2024; ~~Reboua~~, 2023). The demands for democratic rule in African countries have been addressed by the reputable scholars, governance experts and practitioners in democratization of governance (Huntington, 1991; Ake, 2003; 1996; Osaghae, 2002; Asobie, 2007; Umezurike, 2019; Ntanyoma, 2022; Pankhurst, 2024).

The conceptualization of democracy and its developmental promises have been defined by scholars and experts from different perspectives (Huntington, 1991; Ake, 2003, 1996; Diamond, 2002). Abraham Lincoln defined "Democracy" as "government of the people, by the people and for the people". The definition gave by Lincoln has been criticized by some scholars. Ake (2003; 1996) argue that viable democratic rule transcends into good governance and development in African countries but has been undermined by political legacy of colonialism, postcolonial situations of increased premium of political power and intensity of political competitions of the governing elites, security establishment and opposition monitoring, clamping down of aggrieved masses by state security forces, interest of external powers orchestrated by international organizations such as World Bank, International Monetary Fund activities in developing countries. The aforementioned dilemma has put the feasibility of democratic rule into test over the needs and aspirations of the masses in developing countries (Offiong, 1980; 2001). These

internal and external contradictions observed above retrogressed democratic rule in the Republic of Sudan.

Though political repression and instability in Sudan had existed before, the recent outbreak of power struggle that resulted into political instability began in April 15th, 2023. The power struggle in Sudan was linked from Sudanese Armed Forces (SAF) clash against the Paramilitary group of Rapid Support Force (RSF) led by General Abdel Fattah al-Burhan and Mohamed Hamdan Dagalo (known as Hemedti) in the capital Khartoum. The political violence has retrogressed the democratic rule of Sudan with escalated deaths of civilians, increase of humanitarian crisis of women and children. This development has made the United Nations Organization to declared the ongoing clash as the worst humanitarian crisis in history with disappointing backward of democratic rule in Sudan (United Nations High Commissioner for Refugees, 2024). An estimated 25 million Sudanese needed humanitarian assistance and protection since the eruption of the conflict. An estimated 1.5 million Sudanese have fled across Sudan's borders into Central African Republic, Chad, Egypt, Ethiopia, Eritrea, South Sudan and poses danger to regional security of the central and Eastern regions.

The consistency of the conflict has created one of the world's largest displacement and protection crises with nearly 18 million people facing acute food insecurity, damaged water supply networks, health facilities out of service in conflict-affected states and other critical civilian infrastructure in the Republic of Sudan (Armed Conflict Location & Event Data, 2023). Recently, Armed Conflict Location & Event Data (2024) reports of 17th August to 6th September, 2024, estimated that the eruption of the armed conflict between the Sudanese Armed Forces (SAF) and paramilitary Rapid Support Forces (RSF) from 15th April 2023, recorded over 7,623 events of political violence and more than 23,015 fatalities in the Republic of Sudan. Glaringly, political violence was recorded in Khartoum and North Darfur states during the reported period with 149 and 57 events and 117 and 163 reported fatalities, respectively (para.1-3). These events include explosions/remote violence, with 175 events recorded, and followed by battles with 67 events in the places of Khartoum, Omdurman, Southern Kordofan, Western Kordofan and Northern Darfur city of El Fasher (Armed Conflict Location & Event Data, 2024; Armed Conflict Location & Event Data, 2023). The conflict has instigated numerous deep-seated issues such as human rights violations, protection and access of mineral resources by major powers, marginalization of minority groups, concentration of power and wealth in Khartoum, the expanding political and economic role of the army and paramilitary groups, and pervasive poverty and underdevelopment in the Republic of Sudan (Alneel, 2023; Hamzawy, 2023).

In April 2019, the Former President of Republic of Sudan, Omar Al Bashir regime was ousted of power by the combination of Sudanese Armed Forces (SAF) and the Rapid Support Forces (RSF) carried out by General Abdel Fattah al-Burhan and Mohammed Hamdan Dagalo (Hemedti) due to high handedness for asserting himself with intent of prolonging his leadership as the President, discriminatory policies against the Darfur inhabitants and harsh economic realities including high cost of bread (Aljazeera, 2019). The authoritarian character of Al Bashir regime, reignited the civilian population protest that deposed him out of corridor of power with the military in support (Verhoeven, 2023, Barany, 2011). After the military coup d'état that ousted President Omar Al Bashir in April 2019, civil society groups and Sudanese population advocated for democratic rule with transitional government headed by Abdalla *Hamdok* Al-Kinani who served as the 15th Prime Minister of *Sudan* from 2019 to 2021. Prime Minister's transitional government of Abdalla *Hamdok* Al-Kinani awaits and prepares for the conduct of democratic elections, was booted out of office on October 25th, 2021 by the Sudanese Armed Forces and the Rapid Support Forces (RSF) over the control of political power (Copnall, 2023). The military forces taking over power for themselves have been experienced in the past with the series of military takeover of political power that have undermined the phase of democratization in the Republic of Sudan (Verhoeven, 2023, Nwabueze, 1993). The ongoing Sudanese crisis with the emergence of the two rival generals repeatedly undermines the country's democratic transition in pursuit of their political interests (Copnall, 2023). In view of the above, they have stymied, impeded the democratic aspirations of millions of Sudanese, deepened the country's economic contraction, and heightened Sudan's vulnerability to the influence of external powers (Siegle, 2023). The strategic interest and influence of external powers in Sudan include crude oil explorations, maritime domain resources, gold mining and significant resources that are observed around the country. These external powers include the United States of America, China, Russia, and others (Carlson, 2023; Obeid, 2024).

The armed conflict that emerged from the clash of Sudanese Armed Forces and Rapid Support Forces, received widespread demonstrations, denounce of military rule and violent clashes between demonstrators

and security forces in Khartoum and Omdurman cities, have raised political tension in Sudan. These demonstrations in major cities of the country have resulted into casualties and damage to basic infrastructure such as road blockages, communication blackouts, forced displacement of populations and increase of cases of humanitarian crisis. The military takeover and conflicts have led to the suspension of international financial aid in Sudan, aggravating its deteriorating economy and contributing to high inflation rates (ACAPs, 2023). Basher (2023) argues that the inability of the Sudanese State to perform its fundamental functions of protecting the security of lives and properties of the Sudanese and foreigners from the first day of the clash, exacerbated the human cost of the conflict with possession of huge amount of military equipment's, deaths of civilian population, increase hunger and poverty. Other consequences of the armed conflict, in the words of Basher, *"the war will lead to millions of people in urban areas losing their jobs and fleeing of tens of thousands of Sudanese and foreigner to safe cities"*. The continuation of the clash increases the number of internally displaced persons that will be difficult to estimate the number of persons displaced. Al Sharif (2023) recounts the causes of the current armed conflict in Sudan in explaining the involvement of the Sudanese Army Forces (SAF) and the Rapid Support Forces (RSF) that includes the existence of deep differences between two security outfits in respects to framework agreement reached in 2022. Al Sharif argue that the civilian populations involved in the political process were on the opinion that supporters of the former regime (President Omar Al Bashir) played a critical role in fueling the clash, as handing over power to civilian administration through election constitutes a threat to their activities. High cost of economic activities, humanitarian crisis, regional and international intervention complicate the security situation of Republic of Sudan if not handle very well. Cafiero (2023) highlights the regional implication of the armed conflict to Republic of Sudan neighbors, Egypt in respect to displaced population emergence from the conflict. The armed conflict presents a potential opportunity for Egyptian President Abdel Fattah El-Sisi to position himself as a regional leader with unwavering support for Sudan Armed Forces and been viewed by Rapid Support Forces (RSF) as an imminent threat to its prominence and Sudan's national security (Loanes, 2023; Copnall, 2023; Obeid, 2024).

The primary target of this paper titled **'Democracy' As Gateway to Resource Conflicts: Democratic Changes, External Powers, and Political Instability in the Republic of Sudan** examine the country's quest for democratic rule in the wake of the evolving clash between the Sudanese Armed Forces (SAF) and the paramilitary Rapid Support Forces (RSF) carried out by General Abdel Fattah al-Burhan and General Mohamed Hamdan Dagalo with external powers interest and influence in Sudan. The paper consists; the introduction, Conceptual clarification, theoretical framework, study context and methodology, analysis of the organized themes, conclusion and recommendations.

Conceptual Clarification

Examining the issues that have made democratic rule not democratizing in Republic of Sudan are critical in clarifying these concepts in the context of the paper. Concepts such as Democracy' as Gateway to resource conflicts in Sudan, Democratic Changes in Sudan, External Powers in Sudan and Political instability in Sudan are pivotal to this paper. A clarification of their meanings are fundamental since most users of the concepts simply take the readers' understanding of them for granted, even when these concepts can mean different things to diverse readers.

Democracy' as Gateway to resource conflicts in Sudan

Democracy' as Gateway to resource conflicts in Sudan implies western countries and international community clamoring for institutionalization of democracy in Sudan after many of military rule and autocratic government of Omar al Bashir. The call for democracy in Sudan escalated the interest of major powers that fosters their influence for access and exploitation of strategic resources including gold mining, oil exploration, maritime ports and trading routes to the Red Sea and Gulf of Aden. The major powers are predominantly the United States of America, China and Russia. On the 15th of April, 2023 began the armed conflict in Sudan. This development escalated Sudanese Armed Forces (SAF) and the Rapid Support Forces (RSF) control by General Abdel Fattah al-Burhan and Mohammed Hamdan Dagalo (Hemedti) power struggle over the control of state power with external control of strategic resources that include gold mining, oil exploration, maritime interest of port of Sudan and trading routes to the Red Sea and Gulf of Aden. This have raised serious issues over the clash among the two actors in respects to humanitarian crises including forced migration, displacement of population and increased state fragility of Republic of Sudan (Knopf, 2018; Grävingholta, Ziaja & Kreibaum, 2015; Grimma, Lemay-Hébertb,

& Nay, 2014; Tounsel, 2023; Sternehäll, 2016; Ware & Ware, 2014; World Population Review, 2023; Ziaja & Fabra, 2010; Okafor, Ononogbu, Ojimba & Ani, 2023). Thus, Democracy⁷ as Gateway to resource conflicts among major powers in Sudan necessitated the clamour, protest and support of Republic of Sudan by the civilian population protest, civil society organizations (CSOs), non-governmental organizations (NGOs), International organizations support for democratic rule to be instituted through the corridors of conducting election after series of military rule.

Rogers (2023) argued that competition for strategic resources by major powers within the existing armed conflicts in Sudan, have relegated hope for democracy into non-existence. Competitions for stakes in resource-rich Sudan, renders hopeless insights for democracy reign in the country. Armed Conflict Location and Event Data (2024) observed that after a year of Sudan Armed Forces and Rapid Support Forces clashes in 2024, contestations of political power by the two military rivals for the purpose of securing its strategic resources, intensified. This development has setback the path of democratic transition. The intensity of the armed conflict was escalated by Sudan Armed Forces and Rapid Support Forces in support of major powers over the disagreement of transition to democracy, which in turn instigates forced migration and displacement of massive population to other neighbouring countries with Sudan (Stigant, 2023; Zambakari, 2023; Medani, 2024).

The statement of the agreement over the transition to democratic rule by the two rival security forces, the interest of foreign powers accommodation by the two forces in Sudan, becomes critical in this paper (Verhoeven, 2023). United states, Saudi Arabia, Egypt collaborate with Sudanese Armed Forces (SAF) by General Abdel Fattah al-Burhan while Rapid Support Forces (RSF) headed by General Mohamed Hamdan Dagalo, have affinity with Russia, China and United Arab Emirate (Cafiero, 2023). Gadzo and Jamal (2023), at least 528 people have been killed and 4,599 wounded in the conflict since it started on April 15, 2023. Escalations of the conflict has mounted hundreds of people been killed and thousands injured, with more than 300,000 Sudanese displaced from their homes. The conflict has prompt regional and international intervention in the republic of Sudan because of the complication and prolong of the armed conflict.

Democratic Changes in Sudan

Republic of Sudan's democratic changes from the antecedent has been distorted by the past regimes of Presidents: Colonel Gaafar Nimeiry and Colonel Omar al Bashir from 1962 to 2019 (Johnson, 2023; Tounsel, 2023). Sudan was riddled with military coup d'etec, sponsoring of terrorist group (Osama Bin Laden's Al Qaeda Network) and inter-state confrontations with DRC, Uganda, Rwanda, among others. Democratic rule was not in existence in Sudan (Ottaway & El-Sadany, 2012).

Armed conflict erupted into civil war in 1962 through the emergence of Colonel Gaafar Nimeiry. He was ousted by Colonel Omar Al Bashir in 1989. The 2004 Darfur crisis erupted that sparked a struggle over resources and identity (De Waal, 2019; Johnson, 2023; Verhoeven, 2023; Tounsel, 2023). The dominant government of Khartoum control by Arab-Muslim and the warring militia in Southern Sudan reached an agreement to allow Southern Sudan self-determination through a referendum in 2011 in which Southern Sudanese people largely voted for an independent South Sudan, achieved on 11th July, 2011 (Verhoeven, 2023). Many Sudanese population became aggrieved with Omar Al Bashir regime due to autocratic rule, brutal repression, military dictatorships, political polarization, enthronement of sharia law over the Southern Sudan region occupied by Christian faithful's, consistence of corruption and laxity of leadership administration and backing of Osama Bin Laden's Al Qaeda, which United States of America and its allies perceived Sudanese government as state sponsors of terrorism and safe haven enclave (Jones, 2024).

On December 19, 2018 due to sit tight leadership and control of power without sustainable governance for the Sudanese by President Omar Al Bashir, civilian population of Sudanese protested. The massive protest and revolution shifted the political power of Al Bashir in Sudan with the continuation of sustained civil disobedience that lasted eight months, which led to 2019 Sudanese military coup that deposed President Omar al-Bashir on 11th April, after thirty years of autocratic rule (Hoffmann, 2022).

On October 25th, 2021, Sudan's military seized power, dissolving the transitional government hours after troops arrested the Prime Minister Abdulla Hamdok, and thousands of Sudanese flooded the streets to protest the coup that threatened the country's shaky progress of democratic rule (Magdy, 2021). The two Generals of Abdel Fattah al-Burhan and Mohamed Hamdan Dagolo (known as Hemeti) have initially co-existed in partnership for more than three years due to their mutual interest in maintaining power and slowing Sudan's transition to democratic rule. Subsequently, political tensions heightened the relationship

between the Sudan Armed Forces (SAF) and Rapid Support Forces (RSF) over disagreement of drafting Rapid Support Forces into Sudan Armed Forces and number of years for transitional government existence (Claire, 2023; Soliman & Hassan, 2023).

According to Bociaga (2023), none of the two Generals wanted a real civilian-led government. The two Generals of Abdel Fattah al-Burhan and Mohamed Hamdan Dagalo previously joined forces in October 2021 to stage a military coup and clamped down brutally on Sudan's revolutionary movement that were struggling for democracy. They turned their guns on each other (Alneel, 2023).

External Powers

Republic of Sudan are endowed with strategic resources such as gold mining, oil exploration, maritime ports and trading routes to the Red Sea and Gulf of Aden. These strategic resources make Sudan attractive to external powers such as the United States of America, China, and Russia. These strategic resources have raised Sudan as important playground for external powers as they exert their strategic influence and control over Sudan's critical infrastructures, including gold mining, oil exploration, and maritime ports and trading routes to the Red Sea and Gulf of Aden. Though the foundational memories of Republic of Sudan have been distorted by military coups, war and resources conflict (De Waal, 2019; Verhoeven, 2023), the recent political instability in Sudan escalated on the April 15, 2023, between the Sudanese Armed Forces (SAF) and paramilitary Rapid Support Forces (RSF). The security forces are organized by Generals Abdel Fattah al-Burhan and Mohamed Hamdan Dagalo (known as Hemedti). The escalation of political conflict resulted to instability that undermined the chances of the Sudanese entering into democratic rule. The hostilities of the conflict crept in aftermath the failure of agreement between Generals Abdel Fattah al-Burhan and Mohamed Hamdan Dagalo that negotiated a transition from military to civilian-led government and a timetable for integration of Rapid Support Forces (RSF) into the Sudan Armed Forces. The rising tensions between the two actors escalated not within the Sudan but beyond (Loanes, 2023). The two actors of security forces (Sudanese Armed Forces and Rapid Support Forces) are battling for control of the country and its strategic resources (Alneel, 2023). The Sudanese army's capability is bolstered by its air force and supported by battle tanks, armoured infantry vehicles and seizure of several bases held by the Rapid Support Forces (Carlson, 2023). The Rapid Support Forces, originally established as an unofficial military force called Janjaweed during the President Omar Al-Bashir regime to fight against rebel groups in Darfur in 2004. The Rapid Support Forces (RSF) "Janjaweed" were incorporated into the security system of the country armed forces. The Rapid Support Forces (RSF) were founded by Mohamed Hamdan Dagalo and his brother with great authority in running this force over strategic resources of gold mining in Darfur region and its securitization.

Other agreement includes setting gradual mechanisms for command and control to eventually achieve a unified and professional military. The agreement began with the unification of leadership, followed by the unification of the staff ranks, then the command of regions and divisions, over a period not exceeding ten years (Al Sharif, 2023). The major striking issues that erupted the conflict between the two forces include the allocation of superiority of the Sudanese Armed Forces by Gen. Abdel Fattah al-Burhan over Rapid Support Forces (RSF), headed by Gen. Mohamed Hamdan Dagalo which the leader and forces of Rapid Support Forces (RSF) refused to accept. Other issues in terms of expansion of the two forces, control of gold mining and uranium in Darfur region, recruitment and possession of arms were seriously disagreed and contested by the two rival forces.

Political Instability in Sudan

The political instability in Republic of Sudan has escalated humanitarian issues of internally displace persons, forced migration beyond Sudan into neighboring countries of Egypt, Chad, South Sudan, Ethiopia, Eritrea, Libya, and Central African Republic. The armed conflict and political instability have affected the central and eastern region of Africa. United Nations has estimated that over 1.2 million people have been internally displaced while roughly 425,000 have fled to Egypt, Chad, South Sudan, Ethiopia, Eritrea, Libya, and Central African Republic (CAR). The above countries are also struggling with their respective internal and regional security threats. The United Nations estimated that 25 million people are in need of humanitarian assistance which United Nations High Commissioner for Refugees also warned that 800,000 persons could flee Sudan republic because of the armed conflict between the Sudanese Armed Forces (SAF) commanded by General Abdel Fattah al Burhan and the Rapid Support Forces (RSF) headed by General Mohamed Hamdan Dagalo (African Centre for Strategic Studies, 2024). Strategically,

most of the surrounded countries and beyond with Republic of Sudan are affected by the ongoing armed conflict (African Centre for Strategic Studies, 2024; United Nations Migration, 2023).

The political instability in Sudan, generated into regional forced migration. **In Egypt**, United Nations High Commissioner for Refugees observed that Egypt has been a major route for Sudanese refugees escape from Khartoum with an estimated population received from Egyptian Authority of 175,565 people. **In Chad**, an estimated 115,000 Sudanese have crossed the border into Chad and tens of thousands more are expected. Chad already hosts almost 600,000 refugees, 400,000 of which are from Sudan's Darfur region. Chad has estimated 400,000 internally displaced persons due to its own instability (United Nations Migration, 2023; African Centre for Strategic Studies, 2024). **In South Sudan**, an estimated 80,000 Sudanese refugees are reported to have crossed back into South Sudan, along with 2,439 thousand Sudanese and 2,593 other migrants and refugees from different countries. With civil war in South Sudan after a decade of its independence, the country has been impeded with an estimated forcefully displaced population of 2.2 million as internal displaced persons and 2.3 million as refugees. An estimated 810,000 had fled to Sudan while remaining 8 million South Sudanese displaced in internally (African Centre for Strategic Studies, 2024; United Nations Migration, 2023). An estimated 7.8 million are facing acute food insecurity including 43,000 facing famine as a result of the armed conflict. South Sudan remains in a state of persistent crisis (Okafor & Odigbo, 2017; Tounsel, 2023). **In Ethiopia**, host the third largest community of refugees in the East African region (after Uganda and Sudan) with almost 900,000 persons. Ethiopia has since 2020 been embroiled in internal conflict, primarily involving the Tigray region, which borders Sudan. The number of internally displaced in Ethiopia was estimated around 3 million persons. Ethiopian population of 20 million persons face food security. Ethiopian refugees in neighboring countries total close to 145,000 persons (Human Rights Watch, 2023). **In Central African Republic**, more than 10,300 Sudanese have fled into the country. They were joined by more than 3,400 refugees from CAR who had previously escaped the fighting between the state and non-state armed groups in Central African Republic. Thus, 500,000 Central Africans are internally displaced and 750,000 have fled conflict into neighboring countries, including more than 24,000 into Sudan (Basher, 2023). **In Libya**, more than 1,200 people have managed to cross the remote Libya border. Libya has long been a key transit country for migrants and refugees fleeing conflicts and repression from the Western Sahel and other parts of Africa. An estimated 667, 440 migrants are in Libya, many of whom are subject to abuse by human traffickers. Libya has been facing an extended political conflict as militias linked to the Eastern-based warlord, Khalifa Haftar, that has repeatedly tried to undermine and overthrow the UN-backed government in Tripoli. **In Eritrea**, there are few Sudanese refugees fleeing to Eritrea. An estimated 3,500 Eritreans were forcibly repatriated to Eritrea. More than 336,000 Eritreans have escaped the country of 3.6 million.

Theoretical Framework

There are numerous theoretical framework that can serve in the analysis of the ongoing crisis in Sudan. First, is resource curse theory (De Waal, 2019, Voehoeven, 2023; Knopf, 2018) that discusses that most developing countries including Sudan are endowed with huge strategic resources but there are poor use of the fund or proceeds received from the sales of the resources due to corruption and rent seeking behaviours of their leaders and cronies. The use of these resources retrogressed the development of these countries turning it as a curse. Second is the state fragility theory (Grävingholta, Ziaja & Kreibbaum, 2015; Grimmer, Lemay-Hébert, & Nay, 2014; Sternehall, 2016; Ware & Ware, 2014; Ziaja & Fabra, 2010; Okafor, Ononogbu, Ojimba & Ani, 2023) asserts that legitimacy crisis and failure of leadership, make countries leadership to perform poorly in security of its people.

In respect to the paper, we adopted Great power rivalry theory which propagates intense resources competition among the major power in Sudan including U.S.A, China and Russia over gold mining, oil explorations and utilization of Port Sudan towards exporting these strategic resources to their respective countries that sails through Red Sea and Gulf of Aden. The theory of Great Power Rivalry was developed by John Meirsheimer and Mathew Koenig in 2000's. Great power competition refers to the rivalry between major world powers, often involving competition for influence, resources, and power in the international system. This competition can manifest in various forms, including military, economic, and political competition, especially in civil war or armed conflict in developing countries.

Study Context and Methodology

The study context of the paper focused on the outcome of political violence that resulted to armed conflict between the Sudanese military led by General Abdel Fattah al-Burhan and the paramilitary Rapid Support

Forces (RSF) headed by General Mohamed Hamdan Dagalo on April 15th, 2023. The qualitative methods of data collection and analysis were used to interrogate the activities of some external powers interest in Sudan. The external powers are: U.S, China, and Russia.

The armed conflict resulted to violent clashes between the Sudanese Armed Forces (SAF) and the paramilitary Rapid Support Forces (RSF) in Sudan with increase displacement of more than 10.2 million people, including internally displaced people (IDPs), asylum seekers and refugees (United Nations High Commission for Refugees, 2024; Jones, 2024). Relatedly, more than 7 million people are internally displaced, nearly 2 million have fled to neighbouring countries and 25 million population are in dire need of humanitarian assistance with over 20,000 people killed since the war began in April 15th, 2023 (Darwich, 2024). The displaced populations need humanitarian assistance and protection from extreme shortages of food, water, medicine, fuel and more than half of the population (25.6 million) facing acute food insecurity, with 8.5 million of them at emergency levels.

Aftermath of the ousted of long-time authoritarian leader Omar al-Bashir in 2019, there was great optimism for a return to democratic rule in Sudan. Aftermath of the military coup two years on 25th October 2021, led to dissolve of the transitional civilian government of Prime Minister Abdalla Hamdok that triggered political and economic turmoils that reignited armed conflict in Sudan with external powers interests (United Nations High Commission for Refugees, 2024). The conflict forced many Sudanese to flee their homes with more than 10.2 million Sudanese been displaced and more than 7.9 million internally displaced persons within Sudan and 2.1 million people fled to neighboring countries. The armed conflict manifest huge political violence between Sudanese Armed Forces (SAF) and the paramilitary Rapid Support Forces (RSF) in Sudan that deprived millions of Sudanese children of an education, with the total number of children are out of school reaching 19 million children. More than 7.4 million Sudanese children do not have access to safe drinking water and nearly two million are in urgent need of lifesaving vaccines (United Nations High Commission for Refugees, 2024).

Abdel Fattah al-Burhan of the Sudanese Armed Forces (SAF) and Mohamed Hamdan Dagalo known as “Hemedti” of the paramilitary Rapid Support Forces (RSF) warring parties have since been accused by United Nations of crimes against the Sudanese and immigrants. United States of America, Egypt and Saudi Arabia support the Sudan Armed Force (SAF) coordinates by General Abdel Fattah al-Burhan while Russia, China, Iran, United Arab Emirates (UAE) supports General Mohamed Hamdan Dagalo known as “Hemedti” of the paramilitary Rapid Support Forces (RSF) through investments and Russia’s Private Military Corporation (PMCs) Wagner Group (Jones, 2024; Russo, 2024). Republic of Sudan is surrounded by major arms-trafficking hubs. Weapons and ammunition are smuggled via Libya, Chad and the Central African Republic. Countries such as United Arab Emirates and Iran are funding the war/armed conflict through these countries (Darwich, 2024; Obeid, 2024).

Analyzing the organization of themes of the paper

The clash between the Sudanese military led by General Abdel Fattah al-Burhan and the paramilitary Rapid Support Forces (RSF) headed by General Mohamed Hamdan Dagalo intensified with the fears of a return to civil war. The armed conflict was a power struggle between General Abdel Fattah al-Burhan and General Mohamed Hamdan Dagalo. The two factional security forces battle one another for control of the Sudan state and its critical infrastructures including gold mining, oil exploration, maritime ports leverage and trading routes to Red Sea and Gulf of Aden.

The armed conflict refers to as civil war (Global Conflict Tracker, 2024) have deepened the declining of Sudanese humanitarian conditions, diminish of the promise of a long-awaited democratic transition in Sudan. Due to failure by the two factional security forces to implement the December 2022 deal of laying the groundwork for a two-year transition to civilian leadership and national elections (Abdelaziz & Eltahir, 2021), instigated violent crackdown on protesters in Sudan. The major standpoint of December 2022 deal includes the elevation of Rapid Support Forces’ (RSF) General Mohamed Hamdan Dagalo equal to Sudan Armed Forces (SAF) chair by General Abdel Fattah al-Burhan, making Dagalo no longer the General Burhan’s deputy.

The integration of the RSF into Sudan’s legitimate armed forces, placement of the SAF and the RSF under incoming civilian leadership. The deal failed to specify a deadline for the Rapid Support Forces’s integration into the Sudan Armed Forces. The challenge of the deal has been traced from the divergent perspectives of the two factional security forces. General Abdel Fattah al-Burhan insisted upon a two-year process, while General Mohamed Hamdan Dagalo (known as Hemedti) proposed a ten-year timeline. The struggle for Sudan state’s power and its strategic

resources by the two factional security forces, escalated tensions over the RSF's role, its relationship with the SAF, and the future of both forces as subordinates of an elected government. These individual interest and internal contradictions, made them (General Burhan and Dagalo) to miss an early 2023 deadline to determine conditions for the agreement's implementation. The December 2021 deal was held in Jeddah, Saudi Arabia in collaboration with United States of America, Egypt, and other countries. This development has derailed the Republic of Sudan's transition to democracy (African News, 2023).

Apart from the escalation of armed conflict by the two rival security forces with an unprecedented battle for control of Sudan's resource-rich heritage, Generals Burhan and Dagalo vowed not to negotiate or cease fire despite mounting global diplomatic pressure. The two General sent tens of thousands of troops deployed not only in the capital of Khartoum, but across the strategic locations in Sudan. The clashes have jeopardized the internal security dimension in Sudan and escalated regional security issues of forced migration and refugees in East African region. Copnall (2023) observed that the increasing armed conflict in Sudan are masterminded by the two Generals of Sudan Armed Forces and Rapid Support Forces with disaggregation of political interest placed on premium of capturing state power and Sudan's strategic resources control and appropriation. Their battle for supremacy has torn Sudan apart making democratic transition meaningless. Generals Abdel Fattah al-Burhan and General Mohamed Hamdan Dagalo played a kinetic approach of counterinsurgency measures against Darfur rebels in Sudan civil war in under the leadership of President Omar Al Bashir in 2003. Population in Darfur are mainly non-Arab descent but Omar Al Bashir deployed the Janjaweed under the leadership of General Mohamed Hamdan Dagalo (known as Hemedti) the commander of one of the many Arab militias in Darfur region to brutally put down the largely non-Arab Darfur rebel groups in the region (Verhoeven, 2023; De Waal, 2019).

Ali (2023) highlighted the reason for the clash between the Sudanese military and Rapid Support Forces (RSF) headed by General Mohamed Hamdan Dagalo. It was based on power struggle by design for control of Sudan state, its strategic resources and to challenge the Sudan Armed Force's traditional political hegemony. This development has escalated armed conflict and political violence in Sudan due to the numbers and the size of Sudan's Armed Forces and the Rapid Support Forces. The Sudan Armed Force has an estimated 200,000 active security forces compared with the Rapid Support Force with an estimated 70, 000 to 150, 000 active security personnel (Ali, 2023; Armed Conflict Location & Event Data, 2023; 2024). There are multiplicities of reasons for this armed conflict. The reasons are the quest and eventual backing of external power (Reuters, 2023); failure of disagreement over dispositions of rival military forces (Stigant, 2023); attacks by RSF on the stronghold of SAF and Sudanese population for domination and relevance (Al Jazeera, 2024), influence of political legacy of Sudan where power is accessed and transferred through force rather than elections (Ayferam, 2023), exertion of external actors influence and control over Sudan's critical infrastructures (Diallo, 2024) and no regard for civilian casualties and democratic order (Pacheco & Abdulshafi, 2024).

The aforementioned reasons behind the clash between the Sudanese Armed Forces (SAF) control by General Abdel Fattah al-Burhan and the paramilitary Rapid Support Forces (RSF) headed by General Mohamed Hamdan Dagalo, reinstates Sudan as important playground for external powers as they exert their strategic influence and control over Sudan's critical infrastructures, including gold mining, oil exploration, and maritime ports leverage and trading routes to the Red Sea and Gulf of Aden. The activities of some external powers such as the United States of America, China, and Russia, are discussed below.

Russia's strategic interest and influence in Sudan became noticeable initially under the regime of President Omar al Bashir whose foreign policy diplomatic relations negated western powers interest in Sudan. Western powers categorized al Bashir regime as sponsors of terrorism and disarticulation of democratic rule (De-Waal, 2019; Verhoeven, 2023). Russia's relations with Sudan was and presently been masterminded with strategic economic interest of gold mining in various strategic locations of far North in Wadi Halfa, Atbara on the Eastern axis of Red Sea State, Western and Eastern Darfur, and South Kurdofoan (Obaji, 2023; Sudan Tribune, 2024). Russia's Wagner Group plunder Sudan's Gold resources. Russians can pay close to \$4,000 (€3,620) for a truckload of gold (Albanese, 2023). Accordingly, African Defense Force (2022) observed that Russia supported the military coup of October 2021 that ousted the Prime Minister of the transitional government Abdalla Hamdok so it could have access of gold in Sudan that has triggered political and economic turmoil with armed conflict in the midst of external power interests (United Nations High Commission for Refugees, 2024). There are many connections between Generals Abdel Fattah al-Burhan of the Sudanese Armed Forces, Mohamed Hamdan Dagalo and Yevgeny

Prigozhin (late now with plane crash in August 2023), President Vladimir Putin's closest advisors (Albanese, 2023; Knight, 2023). Prigozhin benefited from hundreds of tons of gold exploited from Sudan under security alliance of Russia's shadowy Wagner Group. Mr. Yevgeny Prigozhin owns a mining subsidiary in Sudan called Meroe Gold Ltd. The M Invest and Meroe Gold Limited invested \$11 million to purchase Russian-made helicopter and gold-processing equipment in Sudan and has been assisted by General Mohamed Hamdan Dagalo, the head of the paramilitary Rapid Support Force. The Hemedti's family dominates the Sudanese gold sector, third largest behind Ghana, South Africa and about 70% of Sudan's gold production are smuggled out of the country (Africa Defense Force, 2022; Miningam, 2024). Meroe Gold limited shares none of its profits with Sudan, in violation of Sudan's regulations, which stated that all foreign companies are to give Sudan 30% of profits from extracting gold. M-Invest provided cover for Wagner's Group hybrid operations in Sudan, its mining concessions has boosted Russia's estimated gold reserves of \$130 billion. This development indicated that Russia collides with General Mohamed Hamdan Dagalo, the head of the paramilitary Rapid Support Force to loot Sudanese wealth, fund Russia's war effort in Ukraine, retrogresses democratic rule and buttress Russia against tightening international sanctions. The Prigozhin-owned M Invest and Meroe Gold Limited are part of a scheme of Russia's move to loot billions of dollars in gold from economically fragile Sudan to Russia (Africa Defense Force, 2022; Novas News, 2023).

China's strategic resource interest and influence in Sudan are deeply in bilateral relations such as oil explorations, weapons supplies that dates back in 1959 under the regime of President Gaafar Mohammed El-Nimeiry and subsequent, oil explorations business that continue with the taking over of Omar al-Bashir as the President in 1959 (Moro, 2012). China's oil company in crude oil exploration in Sudan are majorly China National Petroleum Corporation. China as super power and one of the fast-growing economies in the world, has unparalleled interest in Sudan. The relations between China-Sudan are more complex as well interesting as it has hinged on China's roles at the UN, China's oil imports from Sudan, its arms 'trades with Sudanese regimes and how this relation affects the Darfur conflict (Manyok, 2016). China has been a major investment partner in Sudan's energy, agriculture and transport sectors, pumping nearly \$6 billion in investments into the country since 2005 (Yeranian, 2023).

Since 1999, China National Petroleum Company invested more than \$ 15 billion in Sudan. Currently, it's estimated that National Petroleum Company owns half of Sudan's refineries (Yeranian, 2023; Manyok, 2016). China has played a key role in developing Sudan's oil fields before the emergence of South Sudan as independent country from July 2011 with the investment close to \$3 billion. Sudanese debts to China stand at \$5.12 billion in early 2022, which doesn't even include debts to be repaid with Sudanese oil (Colville, 2023). China's is a familiar arms dealer to many Sudanese governments. The purchase of weapons from China rose in the 1990s due to Sudan's internal war and the promise of improved finances and enhanced international credit derived from the export of crude oil potential value to China and other Western countries (Colville, 2023). Weapons deliveries from China to Sudan include ammunition, tanks, helicopters, and fighter aircraft. China became a major supplier of anti-personnel and anti-tank mines. China's motivation for this arms trade appeared to be primarily economic and made available easy financing for some of these arms' purchases (Walker, 2014; Manyok, 2016).

Yeranian (2023) observed that China seeks stronger ties with Sudan amid regional, international tug-of-war in Sudan. Increasing and unending clash between Sudan Armed Forces and Rapid Support Forces organize by the two rival Generals, made China to maintain a neutral stance and advance its own interests as well. A pipeline to transport the oil continues to flow through the North of Sudan, where it is ultimately shipped from Port Sudan to China. The strategic interest of China and its protection focused its strategy on several areas in its efforts to cultivate stronger ties with Sudan. Sudan. China's overall strategy in the region of East Africa, Red Sea, Gulf of Aden to bring East and North Africa more on its side, started its foundation from Sudan over strategic interest over crude oil resource. China has been interested in gold deposits in Sudan in addition to realistic approach of Russia via the private military company: Wagner group. China has interest in port of Sudan for exports of its exploited strategic resources in Sudan (Yeranian, 2023).

The US strategic interest and influence in Sudan has been crude oil exploration, gold mining and critically, the protection of Port of Sudan for the exports of its strategic resources. These resources sail via the Red Sea and Gulf of Aden to United States of America (Ribua, 2023; Mashamoun, 2022). Though the bilateral relation between the US and Sudan was progressive before and during the regime of President Omar al Bashir of Sudan, the bilateral relationship was distorted and became frosty due to Bashir provision of Safe haven for Al Qaeda leader, Osama bin Laden and sponsoring of terrorism and

continuous sanctions from the United States of America with its allies (De Waal, 2019; Verhoeven, 2023). The development of armed conflict arising from the clash between the two rival Generals: Abdel Fattah al-Burhan and Mohamed Hamdan Dagalo known, needed USA with its subtle interest declared by President Joe Biden (Arab Centre for Research and Policy Studies, 2023). The subtle interest of US occurred in 2021 under the regime of transitional government of Prime Minister Abdalla Hamdok that received the US Military Sealift Command (MSC) with expeditionary fast transport ship-Carson City (EPF 7) arrived in Port Sudan, for a port visit (US Embassy, 2021). The ship's visit to Port Sudan, was to build a maritime security and demonstration of US commitment to strengthen the relationship between the United States and Sudan as the Sudanese people seek a democratic future.

US and its allies in the Middle East such as Saudi Arabia and Egypt support General Abdel Fattah al-Burhan of Sudan's Armed Force (SAF) in making room for democratic rule to occur thereby making the political and economic relations between the US and Sudan to harmonize development among the two countries. The United States's perception was that Russia and China work together in Sudan for the purpose to subvert US's interests and to destabilize its global leadership role. At the United States–Africa Leaders' Summit in December 2022, US Secretary of Defense Lloyd Austin warned African leaders that Russia and China's influence are “destabilizing and enticed reluctant leaders. US promised to commit \$55 billion for Africa over the next three years. Russia's private military company presence such as Wagner in Sudan, are accelerating with tremendous increase and China is the largest creditor and investor in Africa with large amounts of money in the mineral-rich continent, interest in Sudan particularly (Arab Centre for Research and Policy Studies, 2023). Port Sudan is the hub for 90 percent of Sudan's trade with the world, the destination of several regional overland routes, and the landing point of one of Africa's major undersea cable systems. The blockade of the Port of Sudan in 2021 left 950 shipping containers stranded that created major obstructions that affected the US strategic interest of deploying its Naval staff and other private -US ships exports of strategic resources from Sudan to United States of America (Martin & Watson, 2023; Meservey, 2023).

Since the fighting erupted between the two factions on April 15th, 2023, more than 600 persons have been killed and 5,000 wounded (Ribuo, 2023). Meservey (2023), the United States of America has critical four strategic interest in Republic of Sudan. First, the US desire its ambition of keeping its competitors such as China, Russia from exploiting the ongoing conflict between the two rival Generals Abdel Fattah al-Burhan and Mohamed Hamdan Dagalo. The most serious threat is Russia, which has tried for years to gain a base in Port Sudan that would enable Russia to have commanding presence in the critical international shipping route such as Port of Sudan, Red Sea and Gulf of Aden. Russia's mercenaries are active in Sudan, including the lucrative illegal gold trade that has help fund Russia's war against Ukraine. Second interest is that, USA does not want Islamists, that dominated Sudan during the time of President Omar al Bashir, to return to power. Islamists orchestrated grave rights abuses in Sudan and, in addition harbored Al-Qaeda Network and other terrorist organizations, cooperated with Iran to supply Hamas with weapons for attacks against Israel. Thirdly, US interest desire to prevent a region-threatening meltdown with the attendant humanitarian disaster. Sudan is a country of 46 million people surrounded by dysfunctional states like the Central African Republic, Libya, South Sudan, Chad and DRC. The sustainability of increased conflict in Sudan, has escalated large movement of refugees and weapons, as well as economic and social disruptions. Fourth interest is that US, wants to help a civilian-led democratic government to take power in Sudan, as it would be a more natural American partner than yet another authoritarian system of President Omar Al Bashir (Verhoeven, 2023; De Waal, 2019).

Having observed the strategic interest of the three dominant actors in Sudan in this paper, the outcome of their actions namely Russia, China and US are based on their specific interest and consolidation of their influence over gold mining, oil explorations and use of Port of Sudan for export of strategic resources onward to their country, has derailed democracy and democratization processes in Sudan (es) in respect to internal interest of the two generals of security architecture in Sudan. The occurrence of military coup of April 11, 2019 that ousted President Omar al Bashir; the October 25, 2021 that ousted the transitional government of Prime Minister Abdalla Hamdok and persistence power struggle with violent confrontations between Generals Abdel Fattah al-Burhan of the Sudanese Armed Forces and Mohamed Hamdan Dagalo of Rapid Support Force was instigated by the three dominant powers mentioned above with Egypt, Saudi Arabia, United Arab Emirates, Iran, among others) without considering the stability, democratic rule and development of Sudan. Contrary to prevailing views, the paper (we) show that changes in democratic practices in Sudan legitimize and improve external control of local resources, and not the experience of political instability itself. Political instability in Sudan primarily manifests as a

symptom of resistance to new democratic changes – although it further improves and complements the interests of external powers. The experiences and issues that promoted the political instability in Sudan were captured in the section of conceptual clarifications particularly the deaths, humanitarian crises indicated by Armed Conflict Locations and Event Data in 2023 and 2024.

Conclusion & Recommendations

From the forgone issues discussed in this paper in respect to the consistent clash or persistence power struggle/violent confrontations between Generals Abdel Fattah al-Burhan of the Sudanese Armed Forces and Mohamed Hamdan Dagalo of Rapid Support Force that began on April 15th, 2023. Major Powers such as United States of America, China and Russia, hides under the umbrella of democracy advocate while their underlying activities in Sudan are built on resources contestations of gold mining, oil explorations and Port of Sudan that open the export of these strategic resources onward from Red Sea and Gulf of Aden to their respective countries. The military coup, failure to promote democratic rule and political instability was instigated by these three dominant powers mentioned above with their allies such as Egypt, Saudi Arabia, United Arab Emirates, Iran, among others without considering the stability, democratic rule and development of Sudan. We emphasize the need to entrench more popular democratic principles and values, provide security, and facilitate peacebuilding processes in order to address the crisis and reduce external foothold in the country. The recommendations are:

1. The interest of Sudanese should be promoted seriously above the interest of external powers of US, China and Russia in the ongoing power struggle/violent confrontations between Generals Abdel Fattah al-Burhan of the Sudanese Armed Forces and Mohamed Hamdan Dagalo of Rapid Support Force that began on April 15th, 2023.
2. Let State of Sudan establish and implement more popular democratic principles and values for future elections that will consolidate democratic rule.
3. Let there be provision of security, and facilitation of peacebuilding processes to reconcile internal actors (Generals Abdel Fattah al-Burhan of the Sudanese Armed Forces and Mohamed Hamdan Dagalo of Rapid Support Force with their respective cronies in Sudan.
4. Sudan should develop indigenous institutions with resourceful Sudanese and local content mechanism for the access, processing and export of these strategic resources such as gold mining, oil explorations and organization of Port of Sudan in order to reduce the foothold of U.S.A, China and Russia towards the development of Sudan with the example of Captain Ibrahim Traore of Burkina Faso.

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The Role of *Alágbàdà* (Cattle-Rearing Hirelings) in Fulani Herders-Farmers Land Conflict in *Ìbàràpá*, Oyo State, Nigeria

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Abstract

Land conflict between Fulani herders and local farmers have become a persistent challenge in Nigeria, driving by competition over dwindling natural resources, shifting land-use patterns, and broader socio-political factors. In the Ibarapa area of Oyo State, the role of migrant Fulani cattle-rearing hirelings, locally known as *Alágbàdà*, as intermediaries who manage cattle on behalf of cattle owners, remains understudied despite their significant presence in the pastoral economy and conflict dynamics. This study was designed to investigate the involvement of migrant cattle-rearing hirelings (*Alágbàdà*) in land disputes between Fulani herders and local farmers in Ibarapa area.

Huntington's Clash of Civilisation theory was adopted for the study, while the descriptive, cross-sectional design was employed. *Ìbàràpá* area of Oyo State was purposively selected due to the lingering herdsman-farmer conflict in the area. *Ìbàràpá* was clustered into three (*Ìbàràpá* East, *Ìbàràpá* Central and *Ìbàràpá* North local government areas) and one town from each cluster was selected except in *Ìbàràpá* East where two towns were selected. The towns were chosen due to the prevalence of herdsman-farmer conflicts. In all, *Èríwà*, *Igbóorà*, *Lànlátè*, and *Aiyètè/Ańkó* towns were selected. Thirty-five in-depth interviews were conducted on land conflict between Fulani herders and local farmers in *Ìbàràpá*. Twelve Fulani herders, 14 local farmers, 4 *Seriki* Fulani and 5 Yoruba community leaders were interviewed. Data were content analysed and presented thematically.

There was an established, decades-long, mutually beneficial relationship between local farmers and Fulani herders. This relationship fuelled indirect perception among the Fulani herders on their rights to land in *Ìbàràpá*, which also led to a feeling of mutual suspicion. The social and cultural dynamics showed established collaborative agricultural practices between Fulani herders and local farmers, which also accommodated the role of *Alágbàdà* (the Fulani herders hired to care for cattle). The *Alágbàdà* were mostly new Fulani migrants, who had contracts with settled Fulani herders, and whose obligations were target-driven. The need to meet up with contractual returns exerted huge pressure on the *Alágbàdà*, which, in turn, manifested in regular destruction of crops. The mutual suspicion among the two groups, and the destructive activities of *Alágbàdà*, who were allegedly known for drug use instigated the conflict. The drought in the northern Nigeria, was also a factor for increase in the number of *Alágbàdà* in *Ìbàràpá*. The Fulani herders and local farmers conflict in *Ìbàràpá* was fuelled by mutual suspicion and activities of the *Alágbàdà*. Adequate conflict resolution measures that will address the cause of the conflicts must consider the drivers of mutual suspicion and the activities of *Alágbàdà* in *Ìbàràpá*.

Keywords: *Alágbàdà*, contractual agreement, herders-local farmers' conflict, land conflict, substance use

Introduction

The constant clash between Fulani herdsmen and local farmers has grown more serious across several parts of Nigeria since the last few decades, driving by competition over dwindling natural resources, shifting land-use patterns, and broader socio-political factors, while particularly in the southwest region, Oyo State has become a recurring hotspot. A less explored but critically important dimension in the pastoral economy and conflict dynamics is the role played by the *Alágbàdà*. A local Yoruba term mostly used by the people in *Ibarapa* area to describe "migrant Fulani cattle-rearing hirelings" who serve as hired cattle caretakers for on behalf of absentee owners. These Fulani herders known as *Alágbàdà* consist of young male herders who typically migrate from northern Nigeria and neighbouring West African countries through verbal agreements with elite cattle owners who span from traditional leadership figures and politicians to business elite and rich farmers (Okoli & Atelhe, 2014).

These hirelings focus on maximizing their cattle herd's productivity instead of maintaining community peace by crossing into cultivated lands during transhumance, thereby escalating conflicts with local farmers who depend on land for subsistence agriculture for survival. The increasing amount of unauthorized grazing by hirelings has pushed violent conflicts and destruction of property to higher levels, while in most cases, resulting in loss of lives (Abbass, 2014; International Crisis Group, 2018).

Multiple structural factors together with cultural factors form the basis of this conflict pattern. On one hand, climate change and desertification in the norther region of Nigeria pushed the herds towards southern region in search of greener pastures and foliage for the cattle. While on the other hand, increase in scarcity of land and weak governance structure in the rural communities where the herding operations take place have intensified disputes over land use (Blench, 2004). In state such as Oyo, where land tenure systems are often informal and poorly enforced, disputes are frequently resolved through violence rather than legal channels. The ethnographic study shows that presence of migrant herdsmen disrupts traditional social networks and societal principles without local connections to newly accessed communities. With this, the *Alágbàdà* are seen as outsiders and with no cultural and historical attachment to the communities they enter (Ezeomah, 1987). Such conditions lead to pervasive mistrust or mutual suspicion and stereotype, which possibly reinforces ethnic and religious divisions, mostly between Muslim Fulani and Christian or traditionalist Yoruba farming communities (Adebajo et al., 2025; Sunday, 2021).

The circumstances align with conflict theory perspectives because scarce resources together with economic interests create structural disparities which cause competitive conditions. Cattle ownership is privatized by the elite though the social consequences of conflict get dispersed between the population (Okoli & Nnaemeka, 2021). The polarization between “herders versus farmers” hides multiple power dynamics featuring mobility patterns alongside ethnic group alignments together with rural marginalization factors. Study on the involvement of migrant hireling herdsmen (*Alágbàdà*) in land conflict across Oyo State's transhumance route and agricultural sector become vital for modern policies and sustainable rural development and peacebuilding initiatives. Hence, the study designed to investigate the roles of migrant cattle-rearing hirelings (*Alágbàdà*) in land conflict between the Fulani herders and local farmers in Oyo State, specifically, *Ibarapa* area.

Historical Accounts of Migrant Fulani Cattle-Rearing Hirelings (Alágbàdà) in Nigeria

The Fulani, whose way of life is characterized by nomadic pastoralism, are a prominent factor in the socio-economic fabric of Sub-Saharan Africa. Migration by Fulani people into Nigeria has greatly influenced the traditions of farming, exchange of economic activities and inter-relationships between the ethnic groups. This paper delves into the historical trajectory of migrant Fulani cattle-rearing hirelings, locally referred to as *Alágbàdà*, within Yoruba ethnic group of Nigeria, especially the *Ibarapa* and *Oke-ogun* area of Oyo State. contextualizing their movements and interactions from a broader Sub-Saharan perspective.

The Fulani, or *Fulbe* as an ethnic group, occupy a great portion of West Africa and they are primarily pastoralists. Their origins trace back to the Senegambia region, from where they began migrating eastward around the 13th century, driven by factors such as drought, population pressure, and the search for grazing lands (Iro, 1994). Their migratory routes spanned the Sahelian belt, leading them into present-day Nigeria (Blench & Williamson, 2010).

In Nigeria, the Fulani established themselves predominantly in the northern regions, integrating with Hausa communities and significantly influencing the socio-political landscape, especially during and after the 19th-century *Sokoto* Jihad led by Usman dan Fodio (Iro, 1994). This movement not only solidified their presence but also facilitated the spread of Islam and the establishment of the *Sokoto* Caliphate.

The Role of Alágbàdà in Fulani Pastoralism

The term *Alágbàdà* refers to Fulani hirelings employed for cattle rearing, particularly in regions where the Fulani integrated with sedentary agricultural communities. These hirelings played a crucial role in managing herds, ensuring the health and productivity of cattle, and facilitating trade between pastoral and farming communities.

The *Alágbàdà* system exemplifies the symbiotic relationships that developed between nomadic Fulani herders and sedentary farmers. Farmers benefited from the manure provided by cattle, which enriched their soils, while herders gained access to grazing lands and water sources. This mutual dependence fostered peaceful coexistence and economic interdependence in many regions (Blench, 1994).

Integration and Conflict: A Historical Overview

Historically, the integration of Fulani herders into Nigerian societies was marked by both cooperation and conflict. In regions like the Middle Belt, Fulani herders and local farmers established systems of mutual benefit, with clearly defined grazing routes and seasonal movements (Tonah, 2002). However, as population pressures increased and land became more scarce, these relationships were strained.

The introduction of colonial land policies disrupted traditional land tenure systems, often marginalizing pastoral communities. Post-independence, the Nigerian Government's Land Use Act of 1978 further complicated land rights, granting state control over land allocation and often neglecting the needs of nomadic groups (Abbass, 2014). These policies contributed to the erosion of established grazing routes and increased competition over land resources.

Contemporary Challenges and the Evolving Role of Alágbàdà

In recent decades, climate change, desertification, and socio-political factors have intensified conflicts between Fulani herders and farming communities. The southward migration of herders in search of pasture has led to clashes over land use, crop destruction, and resource competition (Okello et al., 2014). These tensions have been exacerbated by the proliferation of small arms, weakening of traditional conflict resolution mechanisms, and the politicization of ethnic identities.

The role of *Alágbàdà* has also evolved in this context. While they continue to serve as intermediaries between herders and farmers, their position has become more precarious amid rising hostilities. Efforts to formalize grazing reserves and implement policies for peaceful coexistence have met with limited success, often hindered by bureaucratic inefficiencies and lack of political will (Blench & Williamson, 2010).

The historical journey of migrant Fulani cattle-rearing hirelings in Nigeria reflects the complexities of pastoralism, migration, and interethnic relations in Sub-Saharan Africa. Understanding the nuanced roles of *Alágbàdà* within this tapestry is essential for developing informed policies that address contemporary challenges. Promoting dialogue, equitable land policies, and sustainable pastoral practices can pave the way for harmonious coexistence between herders and farmers in Nigeria and beyond.

Roles of Migrant Herdsmen in Land Conflict

The movement of migrant herdsmen, particularly Fulani herdsmen in West Africa, has long been associated with traditional cattle-rearing practices. These herdsmen engage in pastoralism—a traditional practice involving the rearing and movement of cattle across different regions in search of grazing lands. This migratory lifestyle often brings them into conflict with sedentary farming communities, leading to disputes over land and resources. However, this movement has increasingly led to land conflicts, particularly between Fulani herdsmen and local farmers. The roles of these herdsmen as cattle-rearing hirelings, coupled with their seasonal migrations, have significant implications for land use, resource competition, and social conflict in the regions they traverse. Moreover, the following are the roles of migrant herdsmen as regards land conflict:

1. **Resource competition:** Migrant herdsmen primarily rear cattle and depend on access to large grazing areas for their livelihood. As these herdsmen migrate in search of pasture, they often encroach on farmland, leading to disputes with local farmers. According to Abbass (2014), this competition for land and water resources is one of the main triggers of conflict between herdsmen and farmers. The herdsmen's need for extensive grazing land is in direct conflict with the farmers' need for arable land, especially during dry seasons when resources become scarce.
2. **Land degradation:** Overgrazing by large herds of cattle can lead to land degradation, which exacerbates conflicts between herdsmen and farmers. Land degradation reduces the land's productivity, affecting both farming and grazing activities. The resultant loss of fertile land pushes herdsmen to seek new areas, often leading to further encroachment on farmlands. According to Audu (2013) the environmental impact of overgrazing, such as soil erosion and loss of vegetation, is a significant contributor to the conflicts between these groups.
3. **Lack of defined grazing routes:** The absence of clearly defined grazing routes and reserves has also been identified as a significant factor in the conflict. Historically, grazing routes were established to prevent herdsmen from encroaching on farmlands. However, the encroachment of urbanization and the expansion of agricultural activities have eroded these routes. This has forced herdsmen to stray into farmlands, leading to confrontations with farmers (Mezie-Okoye & Asike, 2020; Okon et al., 2021).

4. Economic and environmental pressures: The movement of Fulani herdsmen is largely driven by environmental and economic factors. Climate change and desertification have led to the depletion of grazing lands in the Sahel region, pushing herders further south into more fertile areas traditionally used for farming (Adelakun et al., 2015). This southward migration has increased competition for land, as both herders and farmers rely on the same resources—land and water—for their livelihoods.
5. Pastoral practices and land use: The pastoral practices of the Fulani herdsmen involve transhumance, where herds are moved seasonally between dry and wet regions. While this practice is sustainable in sparsely populated areas, the increasing population density and expansion of agricultural lands have exacerbated land use conflicts (Fiki & Lee, 2005). Farmers accuse herdsmen of allowing their cattle to graze on farmland, leading to the destruction of crops, which in turn escalates tensions.
6. Cultural and ethnic dimensions: The conflict between Fulani herdsmen and farmers often has a cultural and ethnic dimension. The Fulani are a predominantly Muslim ethnic group with a long history of cattle rearing, while the farming communities they encounter are usually settled agriculturalists with different cultural and religious backgrounds. These differences can exacerbate tensions, as both groups perceive the conflict not just as a resource-based dispute but also as a defence of their way of life and identity (Okello, 2005).
7. Cultural and social dynamics: The conflict is also rooted in cultural differences and a lack of effective conflict resolution mechanisms. The Fulani, who see themselves as custodians of a centuries-old tradition of cattle rearing, often find themselves at odds with farmers who have permanent settlements and view land as a fixed asset (Olaniyan et al., 2015). These differing worldviews contribute to the intractability of the conflict.
8. Demographic pressures: Population growth in many parts of West Africa has increased the demand for land, leading to the expansion of agricultural activities into areas traditionally used for grazing. This encroachment has heightened tensions between herdsmen and farmers (McGregor, 2014).
9. Political and ethnic dimensions: The conflicts are not only about resources but also have political and ethnic dimensions. In some cases, herdsmen are perceived as outsiders by local communities, leading to the politicization of the conflicts and further complicating their resolution (Abbass, 2014).

Consequences of the Conflict

The conflicts between Fulani herdsmen and farmers have led to significant loss of life, displacement of populations, and destruction of property. They have also contributed to food insecurity, as farming communities are often unable to plant or harvest crops due to the fear of attacks (Okoli & George Atelhe, 2014). Additionally, the violence has strained inter-ethnic relations and contributed to a broader sense of insecurity in the affected regions.

Methodology

Research Design: The study adopted qualitative research method been an ethnographic study. This technique is very relevant for gathering in-depth information that enables new insights into a problem and produces new and pertinent knowledge. In-depth Interview method was adopted to collect data from the respondents in *Ibarapa* area where operations of herders and farmers were prevalent. The method enabled the researcher to interrogate issues surrounding land conflict in relation to the conflict between Fulani herdsmen and Yoruba farmers in *Ibarapa*.

Research Area: The research study area was *Ibarapa* area of Oyo State. This location was purposively selected because it was one of the areas in the south-west, Nigeria where Fulani herdsmen and Yoruba farmers' conflicts took place. The *Ibarapa* area covered three (3) Local Government Areas (LGA) in Oyo State, namely; *Ibarapa* East, *Ibarapa* Central and *Ibarapa* North. There are major towns which were surrounded by several other towns, villages and farmsteads. *Ibarapa* area has 2,520,450 km² land size with 320,718 in habitants according to 2006 census. Farming remains the predominant occupation of the indigenous *Ibarapa* people as well as most of the people in the rural communities in Oyo State. The vegetation of *Ibarapa* was largely savannah grassland which was suitable for cattle rearing.

Study Population: The study population comprised Fulani herders (both nomadic, semi-nomadic and the sedentary) and Yoruba farmers within *Ibarapa* towns, villages and farmsteads. The main settler in *Ibarapa* community were the Yoruba people which are predominantly farmers. Farming is the major

occupation that *Ibarapa* people were known for. They engage in series of farms crops and their main economic stay. They towns, villages and farmsteads in various communities. Some of these villages and farmsteads were farm away from the main towns.

Multi-stage sampling method which involved cluster sampling and purposive sampling techniques was used to select towns and villages to collect samples from. The choice of *Ibarapa* as the location for the study was done purposively because of the clash that have been going on between herdsmen and farmers in the area for a long time.

Sample Size: As the study based on qualitative method, the study proposed for sixty (60) In-depth Interviews (IDI) samples to be collected from the three selected communities from the three local government areas in *Ibarapa* area, Twenty (20) samples from each of the three communities. However, the study collected thirty-five (35) samples from communities in two local government areas (*Ibarapa* East and west). At as the time that data were collected, the conflict between Fulani herdsmen and Yoruba farmers had resulted to total eviction of Fulani herdsmen from the entire *Ibarapa* north. Due to the previous conflict in the area and the eviction of Fulani herdsmen, the researcher was advised not to go the *Igangan* town and its environ due to the volatility of the conflict in the area. Likewise, several farmers in the area were not willing to be interviewed on issues related with the conflicts. Thereafter, the research was able to conduct phone interviews for two Fulani herdsmen that were evicted from *Ibarapa* north. Aside from this, all the data collected were mainly from the affected people (the farmers and the headsmen) in the communities, and also from the indigenes of the communities, Fulani communities, the farmers' association and the herders' association.

Socio-demographically, the study sampled both male and female Yoruba farmers, male Fulani herdsmen, heads of Yoruba communities, and leader of Fulani herdsmen (*Seriki* Fulani). The age category of the Yoruba farmers and Fulani herdsmen sampled were from 18 years and above the study. The study considered only respondents who have been into farming and herding activities for at least 10 years and above. More importantly, respondents who have directly or indirectly experienced conflicts between farmers and herders were considered.

Method of Data Collection: The study adopted qualitative research method with the use of In-depth Interview (IDI). Data were collected with the use of the structured In-depth Interview guide by the researcher with the assistance of a local guide and two (2) research assistants that were familiar with the Yoruba communities and Fulani settlements (*Gaa*). These research assistants could speak Fulani and Yoruba languages fluently. The researcher trained the research assistants on how to use the instrument to elicit information from the respondents.

Data of Data Analysis: The data gathered through interviewed were translated from Yoruba language to English language. As they were transcribed verbatim, the transcribed data were analysed by using content analysis and thematic presentation with the aid of ATLAS TI version.

Ethical Considerations: Before the participants participated in the study, the researcher made sure that they were well informed about the objective of the study and that their participation was done voluntarily without cohesion or manipulation. Also interested participants signed or were made to acknowledge the informed consent form. To ensure confidentiality, the appropriate respondents participated in the in-depth interviewed (IDI) with no name recorded.

Data And Results

This section discusses the organization, presentation, analysis, and interpretation of field data. Data analysis aims to arrange, organize, and interpret data collected in the field in a comprehensible manner so that the relationships between variables could be tested to see if they were valid or not. The presentation of the findings for this study started with the data analysis of the socio-demographic characteristics of the study participants, followed by narrative description of the roles of migrant herdsmen (cattle rearing hirelings) and land conflict between the two groups.

Socio-demographic Characteristics of the Study Participants

Table 1: Socio-demographic Characteristics of the Study Participants

Study participants (n=35)	
Mean age (SD)	49.72 (17.46)
Minimum age	16
Maximum age	80

Participants' community	
Eruwa	9 (26.71%)
Igboora	11 (31.43%)
Igangan (<i>Phone interview with herders only</i>)	2 (5.71%)
Lanlate	7 (20.00%)
Oye	4 (11.43%)
Tapa	2 (5.71%)
Participants LGA	
Ibarapa Central	11 (31.43%)
Ibarapa East	16 (45.71%)
Ibarapa North (<i>Farmers, heads of Yoruba community and phone interview with few herder</i>)	8 (22.86%)
Sex	
Female	2 (5.71%)
Male	33 (94.29%)
Marital status	
Married	23 (65.71%)
Single	5 (14.29%)
Widowed	7 (20.0%)
Religion Affiliation	
Christianity	9 (25.71%)
Islam	19 (54.29%)
Traditional	7 (20.0%)
Ethnic group	
Fulani	15 (42.86%)
Yoruba	20 (57.14%)
Years of herding/farming experience	
0-5 years	2 (5.71%)
6-10 years	8 (22.86%)
11-15 years	11 (31.43%)
16 years and above	14 (40.0%)
Mean (SD) years' farmers experience (practice)	3.05 (0.89%)
Mean (SD) years' herdsman care experience (practice)	3.00 (1.17%)
Total	35 (100%)

Source: Field Survey, 2024

The socio-demographic variables of the study participants in Table 1 revealed that the participants sampled in this study (n=35) are Fulani herdsmen, Yoruba farmers, heads of Yoruba communities, and leader of Fulani herdsmen (Seriki Fulani) in *Ibarapa* communities. From the table illustration above, the mean age and standard deviation are 49.72 and 17.46 respectively, with 16 as the minimum age and 80 as the maximum age included in the study.

The communities of the participants are *Eruwa* 26.71%, *Igboora* 31.43%, *Igangan* 5.71%, *Lanlate* 20.0%, *Oye* 11.43%, and *Tapa* 5.71% and these cover the three local government areas that made up of *Ibarapa* area of Oyo State that is, *Ibarapa* Central 31.43%, *Ibarapa* East 45.71%, and *Ibarapa* North 22.86%. This suggests that the three local government areas that make up *Ibarapa* area were well represented in the study. Hence, no local government is excluded from the study. On gender distribution of the participants, the table indicates that females were few in number among herdsmen and farmers in the study area, that is, 5.71% are females, while 94.29% were males. This suggests that both professions are male dominated. The distribution of their marital status shows that 65.71% are married, 14.29% were single, while 20.0% were widowed. The analysis shows that majority (65.71%) of participants were married, having their own family living with them.

Moreover, the religious affiliation distribution of the participants shows that 25.71% were Christians, 54.29% were Muslim, while 20.0% were traditionalists. That is, Islam was the dominant (54.29%) religion that was practiced. However, Christianity and traditional religion practices had significant influence in the communities. Also, the result on ethnic group indicates that 42.86% were Fulani, while 57.14% were Yoruba. The Yoruba ethnic group (57.14%) is more than the Fulani and this allude to the fact that the study area was dominated by the Yoruba people.

Lastly, on the years of experience or practice as herdsmen or as farmers, the table distribution indicates that 5.71% have been farmers or herdsmen between 0-5years, 22.86% have been between 5-10

years, 31.43% have been between 11-15 years, while 40.0% were from 16 years and above. The outcome of the distribution suggests that majority (40.0%) of the participants have been herding cattle or farming for more than 16 years. In conclusion, the outcome of the mean and standard deviation years of farmers' experiments or practice were 3.05 and 0.89%, while that of herdsmen were 3.00 and 1.17% respectively.

The outcome of the qualitative data gathered from the field throws more light into the historical antecedents of Fulani herdsmen in the study area, and the historical occurrence of land conflicts relative to the two groups. The study observed that among all the settlers in the communities, the Yoruba people were the original settler and land owners in the communities that comprise of the study area. Moreover, the history of Fulani herdsmen entry into some of *Ibarapa* community was almost at the time when some of the indigenous *Ibarapa* settlers settled on some of the lands. The study showed that Fulani herdsmen arrived into some of the *Ibarapa* community around a century (around 100 years ago). They came almost at the time the original Yoruba settlers settled in communities.

Yoruba people made use of the first sets of Fulani herdsmen that settled in some communities in *Ibarapa* to secure the communities against external aggressions. They believed that Fulani people were warriors, so they accommodated them and gave them lands at various locations in the bush/forest areas that were closer to the entrance of their communities. These sedentary Fulani herdsmen became stakeholders in the community where they settle. They have their own leader, whom they refer to as *Seriki-Fulani*. The *Seriki-Fulani* is under the authority of the King or *Baale* who is the head of the Yoruba community in the area where they settled.

We have been together for more than 100 years... our forefathers that first settled here are no more. In fact, they are more than those that gave birth to us... In fact, we are up to fifth generation... In history, as the Yoruba people (*Ibarapa* people) were trying to settle down in this *Eruwa*, for instance, Fulani people were also part of the process of their settling down here. So, the emergence of Fulani people in this place it's a long historical account. This is not where we were before, we both came down from the historical mountain that *Eruwa* people claimed to have come down from. So it a long story. That is why we [sedentary herdsmen] have more understanding than the nomadic ones... They (Yoruba people) often use our forefathers (Fulani people) to secure communities. Wherever they are, there is peace of mind. Warriors will not come close to the community to invade the community. You know that Fulani dress like hunter so there is no cause for alarm... So let me say again that, here in *Eruwa*, the Fulani people were part of the people that first settled at the various locations that are now developed. [IDI_fulani-headsmen_male_adult_eruwa-gaa-ile]

The study found that the Fulani herdsmen moved from place to place and the current issue of cattle eating up crops on the farm is not a new phenomenon. It is dated back to several years before now. There had been times that cattle had strayed into the farms and several crops were destroyed. In those times, the issues were settled amicably between the two groups. The herders were ready to pay damages on crops damaged and compensate the farmers in return for the loss.

Around *Igbeti*, *Igboho*, *Kishi*, *Oyo-Ile* were the places our forefathers first settled when they came from the north or *Iorin* then. Even in this *Ibarapa* area, it was our great-great-grand father that brought us here. In those places that I mentioned that we were told by our fathers that they have settled before, they had experienced cases where their animals would eat crops on farms. We were told that even then cattle use to enter farms and eat crops planted on the farms several times. The issue of cattle eating farm crops is not a new thing around here. It's an age-long issues that the communities around here have experienced. Even communities in *Oke-ogun* area. Because we have our people there also. The Yoruba farmers that old can even testify to that. It is not new. It didn't just start today. But they settled it easily. [IDI_fulani-headsmen_male_adult_eruwa_1]

The age-long relationship between herders and Yoruba community helps in facilitating harmonious relationship in solving farmers'-herders' problems of cattle encroachment into farms whereby crops were destroyed. In those days, the Yoruba people knew all the Fulani herdsmen who have cattle in their communities and they relate cordially. Their staying together foster good relationship that that is used as mechanism to solve any conflicts that may want to erupt due to crops destruction by cattle. They quickly nip the issue on the bud before it would degenerate to tension or conflict. One of the respondents stated that:

You know that we have been here for about 100 years and we have good relationship with the people here. So, then, in the days of our fathers, when cattle eat farms, the farmers may know whose cattle they were, and the owners will take responsibility for the destructions of the farmer by cattle. Most times the herdsman will not pay anything but beg the farmer that such will not happen again. Because of the relationship between them, the farmer will overlook, because there is possibility that the crops damaged will still come around if rain fall on them overtime. So, because they (our fathers) have been with the Yoruba people for long, they know what to do when such issue came up and quick solution will come. They understand Yoruba and Yoruba understand the herdsmen. *[IDI_seriki-fulani_male_adult_eruwa]*

Migration has been pointed out as one of the significant features of herdsmen across board. The study found that climate change and desertification in the northern region Nigeria where is the main base of the Fulani herdsmen contribute to population pressure and increase of Fulani herdsmen in the study area. Climate change and desertification force Fulani herdsmen to migrate from the north to the south, especially where they can feed their cattle well and take care of them very well. The kind of climate and the harsh whether condition in the north is one major reason why there are huge presence of various tribes of Fulani herdsmen in the area. They are all looking for comfortable sites for cattle rearing.

On their side, there are lots of dry grounds. They don't have grassy land like we have it here. Then population of people increases more and more...the farming and cattle rearing business now have more demands than before. Is this not what is causing conflicts? And also, both of you depend on the same land for these endeavours. The land is not increasing but people are increasing on the land. This may the cause of the conflict and it may not since everyone is able to stay on his lane. There won't be conflicts. However, in this issue at hand, they [herdsmen] don't seem to stay on their lane. *(IDI_yoruba-farmer_female_adult_Igboora_2)*

There is what they call climate change. For instance, maybe in the environment where they come from, there is drought or prolong dry season. Dry season comes up earlier there [northern part] than here [southern part]. Because of the climate, maybe that is why they move to this side. Then, human population increase...if we have not been to the north, we hear and read what is happening there. But when someone is migrating/or travelling he/she need to add good behaviours to his traveling. There are some people among us in the southern part here that have migrated to the north for business purpose due to the condition that you have mentioned. Anyone that his business has something to do will the climatic condition will have to move to a favourable area. *(IDI_yoruba-head_male_adult_oye-tapa_1)*

Yoruba have a proverb before now that "Fulani does not leave in the year that he built last year". If we use a place for three years, we will move to another place so that our cattle will be used to the environment. And I

think this is because of climatic condition that are in the northern part. But now that there is mixed multitude. You have Togolese, French, all converged in one place. That make us to settle in one place. Before now, Fulani does not stay more than three years in one place. We got here around 1963 from Kwara State. (*IDI_seriki-fulani_male_adult_Igboora*)



Fig. 1: Herdsmen moving cattle across to another location during climate change

Source: Field Survey, 2023

Migrant herdsman/cattle rearing hirelings, which is popularly known as *Alágbàdà* in around *Ibarapa* area and its environs, plays a vital role in cattle rearing/livestock business in Nigeria. They are responsible for managing and caring for cattle on behalf of the cattle owners. They ensure the wellbeing of the cattle and contribute to the food security in the country. Part of their roles cover, grazing of cattle; making sure that they lead the cattle to grazing areas and ensure adequate food and water are available for the animals; they move cattle from one location to another mostly due to climate change in the northern part of Nigeria, often long distances. Also, they assist with breeding and calving, that is, caring for newly born calves. They are major contributor to the economy of the cattle owners. Also, they play a significant role in the escalation of the conflict between Fulani herdsman and farmers. Moreover, outcome of the study found among others the culture of loyalty between them and the owners of cattle they join in perpetuating the culture of grazing rights, they are paid based on the head of cattle, hence incentivising them prioritizing grazing over land ownership or crops found on the land they graze on.

The study observed that there is an indirect dealing between *Alágbàdà* [the hirelings] and Yoruba settlers [Yoruba people] through the sedentary herdsman that have been in the communities for long. In most cases, there are cattle owners with large number of cattle, these are mostly the sedentary herdsman in the community, the increase in the number of cattle have compelled the cattle owners to engage the services of *Alágbàdà* to help manage the cattle on their behalf. Because these *Alágbàdà* are new migrants in the area, they sometimes want to please their employers by feeding the cattle very well which made them graze cattle in on farm lands at time. This has always brought serious issues that leads to conflict between farmers and cattle owners.

Those that own the cattle has so many of them (*Alágbàdà*) and they can't do it [cattle rearing] alone... there are lots of cattle in their hands. Even our people give them cattle to keep for them. They can't care for the cattle alone. They will engage people (*Alágbàdà*) to help out... the helpers are now those that create problems for them... they cause most of the problems. Even as they graze the cattle they may intentionally lead them into the farm, because he (*Alágbàdà*) knows that if he didn't feed the cattle well the owner may not want to reward him well too. **IDI_fulani-herdsmen_male_adult_Igboora_4**

The study revealed that the nature of the work done by the hireling for the cattle owners are most times target-driven. There is verbal contractual agreement between cattle owners and the *Alágbàdà* to feed the cattle well. This contractual agreement is indirectly embedded with force that propels the *Alágbàdà* to do whatever it take to feed the cattle well enough. The subtle pressure upon the *Alágbàdàs* through the instrumentality of target/reward system of sedentary cattle herdsman created the force that triggered eagerness in the *Alágbàdà* to rear cattle. This contractual force and subtle pressure sometimes metamorphose to why cattle are driven into Yoruba farmers' farms by these herders and also, why farm crops, even the harvested ones that are kept on the racks in the farms, are used to feed the cattle. The idea behind this is that, when the cattle owners see the cattle, they will know that the cattle are well fed. And the *Alágbàdà* will be rewarded well based on the contractual agreement. Also, because most of them cannot be traced, the cerate problems or commit crimes and run away.

There is an agreement between the *Alágbàdà* and the cattle owners before they (*Alágbàdà*) start the work. So, if he sees where the farmer keeps his harvested yam or cassava, he may direct the cattle towards the location and open it up for cattle to feed on. Even the cassava that have not been harvested, [that are inside the soil], he may start uprooting them and give them to the cattle to eat on. They do this most times because of the agreements between them and the cattle owners. The owners of the cattle are at home without knowing what was going on it the bush. From there, if the farmer sees him, he will just run away and leave the cattle there. He knows that if he kills anybody at the farm, he will run away. Therefore, it is all those that they employ that are responsible for most of the troubles. Only very little out of it come from the owners of the cattle.

IDI_fulani-herdsmen_male_adult_Igboora_4

Even if you get capable hands, what type of people do you engage? You know that some of these people (*Alágbàdà*) may not understand Yoruba language. They may be thinking of the compensation or reward they will get alone. This may make them to direct cattle into the farms so as to meet up with the demand of their principal in getting good reward. In a way, this is also similar to farming. If someone is farming now and the farm is big, you know that the owner cannot take care of the farm alone. It is expected that the farmer will get labourers to help him on the farm. **IDI_fulani-herdsmen_male_adult_Igboora_2.**

From the previous narratives, we see that part of the force that trigger the conflict came mostly from the newly arrived herdsmen who came to work for the cattle owners. Also, there are some new herders that came in with their cattle from another place, they are nomads, these sets join the newly arrived *Alágbàdà* that were employed by the sedentary herdsmen to help in grazing the cattle on their behalf. Most of the time, there is language barrier problem between these people and the Yoruba farmers. They often do not understand Yoruba language properly. When cattle entered into the farm and the farmers saw the cattle in the farm eating the crops, the farmers will address the cattle herder in Yoruba language, but the herders do not understand the language well, as a result of this, there will be disagreement and fight will break out between them.

So, you see, the *Alágbàdàs* are the main, the main people that caused problems between the Yoruba farmers and the Fulani herders. It is not the people that own the cattle. You know that some of the Fulani that own the cattle are from *Ilorin*. They understand Yoruba very well. They have relationship with Yoruba. But those that herd the cattle on their behalf are the one causing troubles. Most of them don't understand how to speak Yoruba language well.

IDI_fulani-head_male_adult_eruwa

There is language barrier. For instance, if Yoruba farmer says to him (herders) in the farm that, friend don't let cattle eat up my farm. He may think that the farmer is said another thing. That is what is causing the problem. But if they are those that understand Yoruba language, the Fulani will respond according to the statements made by the farmer and there won't be any problem, because the Fulani herdsmen would have spoken Yoruba language to the farmers. But it is not like that with the

newly arrived herdsmen that does not understand Yoruba language. **IDI_fulai-head_male_adult_Igangan_phone-call**

The study also shows that less involvement of old and experienced sedentary herdsmen in cattle rearing created pattern of conflict between Yoruba famers and nomadic Fulani herdsmen that move around bushes to graze cattle. Those that are engage to graze cattle, that is, the *Alágbàdàs*, are not well integrated into the culture of the host community and so, do not understand the social and economic dynamics required for peaceful coexistence. Because they are not fully into the movement of cattle around anymore, they now engage the services of the upcoming cattle herders or the *Alágbàdà* (hirelings) to take care of the cattle on their behalf. Any member of the host community or the Yoruba indigene from other places apart from *Ibarapa* area that are interested in rearing cattle often go through them. Although, the owner of the cattle is traceable when the *Alágbàdà* gets into trouble in the farm and ran away. The owner can be traced through the cattle. Every herder knows the cattle that belong to their people, especially when there is problem or cattle are seized.

You will see that we mentioned it earlier that those that employed them doesn't know much about how the problem started. Because they are less involving in herding of cattle in the bush. They don't herd cattle again. You know one other thing that makes the problem that the *Alágbàdàs* created to get to the cattle owner? When they cause problem, the farmer whose farm was destroy will investigate about the *gaa* [herdsmen location] that they came from, all the farmers know all the *gaa* in this place. Whatever the hireling did in the farm whether he wounded someone, rape someone, kill someone or whatever, the famers will then group themselves and head to the *gaa* to fight with whoever they find there. They won't say is that person (*Alágbàdà*) that offend them anyone, they will make the fight a general one. So this is how the problem will now get to all the Fulani herdsmen around. That is how it will also get to the head of Fulani (*Seriki Fulani*) because they will believe that the head of Fulani in that community must know about the atrocities committed.

IDI_fulani-head_male_adult_eruwa.

The study also found that most of the old and experienced herders have stopped rearing cattle. They are now comfortable with their achievement in the business so far. They stay at home or at *Kara* (big market place for cattle business) and consolidate on their cattle business activities. Some of them are now living in towns, while their animals are left with the hirelings in their settlements bush or village. They serve as lords overseeing cattle rearing business. Most times, they engage young herders to rear the cattle for them. Some of which are underage. Some of whom do not have strength to handle the cattle in the bush when they stray into farms.

The owner of the cattle these days are now more civilized than before. They don't graze cattle any more. They are big men. Now, they control the activities of cattle rearing and selling from towns. They have left cattle rearing in the care of the hirelings (*Alágbàdà*) and young herders. When they (cattle owner) wake up in the morning like this, they will just dress up, leave the village and come to town. They spend most of their times in the towns. Some even live permanently in towns. Not villages or bush where their cattle are. Where they use to live before. For some that stay in the village or bush, when they get to the village, they will just go to sleep. They have given their works to another people to do for them. The people that they gave them to may be those that they just met either at the *kara* or somewhere without thorough background check. Some of them are so wild in character. They don't care what happen to anyone, as long as they achieve what they want. Some are into substance/drug use. If you address them anyhow, they may raise up their cutlass in an attempt to machetes the fellow. **IDI_yoruba-community-head_male_adult_Igboora**

Use and abuse of substance was also discovered to have indirect influence on the way and manner conflict erupts between herdsmen and Yoruba farmers. Although, substance use or abuse may not be the direct cause of the conflict but it heightened the cause of the conflict. Through the study participants' responses, the study observed that the use of illicit substance is quite common among the young herdsmen and these

made them to misbehave. The influence of the substance use helps in giving more energy to commit any criminal activities against the farmers in the bush.

Another thing is how to control the use of drugs and substance. This is so common among the young ones (young *Alágbàdà*) these days...whoever that use drugs or substance can do wrong things at any time. There is nowhere such person will not graze cattle into. That is what caused it is not only because of the money or benefit that he will get from his master. In fact, his master may not give him anything but when someone ingests substance, he won't be in his right frame of mind and he will misbehave...drug abuse and use have huge impact of the conflict. For someone to take a gun and fired it against another person you should know that he won't do that with right senses. It all these substances that people are selling all around that contribute to the rate at which the conflicts between Fulani and herders have gone bad. **IDI_fulani-headsmen_male_adult_eruwa_2**

Some of the hireling that they manage to get might have been high on substances like marijuana and the likes...this is not only peculiar to herders alone. Even in some places, if you see people taking the hems and you are slow in living that vicinity, the fellow will see what he didn't bargain for. The moment you see him putting his hands into the mouth smoking the hemp, don't take chances, just leave that place immediately...that is it. And the will not smoke it in their settlements [*gaa*]. Even us, we use to tell their fathers that your children are smoking Indian hemp. Not only do they take Indian hemp, they also take every hard drinks that come their ways. That is why there are problems and they will go and meet them in their settlements [*gaa*]. Do you expect me to follow someone who hold cutlass and have taken hems? I can't follow such fellow, because I don't have charms for cutlass. That is exactly the way it is. **IDI_yoruba-farmer_male_adult_lanlate_3**

Migration of herdsmen is a common narrative in various studies on herders-farmers conflict, but the influence of the personality of herdsmen on the conflict remain elusive and vague in various discussions. The study observed in-migration as part of the nature of the conflict just as other study. As a result of internal migration of herdsmen, whereby they move from one locality to the other within the country, there is what can be termed as "relationship conflict" that is, difference in personality that result into conflict. This arises from differences in personality, style, way of life, value and so on. The migration of new types of herdsmen created personal differences between the sedentary herdsmen and farmers on one hand, and between the newly arrived herdsmen and famers on the other hands.

The Fulani herdsmen move about from one place to another, from one northern state to southern states. They are new to the terrain of their present location...This new Fulani...for instance, the Fulani *Bororo*...they came here not more than ten years now, or twenty years now. There are several kinds of them. Some are soft in their behaviours and personality with people. Some don't want to see us [Yoruba farmers] at all. They are those that came last. In fact, some the Fulani herdsmen that have been on group for years before they came dislike their behaviours. I mean, the character of the new ones. When this wicked type now came last, you know that bad people have made good ones to become bad, they are now mixed together, the good and well behaved Fulani and the bad ones. Then we became incapacitated. We have no power at all to confront them.

IDI_yoruba-head_male_adult_eruwa

DISCUSSION OF FINDINGS

This section of the study discusses the findings of the study by providing a thorough analysis and insights based on the outcomes from on the specific study objective buttress by literatures as well as concepts from the theory that guide this study. It starts with the discussion on the finding of the main issues that triggered the conflict. It also presents a logical and thematic order of the objective. The objective is to explore the roles of migrant herdsmen (cattle rearing hirelings) and land conflict between Fulani herdsmen and local farmers in *Ibarapa*, Oyo State, Nigeria.

Here, the theory used in the study played vital roles in discussing the findings. That is, the Clash of Civilization theory of Samuel P. Huntington. On a global scale, future international conflicts, according

to Huntington's theory in Clash of Civilizations (Huntington, 1993), will primarily result from cultural rather than ideological differences between civilizations. He claimed that, while ideological differences are pervasive more than culture, people tend to band together when fighting for an ideological cause, such as during a war. Culture will continue to be a source of ongoing conflicts as long as there is cultural separation.

The main trigger of the conflict as observed in the study was cattle grazing on farmlands which, of course, led to destructions of crops and other farm produce. This was the popular belief everywhere and it is right. However, there were some embedded social, cultural and political dynamics which have potential to trigger conflict which have not been managed well over the years that led to the eventual eruption of the conflict in a large scale. One of the many issues instigated conflict was the lack of system and structure to manage the dynamics imposed on the host community due to the migration of people from other cultures and tribes to that area. As such, migrants imported into the social space and cultures other than the prevalent Yoruba culture, and so, brought about cultural differences within the same social milieu. One of the main ways of handling this cultural differences was the deliberate ways in which the two groups integrate. Moritz (2006, p. 30) and Tonah (2002) argued that the basis for the long term symbiosis relationship which either of the party initiated was formed through reciprocity. When the relationship is established, more substantive gifts and commodities are exchanged. There were economic interdependencies, as a pointer to good relationships between farmers and herders such as cattle entrustment.

The differences were not among all the Fulani and Yoruba people, because some Fulani herdsmen have been able to integrate into the communities. These were the sedentary Fulani herdsmen. However, the migrant ones (nomadic Fulani herdsmen) who come in, year-in year-out, have not been able to integrate. These category of Fulani herdsmen that were unable to integrate were part of the people that fuelled the conflict because they brought foreign culture into the place which was alien to the people that were on ground. Tade (2020) stated that another argument by the herdsmen was that most of the farm destructions attributed to them (the sedentary herdsmen) were actually done by the nomadic herder who migrated to the area for cattle grazing and these nomadic herdsmen lack knowledge of the culture of the Yoruba people.

Historical Antecedent and Occurrence of Land Conflict

The outcome of the study on historical antecedents and occurrence of conflict further threw more light on the historical antecedents of Fulani herdsmen in Ibarapa and Yoruba land in general, and the historical occurrence of land conflicts relative to the two groups especially in the study area. The study found that the existence of Fulani herdsmen dated back several decades in fact, more or less a century (more or less 100 years). Lander in 1830, as cited in Oyeniyi (2013) claimed that one of the notable Europeans who visited Africa recorded the existence of Fulani herdsmen in Yoruba land, specifically, in the ancient Oyo town in the 1830s. This claim supported the finding of the study that the existence of Fulani herdsmen in Yoruba land did not start recently. It was more like the existence of some of the Yoruba communities. The study found that they came in at the formative stage of these communities and the indigene in the communities accepted them in so as to help defend the communities against external aggressions.

The study discovered that majority of Fulani herdsmen in Ibarapa area were mostly from Ilorin, the middle belt-region of the country. Ilorin was believed to be part of the Fulani enclave. Fulani people were known to be part of the major tribes in the area along with the Yoruba people. This cannot be disputed as the extant literature revealed that movement from one geographical territory to the other is one of the major feature of Fulani herdsmen (Anter, 2011). Those that have stayed long were classified as the sedentary Fulani herdsmen and because they have stayed long there, they became part of the stakeholders in the community. They contributed to the development of the community and pay their allegiance to the head of the community, the *Baale* and the Kings. Nzeh (2015) argued that, although, by culture, tradition and nature of occupation this group do not own land or permanent place of abode (Nzeh, 2015), however, as they became loyal to, and friendly with the host community, they had opportunities to own lands and settled properly in the communities. In fact, as some lands in some communities were intentionally carved out for them by the community heads, with legal approval by the *Baale* or Oba to back it up, everyone in such community know that such lands belong to Fulani herdsmen, so they cannot encroach into it or take it away from them. Moreover, because Yoruba settlers were very few in number at the inception with large expanse of land, they were willing to accommodate people to stay with them and help them populate their communities. Hence, they allocate lands to Fulani herders to settle on. This was also part of how Fulani herdsmen got land to settle on in *Ibarapa*.

On the occurrence of the conflict between the two groups, the study further found out that the main issue that currently triggered the conflict between the two groups, was majorly about how cattle ate up crops in the farm or destroyed farmlands. This was not a new phenomenon. It was dated back to several years before now. There had been times that cattle had strayed into the farms and several crops were destroyed. Although, the conflict was not in this magnitude. Extant literature has it that one of the foremost Europeans who visited Africa recorded in the 1830s that, in the process of nomadic pastoralism, serious conflicts erupted between the herders from *Sokoto* who through livestock grazing destroyed farm produce in ancient Oyo (Lander, 2011; Oyeniyi, 2013). Adebayo (1991; 1997) without mentioning bloodshed, he mentioned rivalry between the two groups in the 12th and 13th centuries. Adebayo claimed that in Middle-belt and Yoruba land, there were misunderstanding either between pastoralists and the sedentarists, or herdsmen and farmers. He further maintained that in the 19th century, in the Middle-belt or non-Islamized area in the northern Nigeria, the pastoralists did not find the place very conducive. Despite the fact that there were abundant of land and water for cattle grazing...there are clashes, misunderstandings and rivalries in Yoruba communities that accommodate Fulani herdsmen, Adebayo stated that these occur as early as the presence of herdsmen in the Yoruba land. Despite the fact that these two groups maintain good relationship there are few conflicts or clashes between them without any trend of political influence. There misunderstanding between the Fulani and their hosts, failed economic transactions, and regrettable events where animals broke into farms and trampled standing crops. In Iwo local government area, the Police in the area, in their report in the station, reported that between 1986 to 1992 there were clashes between Yoruba farmers and Fulani herdsmen (1997). In those times, the issues were settled amicably between the two groups. The herders were ready to pay damages on crops damaged and compensate the farmers in return for the loss. The age-long relationship between herders and Yoruba communities help in facilitating harmonious relationship in solving farmers'-herders' problems of cattle encroachment into farms.

The Roles of Migrant Herdsmen (Cattle Rearing Hirelings) and Land Conflict

Alágbàdà (Migrant herdsmen/cattle rearing hirelings) around *Ibarapa* area and its environs, plays a vital role in cattle rearing/livestock business in Nigeria. They are responsible for managing and caring for cattle on behalf of the cattle owners. They ensure the wellbeing of the cattle and contribute to the food security in the country. The movement of the *Alágbàdà* across geopolitical space is not a new phenomenon. Tonah (2006) maintained that the movement of migrant herdsmen, particularly Fulani herdsmen in West Africa, has long been associated with traditional cattle-rearing practices. Part of the roles of the *Alágbàdà* cover, grazing of cattle; making sure that they lead the cattle to grazing areas and ensure adequate food and water are available for the animals; they move cattle from one location to another mostly due to climate change in the northern part of Nigeria, often long distances. Rigaud et al. (2021) stated that West Africans have a long history of dealing with harsh climate conditions. Mobility has always been a key strategy for people in the region to manage risks and take advantage of opportunities, whether it is nomads crossing the Sahel to feed their livestock, fishermen braving stormy seas, or merchants crossing the desert.

Also, they assist with breeding and calving, that is, caring for newly born calves. They are major contributor to the economy of the cattle owners. Also, they play a significant role in the escalation of the conflict between Fulani herdsmen and farmers. Moreover, outcome of the study found among others the culture of loyalty between them and the owners of cattle they join in perpetuating the culture of grazing rights, they are paid based on the head of cattle, hence incentivising them prioritizing grazing over land ownership or crops found on the land they graze on.

The study observed cattle rearing inter-relationship between the cattle herders and the farmers, an indirect dealing between *Alágbàdà* (the hirelings) and Yoruba settlers (Yoruba people) through the sedentary herdsmen that have been in the communities for long. In most cases, there are cattle owners with large number of cattle, these are mostly the sedentary herdsmen in the community, the increase in the number of cattle have compelled the cattle owners to engage the services of *Alágbàdà* to help manage the cattle on their behalf. Because these *Alágbàdà* are new migrants in the area, they sometimes want to please their employers by feeding the cattle very well which made them graze cattle in on farm lands at time. This has always brought serious issues that leads to conflict between farmers and cattle owners.

The study revealed that the nature of the work done by the hiring for the cattle owners are most times target-driven. There is verbal contractual agreement between cattle owners and the *Alágbàdà* to feed the cattle well. This contractual agreement is indirectly embedded with force that propels the *Alágbàdà* to do whatever it take to feed the cattle well enough. The subtle pressure upon the *Alágbàdà* through the

instrumentality of target/reward system of sedentary cattle herdsman created the force that triggered eagerness in the *Alágbàdà* to rear cattle. This contractual force and subtle pressure sometimes metamorphose to why cattle are driven into Yoruba farmers' farms by these herders and also, why farm crops, even the harvested ones that are kept on the racks in the farms, are used to feed the cattle. The idea behind this is that, when the cattle owners see the cattle, they will know that the cattle are well fed. And the *Alágbàdà* will be rewarded well based on the contractual agreement. Also, because most of them cannot be traced, the cattle problems or commit crimes and run away.

The study also showed that less involvement of old and experienced sedentary herdsman in cattle rearing created pattern of conflict between Yoruba farmers and nomadic Fulani herdsman that move around bushes to graze cattle. Those that are engaged to graze cattle, that is, the *Alágbàdàs*, are not well integrated into the culture of the host community and so, do not understand the social and economic dynamics required for peaceful coexistence. Because they are not fully into the movement of cattle around anymore, they now engage the services of the upcoming cattle herders or the *Alágbàdà* (hirelings) to take care of the cattle on their behalf. Any member of the host community or the Yoruba indigene from other places apart from *Ibarapa* area that are interested in rearing cattle often go through them. Although, the owner of the cattle is traceable when the *Alágbàdà* gets into trouble in the farm and ran away. The owner can be traced through the cattle. Every herder knows the cattle that belong to their people, especially when there is problem or cattle are seized.

The study also found that most of the old and experienced herders have stopped rearing cattle. They are now comfortable with their achievement in the business so far. They stay at home or at *Kara* [big market place for cattle business] and consolidate on their cattle business activities. Some of them are now living in towns, while their animals are left with the hirelings in their settlements bush or village. They serve as lords overseeing cattle rearing business. Most times, they engage young herders to rear the cattle for them. Some of which are underage. Some of whom do not have strength to handle the cattle in the bush when they stray into farms.

Use and abuse of substance was also discovered to have indirect influence on the way and manner conflict erupts between herdsman and Yoruba farmers. Although, substance use or abuse may not be the direct cause of the conflict but it heightened the cause of the conflict. Through the study participants' responses, the study observed that the use of illicit substance is quite common among the young herdsman and these made them to misbehave. The influence of the substance use helps in giving more energy to commit any criminal activities against the farmers in the bush.

The study observed in-migration as part of the nature of the conflict just as other study. As a result of internal migration of herdsman, whereby they move from one locality to the other within the country, there is what can be termed as "relationship conflict" that is, difference in personality that result into conflict. This arises from differences in personality, style, way of life, value and so on. The migration of new types of herdsman created personal differences between the sedentary herdsman and farmers on one hand, and between the newly arrived herdsman and farmers on the other hands.

SUMMARY OF MAJOR FINDINGS

The movement of migrant herdsman, particularly Fulani herdsman in West Africa, has long been associated with traditional cattle-rearing practices. However, this movement has increasingly led to land conflicts, particularly between Fulani herdsman and local farmers. The roles of these herdsman as cattle-rearing hirelings, coupled with their seasonal migrations, have significant implications for land use, resource competition, and social conflict in the regions they traverse. Hence, on the roles of *Alágbàdà* and land conflict between the two groups, the study found that;

1. There were cattle rearing inter-relationship between the cattle herders and the farmers, an indirect dealing between *Alágbàdà* (the hirelings) and Yoruba settlers (Yoruba people) through the sedentary herdsman that have been in the communities for long. In most cases, there are cattle owners with large number of cattle, these are mostly the sedentary herdsman in the community, the increase in the number of cattle have compelled the cattle owners to engage the services of *Alágbàdà* to help manage the cattle on their behalf. Because these *Alágbàdà* are new migrants in the area, they sometimes want to please their employers by feeding the cattle very well which made them graze cattle in on farm lands at time. This has always brought serious issues that leads to conflict between farmers and cattle owners.

2. That the nature of the work done by the hireling for the cattle owners are most times target-driven. There is verbal contractual agreement between cattle owners and the *Alágbàdà* to feed the cattle well. This contractual agreement is indirectly embedded with force that propels the *Alágbàdà* to do whatever it take to feed the cattle well enough. The subtle pressure upon the *Alágbàdàs* through the instrumentality of target/reward system of sedentary cattle herdsman created the force that triggered eagerness in the *Alágbàdà* to rear cattle. This contractual force and subtle pressure sometimes metamorphose to why cattle are driven into Yoruba farmers' farms by these herders and also, why farm crops, even the harvested ones that are kept on the racks in the farms, are used to feed the cattle. The idea behind this is that, when the cattle owners see the cattle, they will know that the cattle are well fed. And the *Alágbàdà* will be rewarded well based on the contractual agreement. Also, because most of them cannot be traced, they create problems or commit crimes and run away.
3. That less involvement of old and experienced sedentary herdsman in cattle rearing created pattern of conflict between Yoruba farmers and nomadic Fulani herdsman that move around bushes to graze cattle. Those that are engaged to graze cattle, that is, the *Alágbàdàs*, are not well integrated into the culture of the host community and so, do not understand the social and economic dynamics required for peaceful coexistence. Because they are not fully into the movement of cattle around anymore, they now engage the services of the upcoming cattle herders or the *Alágbàdà* (hirelings) to take care of the cattle on their behalf. Any member of the host community or the Yoruba indigene from other places apart from *Ibarapa* area that are interested in rearing cattle often go through them. Although, the owner of the cattle is traceable when the *Alágbàdà* gets into trouble in the farm and ran away. The owner can be traced through the cattle. Every herder knows the cattle that belong to their people, especially when there is problem or cattle are seized.
4. That most of the old and experienced herders have stopped rearing cattle. They are now comfortable with their achievement in the business so far. They stay at home or at *Kara* [big market place for cattle business] and consolidate on their cattle business activities. Some of them are now living in towns, while their animals are left with the hirelings in their settlements bush or village. They serve as lords overseeing cattle rearing business. Most times, they engage young herders to rear the cattle for them. Some of which are underage. Some of whom do not have strength to handle the cattle in the bush when they stray into farms.
5. Use and abuse of substance was also discovered to have indirect influence on the way and manner conflict erupts between herdsman and Yoruba farmers. The study observed, through the participants' responses that the use of illicit substances is common among the young herdsman and these made them to misbehave. The drugs in their body system help them to kill, rape and commit any criminal activities against the farmers in the bush.
6. The study also observed in-migration as part of the nature of the conflict just as other study. As a result of internal migration of herdsman, whereby they move from one locality to the other within the country, there is what can be termed as "relationship conflict" that is, difference in personality that result into conflict. This arises from differences in personality, style, way of life, value and so on. The migration of new types of herdsman created personal differences between the sedentary herdsman and farmers on one hand, and between the newly arrived herdsman and farmers on the other hands.

CONCLUSION

Based on the findings, the study concluded that the conflict between Fulani herdsman and Yoruba farmers in *Ibarapa* was not a new phenomenon to Yoruba community and Nigeria history as a whole and some of the extant literatures that were reviewed in the study also pointed to this fact. However, the recent involvement of migrant Fulani cattle-rearing hirelings (*Alágbàdà*) in the conflict different dimensions from what have been witness before in the years past. The study revealed several factors and dynamics that either triggered or drove the conflict between the two groups. It was pointed out that some of the groups could not manage some of the dynamics that their co-existence threw up. Is it beyond them? Could

they have been able to manage it? Of course, they would have been able to manage them assuming verbal contractual agreement between *Alágbàdà* and the cattle owners drove them to graze cattle on farmlands was not there in the first place, the disagreements on grazing routes, use of illicit substance were available but they were unable to manage them because the relationship between the groups were poorly handled in the face of the challenges from new herdsmen and/or *Alágbàdà* as they related with the host community, and as they carried out their cattle rearing activities, have overwhelmed them and the conflict erupted.

RECOMMENDATION

Drawing from the findings of the study, the following were recommended;

1. The cattle owner should look thoroughly into the verbal contractual agreements they have with the *Alágbàdà* which often made them to act above board in order to please them (cattle owners) while taking care of the cattle in the bush.
2. There should be close monitoring of the *Alágbàdà* by the owners, this will check the use of illicit substance among them.
3. Adequate conflict resolution measures that will thoroughly address the problems should be put in place to tackle all the factors that triggered the conflict between the two groups. The stakeholders must be intentional in finding lasting solutions to the conflict and it should be devoid of political interference or play of politics.
4. Adequate conflict resolution measures that will address the cause of the conflict must consider the cause of mutual suspicion which is land and the roles of *Alágbàdà* in *Ibarapa*.
5. The idea behind nomadic pastoring should be redefined. The world is moving on and a lot of changes are happening in the way people do things. Therefore, traditional method of cattle rearing that often leads to conflict between people need to be jettisoned so as to give peace a chance. The herdsmen should embrace modern system of rearing cattle in ranches instead of open grazing to avoid conflicts with farmers and land owners.
6. The use of illicit substance by the *Alágbàdà*s (hirelings) as revealed in the study among the factors that often triggers the conflict need to be looked into by the authority. Government should intensify more efforts in curbing the menace of substance use and abuse in the society. The National Drug Law Enforcement Agency (NDLEA) should beam their search light into rural communities where herders and farmers are.
7. The major purpose of research is to advance knowledge, hence policy makers should exploit recommendations of researches work as this in order to further improve on the solution to lingering conflict between herdsmen and farmers or host communities where Fulani herders are located.

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The Political Economy of Regionalization of Security in Western Nigeria

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Abstract

In recent years, Nigeria has witnessed a significant surge in violent crime, insecurity, and symptoms of state fragility, particularly in the face of federal government's constrained capacity to ensure effective security provision nationwide. This has catalyzed a growing trend toward the regionalisation of security, especially in the southwestern region. Despite this development, there remains a critical gap in the literature regarding the underlying political, economic, and institutional dynamics that drive the decentralization of security governance. Most scholarly attention to date has focused on descriptive narratives of regional security initiatives, such as the Western Nigeria Security Network, popularly known as Amotekun, without adequate empirical engagement with the political economy of their emergence and operation.

This study seeks to address this lacuna by undertaking a comprehensive political economy analysis of the regionalisation of security in Nigeria using Amotekun as a focus. It examines how the inability of the federal government to provide adequate security has created a vacuum that emboldens non-state actors and criminal networks to engage in sustained violent activities, including kidnapping, banditry, sexual violence, and cattle rustling. The research interrogates the political incentives, economic interests, and power negotiations that have shaped the formation, implementation, and contested legitimacy of subnational security arrangements. Furthermore, the study engages with the broader developmental implications of security regionalisation, especially its effects on state legitimacy, public trust, and governmental relations within Nigeria's federal structure.

The central argument advanced in this paper is that the persistent failure of the federal government to enact and implement proactive, development-oriented security policies has compelled subnational actors in the southwest to develop autonomous mechanisms of protection. In this context, Amotekun represents not merely a response to insecurity but a politically and economically informed initiative that reflects evolving centre-periphery dynamics and contestations over authority and governance within the federation.

Methodologically, the study adopts a qualitative case study approach, drawing on in-depth interviews with key informants as well as the review of relevant secondary sources, including policy documents, security reports, and scholarly literature on federalism and governance. The analytical framework is grounded in political economy analysis, which facilitates a critical examination of the interests and actors that benefit from the regional security arrangement, the scope and scale of state-level investments in security, and the intergovernmental tensions that have ensued between southwestern states and the federal government.

Data was coded and analysed using Atlas.ti 24, enabling thematic patterns related to security governance and federalism. Besides, triangulation and validation techniques were employed to ensure credibility and trustworthiness. Based on the analysis, the study suggests structured training programmes for Amotekun operatives in line with modern security standards, clearer constitutional interpretations of security responsibilities, and the development of inclusive policies that enhance public safety while reinforcing state legitimacy.

Keywords: Regionalized security, intelligence gathering, decentralized policing, federalism, intergovernmental relations

Introduction

Nigeria has experienced a significant surge in violent crimes, insecurity, and indicators of state fragility, largely attributable to the federal government's inability to ensure effective nationwide security. In response, subnational entities have begun to pursue alternative security frameworks, exemplified by the creation of regional security initiatives such as the Western Nigeria Security Network, codenamed *Amotekun* (Mou, 2023; Omitola et al., 2022; Omotola & Aiyedogbon, 2021). While these developments represent pragmatic efforts to address localized security challenges, they simultaneously provoke critical debates regarding the restructuring of federalism, the underlying political and economic motivations behind regional security formations, and their broader implications for national cohesion and development.

The Western region's adoption of *Amotekun* as a mechanism of regionalized security denotes a significant transformation in the political economy of governance and public safety in Nigeria (Agbaje et al., 2022). One may be tempted to ask, what political imperatives reinforce the push for regional security frameworks such as *Amotekun* in Western Nigeria? In what ways do such initiatives influence public perceptions of state legitimacy and capacity? To what extent has *Amotekun* improved or complicated security outcomes in the region? What constitutional provisions surround the legality of regional security agencies within the Nigerian federal structure? In this context, the paper explores the political and economic factors underpinning the regionalisation of security in Western Nigeria, with a particular focus on how sub-national actors respond to perceived deficiencies in federal security provision, and its implications for national cohesion and governance.

Research Questions

- i) How does regional security outfit challenge Nigeria's federal structure?
- ii) Could regional security investment divert funds from other crucial development?
- iii) How do people in Western Nigeria perceive the effectiveness of *Amotekun*?

Research Objectives

- i) To discuss how intergovernmental relations influences the legitimacy of regional security.
- ii) To examine institutional mechanisms put in place to ensure oversight of *Amotekun*.
- iii) To explain the collaborative efforts of relevant stakeholders in shaping the operations of the regional security forces.

Literature Review

The regionalisation of security in Western Nigeria has emerged as a critical theme in contemporary Nigerian security studies, particularly as a response to growing insecurity, perceived inefficiencies in federally centralized policing, and increasing regional political consciousness (Nwoko, 2024; Oluoro & Oluwasuji, 2021). This development is most effectively analyzed through the lenses of state fragility, decentralization, and ongoing debates surrounding federalism and sub-national autonomy within Nigerian polity (Adebanwi, 2020; Iroanya, 2022). A significant body of scholarly work has examined the underlying motivations behind the establishment of regional security networks, most especially the Western Nigeria Security Network labelled *Amotekun*.

Adebisi (2021) contends that the formation of *Amotekun* reflects a reactive strategy by South-western states to the chronic incapacity of federal security institutions in addressing persistent threats, including kidnapping, armed banditry, and violent conflicts between herders and farmers. This regional initiative is construed both as a pragmatic response to insecurity and a manifestation of sub-national political agency. Adebanwi (2021) contextualizes *Amotekun* within a broader historical trajectory of regionalism, linking its ideological and political underpinnings to the pre-independence federal structure and subsequent post-colonial struggles to secure regional autonomy. The literature suggests that such regional security arrangements serve utilitarian functions cum symbolic and political purposes, reinforcing ethno-regional solidarities and identities (Agbaje et al., 2023; Awotayo et al., 2023; Ogunnoiki et al., 2020).

The constitutional implications of regional security initiatives have generated considerable scholarly debate. Despite the Nigerian constitution's exclusive allocation of policing powers to the federal

government, scholars such as Odewale and Lamidi (2020) argue that the evolving security architecture challenges the centralization of security and highlight the constitutional ambiguities inherent in the federal arrangement. The authors advocate comprehensive legal reforms to align constitutional provisions with the realities of contemporary security governance.

Empirical assessments of the operational effectiveness of regional security outfits such as *Amotekun* yield mixed findings. While some scholars emphasize the contribution of the security network to community-based intelligence gathering and crime deterrence in areas previously marked by weak security governance (Ezeora et al., 2023; Mou, 2023), others caution that inadequate legal frameworks, insufficient training, and lack of integration with national security architecture could undermine their legitimacy and exacerbate fragmentation (Iroanya, 2022; Nyiayaana, 2024). Additionally, a growing body of comparative literature has sought to analyze the South-west regional security model in relation to other sub-national security arrangements across Nigeria. Udeh et al. (2022) contrast *Amotekun* with the civilian joint task force in the North-east and the Bakassi Boys in the South-east, drawing attention to disparities in institutional legitimacy, local support, and governance mechanisms.

Flowing from the foregoing, the regionalisation of security in Western Nigeria encapsulates a convergence of local agency, institutional deficiencies, constitutional contradictions, and evolving political identities. While regional security initiative may offer immediate reprieve and symbolic affirmation of regional autonomy, it raises enduring question regarding the balance of security responsibilities within Nigeria's federal system and the long-term implications for national cohesion and rule of law.

Theoretical Framework

Political economy theory emphasizes state's capacity to provide security is significantly shaped by political interests and economic considerations. The capacity of a nation-state is intrinsically linked to the stability of its political system and the strength of its economy. Under effective leadership, the primarily the responsibility of the central government is provision of adequate security. Conversely, weak political leadership that neglects the protection of lives and property fosters an environment conducive to enabling various actors to incite disorder, pose significant security risks to the populace, and undermine the territorial integrity and sovereignty of the country.

In case of Western Nigeria, the decentralization of security responsibilities to regional governments can be interpreted as a negotiated outcome between federal and regional elites, driven in part by efforts to exert political economy and control over local resources. The emergence of regional security initiatives such as *Amotekun* reflects a response to the perceived inadequacies of the Nigerian state in managing escalating security threats. As Iroanya (2022) contends, while the regionalisation of security may function as a corrective mechanism addressing state fragility, it also reveals the complex interplay among state capacity, regional autonomy, and economic interests. Local elites frequently leverage such security structures as instruments to consolidate political authority and safeguard economic interests, particularly in relation to resource control and access (Adebisi, 2021). The framework of "security assemblages" (Abrahamsen & Williams, 2009) is especially pertinent in this context, as it underscores the complex networks of actors (both state and non-state) involved in shaping security dynamics. In western Nigeria, this process of security regionalisation encompasses not only state governments but also traditional institutions, ethnic groups, and private entities, each advancing distinct political and economic motives (Ogunnoiki, et al., 2020; Oluro & Oluwasuji, 2021).

The utility of political economy theory in regionalized security reveals that regions may intervene decisively to address security deficiencies where the federal government fails, thereby asserting local autonomy in response to insecurity. This dynamic also implicates broader debates on the restructuring of police force. Security is essential to the protection of economic interests. Thus, regional elites have increasingly invested in localized security measures to safeguard agricultural practices, markets and trade routes-factors that collectively enhance regional economic productivity and attract investment (Obikaeze et al., 2023; Okpeh et al., 2021; Udeh et al., 2021). Notably, despite partisan differences, governors in the southwest region of Nigeria collaborated to create the *Amotekun* security network to bolster regional security, preserve cultural identity and ensure political stability.

Security regionalisation and Nigeria's federalism

Regionalized security emanates from the advocacy for decentralized policing, which emphasizes the need for individual regions to assume greater responsibility for maintaining internal security (Ioryue, 2024), as

opposed to relying solely on a centralized national police system. In the Nigerian context, the interplay between security regionalisation, decentralized policing and federalism is particularly significant, given the country's prevailing centralized policing framework. This centralized model has been widely criticized for its contribution to persistent insecurity, thereby prompting growing calls for the devolution of policing authority to subnational entities as a strategic response to escalating security threats.

This dynamic has fostered perennial tensions between the centralized structure of the national security apparatus and the principles of true federalism (Iroanya, 2022; Oluro, & Oluwasuji, 2021). Critics argue that the existing security architecture is overly rigid and inadequately responsive to immediate and localized needs of communities. They stressed the need for the establishment of regionally-based, community-oriented police networks that are better equipped to understand and address localized security issues (Agbaje et al., 2022; Nwoko, 2024). Consequently, the formation of regional security outfit such as *Amotekun* represents a tangible reflection of security regionalisation, emerging in response to perceived inadequacies in the federal security system.

The connection among state capacity, political incentives, and economic interests stimulates regionalisation of security in Western Nigeria as a collaborative effort to shape development outcomes, and national cohesion. Nonetheless, the constitutional constraints on sub-national units significantly hinder the operational autonomy of state governments, with far-reaching implications for national security coordination and effectiveness. Conversely, some scholars caution that the proliferation of regional security outfits may complicate existing security challenges owing to the potential politicization of regional forces by local elites, insufficient training and resources, and the likelihood of inter-jurisdictional conflicts and inefficiencies in intelligence sharing.

Given that insecurity undermines investment prospects, regional security efforts were intended to enhance the Western region's attractiveness to investors and to strengthen bargaining power for greater autonomy. As a corollary, the formation of *Amotekun* in Yorubaland is conceived as a rational response to insecurity, shaped by the region's economic needs, political aspirations, and institutional limitations of the Nigerian federal system.



Source: Popoola & Magidimisha (2020) Roles of agencies in infrastructure development

Methodology

The methodology outlines the procedures employed in conducting the research during a specified period. It encompasses the research design, data collection methods, data analysis, and interpretation of findings.

This study adopts a purposive sampling technique to gather pertinent information from members of the Western Nigeria Security Network who possess substantial knowledge of security challenges within Yorubaland. Eligibility for participation in this exploratory study was limited to members of *Amotekun*, a regional initiative established to combat various forms of criminality in Ekiti, Ogun, Ondo, Osun and Oyo states. Additionally, two security experts were engaged to provide independent perspectives on the operations and impacts of the security network.

The formation of *Amotekun* was driven by the imperative to ensure the protection of lives and property, particularly in response to the prevalence of farmer-herder conflicts, banditry, kidnapping for ransom, and armed robbery in the southwestern geopolitical zone. The criminal activities have detrimental effects on economic activities and have discouraged investment, thereby undermining the productivity of a region historically known for its industriousness. In light of perceived government inaction in addressing escalating security threats, state governors in the southwest conceptualized a regional security initiative aimed at safeguarding public safety.

To gain comprehensive insights, in-depth interviews were conducted with the key informants, who provided valuable information on prevailing security challenges in the five states under investigation (excluding Lagos state, which operates *Neighbourhood Security Watch*). Many of the *Amotekun* operatives interviewed had previous experience in community vigilance groups, which equipped them with practical knowledge on operational procedures related to intelligence gathering and security.

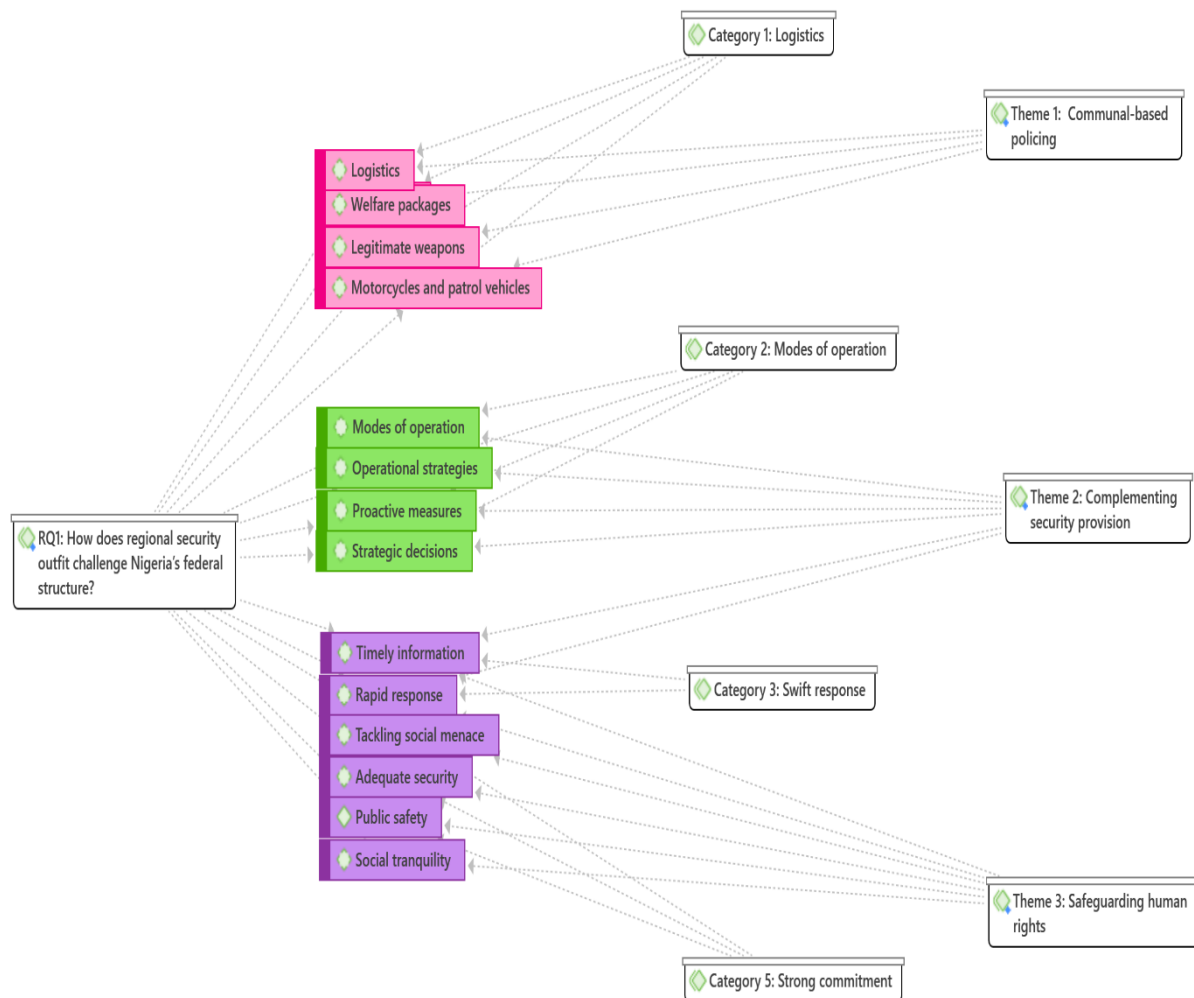
Given the qualitative nature of the study, semi-structured interviews were employed to collect data. This method facilitated the acquisition of detailed information from informants who were able to articulate their views on complementing conventional policing efforts, handling civil disputes, and encouraging public cooperation in crime prevention. The use of open-ended questions enabled research participants to provide detailed responses, thereby enriching the data collected. The format allowed participants to freely express their opinions, offering the researcher fresh insights into the political economy of regionalised security in Western Nigeria. Data analysis was conducted using Atlas.ti 24 software, which enhanced credibility and transparency of the findings, thus ensuring the reliability of the research.

Table 1: Background of key informants

S/N	Participant's ID	Designation	Age
1	KI#1	Chairman <i>Amotekun</i> , Ekiti state	58 years
2	KI #2	Secretary <i>Amotekun</i> , Ekiti state	45 years
3	KI #3	Chairman <i>Amotekun</i> , Ogun state	63 years
4	KI #4	Secretary <i>Amotekun</i> , Ogun state	48 years
5	KI #5	Chairman <i>Amotekun</i> , Ondo state	54 years
6	KI #6	Secretary <i>Amotekun</i> , Ondo state	38 years
7	KI #7	Chairman <i>Amotekun</i> , Osun state	60 years
8	KI #8	Secretary <i>Amotekun</i> , Osun state	47 years
9	KI #9	Chairman <i>Amotekun</i> , Oyo state	50 years
10	KI #10	Secretary <i>Amotekun</i> , Oyo state	46 years
11	KI #11	Security Expert, Ibadan, Oyo state	67 years
12	KI #12	Security Expert, Ado-Ekiti, Ekiti state	71 years

Compiled by the authors

Discussion of Findings



Theme 1: Strengthening community-based policing

The Development Agenda for Western Nigeria (DAWN) Commission conceptualized *Amotekun* initiative to safeguard Yorubaland from external threats. Providing regional security against criminal elements whose activities have disrupted socio-economic activities in western part of Nigeria is considered a top priority of the state governors. Thus, southwest governors endorsed the plan, contributing financial and logistic support to operationalize the security corps. An informant put it thus;

The Western Nigeria Security Network (WNSN), also known as Amotekun, was created as a regional security initiative to address the escalating conflicts between farmers and herders in Yorubaland... Incidents were reported where herders allegedly destroyed farmlands, inflicted physical harm on farmers, committed sexual violence and set agricultural properties ablaze. To prove this point, prominent personalities were lost to attacks by herdsmen especially at Igangan in Oyo state. [KI #9]

Some herdsmen reportedly boasted that they could not be held accountable by security forces, claiming that Nigerian land inherently belongs to the Fulani. There is a prevailing perception that herdsmen became increasingly emboldened during the previous federal regime, possibly due to a sense of ethnic alignment and perceived protection under a Fulani-led government. On this basis, they purportedly demanded unfettered access to rural grazing lands in any part of the country. This is consistent with the views that failure to effectively address crisis of governance by political leaders provides fertile grounds for adversarial influence on Nigeria's federal structure (Nwoko, 2024; Yagboyaju & Akinola, 2019). Therefore, governors resolved to empower *Amotekun* operatives with sufficient resources, provide them with logistics and train them to provide adequate security in Yorubaland.

Theme 2: Complementing national security agencies

A functional security network prioritizes the protection of human lives and property. In light of persistent insecurity, governors in the southwest initiated a regional security structure to mitigate threats that have hampered socio-economic development, investment inflows, and trade across Oyo, Ogun, Ekiti, Ondo and Osun states. So, the regional security network was formed to complement the constitutional duties of conventional security apparatus in ensuring public safety across the zone.

It is public knowledge that herdsmen grazed their cattle on cultivated lands, and confrontations between them and farmers often escalated into violent reprisals. Farmers resisting the destruction of their livelihoods were subjected to disabling assaults. Agricultural productivity has significantly declined as many farmers abandoned their fields due to safety concerns. This aligns with the position of scholars that herdsmen caused havoc and economic hardship on the lives of farmers who cultivate lands to eke out a living (Ioryue, 2024; Obikaeze et al., 2023; Udeh et al., 2021), some criminally inclined herders have allegedly diversified into armed robbery and kidnapping for ransom. This informs careful selection of individuals considered worthy of effective security provision in the communities. As described by an informant,

Membership in Amotekun includes individuals drawn from vigilance groups, local hunters, and community-based security actors, reflecting a grassroots approach to safeguarding the region from a wide array of criminal threats such as banditry, cattle rustling, kidnapping, and armed robbery. [KI #12]

Individuals who are conversant with intelligence gathering, surveillance and crime detention in environmental settings are enlisted to observe strange movements within their respective communities, and take immediate actions to forestall breakdown of law and order.

Theme 3: Safeguarding fundamental human rights

The creation of *Amotekun* reflects efforts by the southwestern states to take control of their internal security amidst perceived inefficiencies of federal policing. As a border state with the Republic of the Benin, people of Yewa North in Ogun state have experienced an increase in banditry and kidnapping, reportedly perpetrated by individuals speaking Fulfude and Hausa. Specifically:

...farmers in Yewa axis have become vulnerable to attacks on their farmlands by Fulani herdsmen. There have been claims of herders intentionally uprooting yam and cassava tubers for animal feeds. Whenever affected farmers lodged complaints with law enforcement agents, there were reports that perpetrators were released after allegedly bribing police officers, thereby fostering impunity. [KI #4]

Some informants buttressed this claim thus;

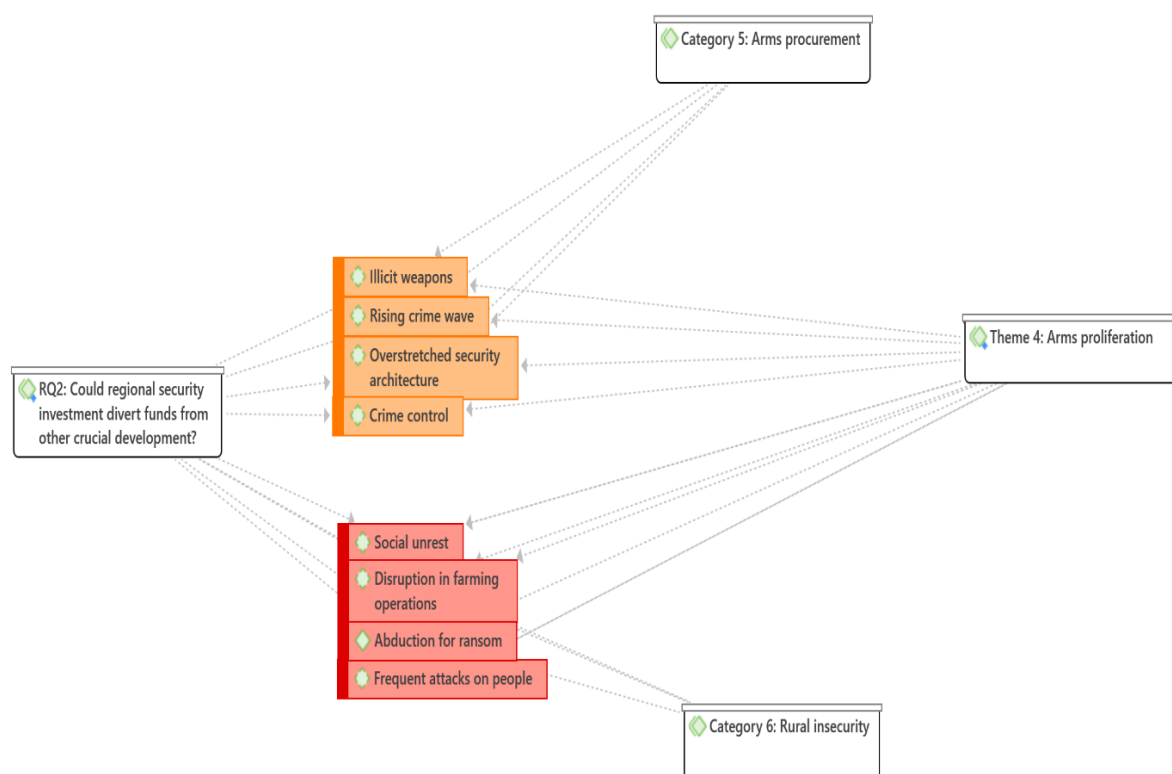
Similar patterns of herder-related violence have been reported in Ekiti state, mirroring the broader regional crisis. [KI #1]

Despite the severity of the violence in agrarian communities across the southwest, the Muhammadu Buhari's proposed implementation of RUGA (Rural Grazing Area) initiative was widely viewed as a strategy to legitimize permanent settlements for herders, thereby potentially enabling ethnic dominance over indigenous populations. [KI #5].

In a federal system, where regional needs are unmet by central authorities, "cattle were seemingly accorded higher value than human lives, as evidenced by the prioritization of grazing reserves over ranching practices endorsed in advanced economies. The perceived neglect of people by the government emboldened herders to contest land ownership with indigenous populations" [KI #11]. This finds relevance in what Agbaje et al. (2022) termed "communal tracking approach" to insecurity since the

central government was not proactive to curb the hydra-headed monster. Allied to that, regional security network was a child of necessity formed as a crime control mechanism (Awotayo et al., 2023) in the Yoruba speaking states of Nigeria.

In this regard, the formation of *Amotekun* is seen as a justified response to the federal government's inadequate approach to addressing security threats in the western Nigeria. The sub-national actors had to institute security mechanisms tailored to their specific circumstances at crucial phase of national development.

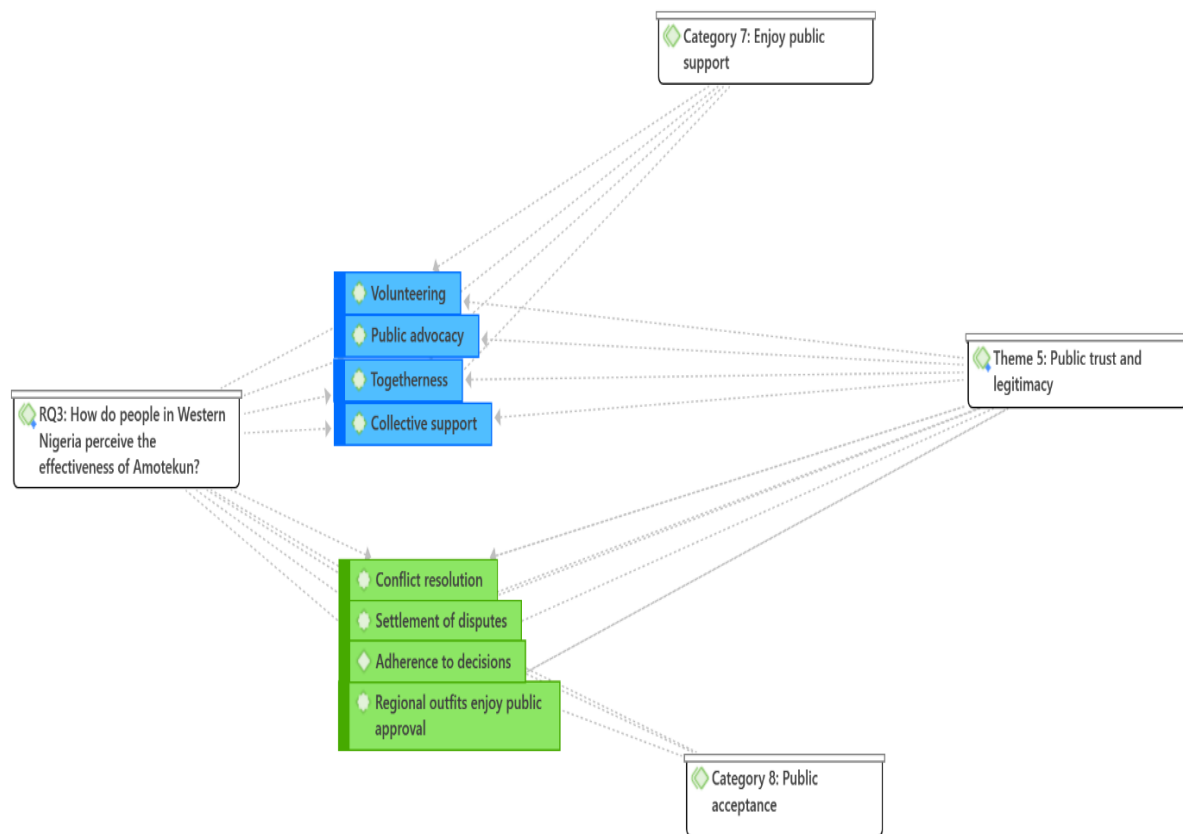


Theme 4: Arms proliferation and rural insecurity

The forested regions of Yorubaland have reportedly provided cover for criminal elements, enabling attacks on unarmed residents. Farmers have been deterred from cultivating or harvesting crops due to fear of attacks by marauders. An informant captured the situation thus;

The rising wave of criminality across Western Nigeria have been marked by arms proliferation, drug trafficking, and illicit mining. Encounters between Amotekun operatives and armed herders suggest that some of these criminal actors possess sophisticated weaponry, posing significant threats to public safety and national security. [KI #10]

Different people across various locations in Yorubaland have witnessed repeated violence allegedly perpetrated by armed herders using AK 47 rifles and assorted ammunition, leading to fatalities and disruption of agricultural activities. The conventional security agencies appeared overstretched to regulate arms possession among non-state actors, and overwhelmed by the magnitude of security challenges confronting the country in contemporary times. Nyiayaana (2024) buttressed this worrisome development when he argued that regional security initiatives may deepen ethnic consciousness and tribal sentiments culminating in aggressive acquisition of ammunition by regional elites in readiness for inter-tribal conflicts or reprisal attacks.



Theme 5: Public trust and legitimacy

With the federal government criticized for prioritizing ethnic interests over national security, state governors in the western Nigeria initiated this regional security outfit to combat rising insecurity. The initiative was welcomed by local communities, who viewed it as a vital mechanism for restoring the safety and productivity that once characterized their environment. An informant stressed that,

while there have been reports of misconduct and human rights violations by some operatives, their actions are subject to oversight by conventional security agencies, particularly the police. Nevertheless, public confidence in Amotekun appears stronger than in the regular police, who have been accused of corrupt practices, including accepting bribes to release detained herders. [KI #6]

Several concerns have been raised regarding perceived hostility from the police towards the operational practices of *Amotekun* Corps. This tension appears to stem from the comparatively responsive and community-oriented approach employed by *Amotekun* in addressing civil matters—an approach characterized by prompt action and providing amicable solutions. In contrast, the police are often criticized for prolonged detentions and delays in conflict resolution without reaching logical conclusion.

Disputes that typically persist for extended periods within police stations are frequently resolved swiftly by *Amotekun* operatives across the southwestern states of Nigeria. As a result, public preference tends to favour the involvement of *Amotekun* in local security and conflict mediation over the police, who are often viewed as bureaucratic and inefficient. Furthermore, *Amotekun* personnel command greater respect and legitimacy among local populations, reinforcing their status as a preferred security apparatus. This public trust and approval align with the arguments of Adebani (2020) and Yagboyaju and Akinola (2019), who contend that weak governance system throws up adversarial tendencies of federal state. Such deficiencies may prompt individuals and communities to seek alternative means of self-protection, including endorsement of regional security initiatives in response to threats from criminal elements.

Conclusion

The paper explores regionalization of security within the context of political economy in western Nigeria. Regionalized security offers a viable approach to addressing multifaceted security challenges bedeviling the country. By enabling individual regions to confront their unique threats more effectively, Nigeria has the potential to develop a more resilient and responsive security framework, contingent upon careful navigation of associated legal and political complexities. Achieving sustainable security governance necessitates a reconfiguration of the federal structure to support decentralized policing within a clearly articulated constitutional framework. Such an arrangement would enhance local responsiveness while simultaneously strengthen democratic federalism. Besides, the *Amotekun* operatives require proper training and retraining to enhance public safety while reinforcing state legitimacy. Above all, the study advocates a balanced approach that harmonizes national unity with regional autonomy in the management of internal security.

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Cyberterrorism and National Security: Emerging Threats in the Digital Age

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Abstract

This study examines the growing threat of cyberterrorism in a digitally connected world, distinguishing it from cybercrime and hacktivism while emphasizing its ideological and strategic dimensions. It traces the evolution of cyberterrorism from basic website defacements to sophisticated, ideologically or state-sponsored attacks on critical infrastructure. Using case studies such as the Stuxnet operation, the 2007 Estonia cyberattacks, and ISIS's digital campaigns, the research illustrates the real-world impact of cyberterrorism. It also analyzes conceptual and legal debates surrounding its definition and classification. The study assesses current national and international policies, revealing progress in cybersecurity cooperation but also highlighting persistent gaps in legal harmonization, attribution, and technological readiness. Looking ahead, it warns of emerging threats linked to artificial intelligence, deepfakes, and quantum computing, which could expand the scale and severity of cyberterrorism. The paper concludes with strategic recommendations to enhance cyber resilience, reform legal frameworks, and promote international collaboration to address the evolving threat landscape effectively.

Keywords: Cyberterrorism, national security, critical infrastructure, Artificial Intelligence, cyber policy

Introduction

In an era marked by unprecedented digital connectivity, national security faces complex and evolving threats from cyberspace. As critical infrastructure, military operations, and public services become increasingly dependent on digital systems, the vulnerability to cyber-based attacks grows significantly. Among these threats, cyberterrorism the use of computer networks to cause disruption, fear, or harm for political or ideological objectives has emerged as a pressing concern. It represents a convergence of traditional terrorism with sophisticated technological capabilities, enabling non-state actors to exploit cyber vulnerabilities with potentially devastating consequences (Conway, 2017).

Unlike conventional forms of terrorism, cyberterrorism does not require physical presence or large-scale resources; instead, it thrives in the anonymity and borderless nature of the digital realm. Attacks can range from simple website defacements to highly coordinated efforts that target power grids, financial systems, or governmental databases (Jarvis, Macdonald, & Whiting, 2014). The decentralized and often transnational character of cyberterrorist networks poses significant challenges for national and international security agencies, which struggle to keep pace with rapidly advancing technologies and evolving threat landscapes (Weimann, 2015).

This study seeks to explore the multifaceted relationship between cyberterrorism and national security. It examines how emerging threats in the digital age are reshaping traditional security paradigms, evaluates current countermeasures and policy responses, and highlights the urgent need for robust cybersecurity strategies. By analyzing case studies and drawing on interdisciplinary frameworks, the research aims to contribute to a deeper understanding of cyberterrorism's implications for state sovereignty, global cooperation, and the future of security in a digitally interconnected world.

Theoretical Framework

The study of cyberterrorism and its implications for national security benefits from a multidisciplinary theoretical approach, drawing on traditional security theories, sociopolitical analysis, and emerging perspectives on technology and warfare. This section outlines key theoretical frameworks that provide analytical lenses to understand the motivations, behaviors, and responses related to cyberterrorism.

Realism, one of the most enduring theories in international relations, views the international system as anarchic and driven by power struggles among sovereign states. In the realist tradition, national security is primarily concerned with maintaining state power and territorial integrity (Mearsheimer, 2001). Although realism traditionally focuses on conventional military threats, it has been adapted to address emerging domains like cyberspace.

From a realist perspective, cyberterrorism is seen as a form of asymmetric warfare, wherein non-state actors or weaker states exploit cyber vulnerabilities to challenge more powerful actors. Cyberattacks particularly those targeting critical infrastructure can thus be interpreted as efforts to undermine a state's power without direct confrontation (Kello, 2013). This framework underscores the need for robust cyber capabilities as a means of deterrence and defense. However, critics argue that realism's state-centric bias may overlook the decentralized and transnational nature of cyberterrorism. Many cyber threats originate from non-state actors who do not operate within conventional geopolitical boundaries, challenging the applicability of realist assumptions in this domain (Nye, 2011).

Securitization theory, developed by the Copenhagen School, offers a constructivist perspective that emphasizes the discursive construction of threats. According to this framework, issues become "securitized" when political actors present them as existential threats requiring extraordinary measures, thereby moving them from the realm of normal politics into that of emergency politics (Buzan, Wæver, & de Wilde, 1998).

In the context of cyberterrorism, securitization theory explains how governments and security agencies frame cyber incidents as national security threats. This framing often justifies expanded surveillance powers, increased military spending, and public-private cooperation in cybersecurity efforts. For example, after high-profile cyber incidents like the 2017 WannaCry ransomware attack, several governments elevated cyber threats to the highest levels of national security, invoking emergency powers and legislative responses (Cavelty, 2014). This theory is particularly useful in understanding the political and rhetorical strategies that shape cyber policy, but it also raises concerns about over securitization, where vague definitions of cyberterrorism may be used to suppress dissent or curtail civil liberties (Hansen & Nissenbaum, 2009).

Critical Infrastructure Protection (CIP) theory focuses on safeguarding essential systems and assets that are vital to a nation's security, economic stability, and public health. This framework is especially relevant in cyberterrorism studies because digital threats often target critical infrastructure sectors such as energy, healthcare, transportation, and communications (Lewis, 2006). CIP theory posits that the interconnectedness and digital dependency of critical infrastructures make them attractive targets for cyberterrorists seeking maximum disruption. The theory also emphasizes resilience, redundancy, and public-private partnerships as central strategies in managing cyber risks (Gheorghe et al., 2006).

Cyberterrorism is viewed through this lens as a form of technological sabotage aimed at undermining state functionality or public morale. Policy measures derived from CIP theory typically involve risk assessments, cyber drills, and regulatory frameworks that mandate cybersecurity standards for infrastructure operators.

However, critics note that CIP approaches often emphasize technical solutions while downplaying the socio-political dynamics that motivate cyberterrorist acts, such as radicalization, ideology, and grievance narratives (Dunn Cavelty, 2007).

Here's a structured table presenting other theoretical frameworks for analyzing cyberterrorism, their core principles, applications, and limitations.

Table I

Theoretical Framework	Key Proponents	Core Principles	Application to Cyberterrorism	Limitations
Deterrence theory	Schelling (1966), Nye (2023)	Actors are deterred by threat of retaliation	Explains state responses to cyber threats; examines credibility of cyber counterstrikes	Attribution problems; asymmetric power dynamics reduce effectiveness
Routine Activity Theory	Cohen & Felson (1979)	Crime requires: motivated offender, suitable target, absent guardian	Analyzes how cyber vulnerabilities, terrorist motives, and weak security enable attacks	Doesn't explain ideological motivations; overlooks systemic factors
Constructivism	Wendt (1992), Buzan et al. (1998)	Threats are socially constructed through norms and identities	Explains securitization of cyberterrorism; how states/non-states frame cyber threats	Less predictive; focuses on perceptions over material capabilities
Broader Cyber Conflict Theory	Rid (2013), Libicki (2022)	Cyber operations exist on spectrum between crime,	Distinguishes cyberterrorism from cyberwar/hacktivism; analyzes escalation risks	Blurred boundaries between categories in practice

		espionage, and warfare		
Social Movement Theory	Conway (2023), Weimann (2021)	Collective action driven by shared grievances and identity politics	Explains terrorist groups' use of cyber tools for recruitment/radicalization	Less applicable to lone-actor scenarios
Complexity Theory	Arquilla & Ronfeldt (2001)	Non-linear, emergent behaviors in networked systems	Predicts unintended consequences of cyberattacks on interconnected critical infrastructure	Difficult to model empirically; more conceptual than predictive

Literature Review

Cyberterrorism is a contested and evolving concept in academic and policy discourse. The term broadly refers to the use of digital technologies especially the internet and computer systems to conduct politically or ideologically motivated attacks aimed at causing disruption, fear, or harm to civilians or state structures (Conway, 2017). However, scholars and practitioners disagree on the scope and definition of the term. Some define it narrowly as attacks that result in violence or physical destruction, while others adopt a broader interpretation that includes psychological intimidation, disruption of services, and propaganda dissemination (Jarvis, Macdonald, & Whiting, 2014). The definitional ambiguity is compounded by the dual-use nature of many cyber tools, which can be used for espionage, activism, or terrorism depending on the context and intent. For instance, a denial-of-service (DoS) attack may be categorized as a cyberterrorist act if it is designed to paralyze emergency services during a crisis, but as cybercrime if its purpose is financial gain. As Weimann (2015) notes, the fluid boundaries of cyberterrorism make it difficult to develop universal definitions, leading to inconsistencies in legal frameworks and policy responses across countries.

The term is also politically loaded. Governments may use "cyberterrorism" to justify broad surveillance powers or military-grade responses, even in cases where actions fall short of conventional understandings of terrorism (Denning, 2000). As such, conceptual clarity is essential for both analytical rigor and normative governance. The evolution of cyberterrorism has paralleled the growth of digital infrastructure. In its early stages during the 1990s, cyberterrorism was largely theoretical, with few documented attacks but growing concern among analysts and policymakers (Denning, 2000). Basic hacking activities, including defacing websites or sending disruptive viruses, were early precursors to more structured cyberterrorist acts.

As digital systems became more embedded in national infrastructure, the potential for cyberterrorist exploitation expanded. By the 2000s, terrorist organizations such as al-Qaeda and later ISIS began using the internet not only for communication and recruitment but also for launching rudimentary cyber-attacks and disseminating extremist content (Conway, 2017). Although these early attempts lacked sophistication, they demonstrated an awareness of cyberspace as a domain for asymmetrical warfare. In the last decade, cyberterrorism has taken on more complex forms, sometimes involving state-sponsored or state-tolerated groups. Incidents like the 2007 cyberattacks on Estonia, the Stuxnet worm (targeting Iran's nuclear facilities), and the ransomware attacks on healthcare systems and pipelines have blurred the lines between terrorism, cyberwarfare, and cybercrime (Rid, 2012). Though not always carried out by ideological extremists, such attacks show how cyberterrorist methods have grown in capability and ambition.

Cyberterrorism vs. Cybercrime vs. Hacktivism

The conceptual overlaps and distinctions between cyberterrorism, cybercrime, and hacktivism remain a key area of debate. Cybercrime typically involves illegal acts committed for financial gain, such as identity theft, fraud, or ransomware attacks. In contrast, cyberterrorism is ideologically driven, aiming to instill fear or influence political outcomes through the use of digital technologies (Jarvis et al., 2014).

Hacktivism, on the other hand, refers to politically motivated cyber actions that are non-violent and often symbolic, such as website defacements or denial-of-service attacks intended to protest against governments or corporations (Denning, 2000). Groups like Anonymous have engaged in such tactics to support free speech or protest censorship, distinguishing them from cyberterrorists who seek destruction or widespread panic.

Table 2

Category	Primary motive	Actors	Examples
Cyberterrorism	Political/ideological	Terrorist groups, states	ISIS cyber-caliphate propaganda
Cybercrime	Financial gain	Criminal syndicates	WannaCry ransomware
Hacktivism	Social/political change	Activist collectives	Anonymous DDoS campaigns

Despite these distinctions, there is considerable convergence in techniques. A Distributed Denial-of-Service (DDoS) attack, for instance, could be used by a criminal group to extort money, by hacktivists to make a political statement, or by cyberterrorists to disrupt national security services. Hence, understanding intent and context is crucial in differentiating among these actors (Weimann, 2015).

Impact of Cyberterrorism on National and International Security

Cyberterrorism poses significant risks to both national and international security frameworks. At the national level, the attack surface has broadened due to the digitization of critical infrastructure, including power grids, transportation systems, and emergency response networks (Cavelty, 2014). Cyberterrorist threats to these infrastructures can cause widespread disruption without the need for physical access or traditional weapons. At the international level, the attribution problem the difficulty in identifying perpetrators complicates collective security responses. The lack of standardized international legal definitions and protocols for cyberterrorism further hampers coordinated action (Kumar & Rosenbach, 2019). Additionally, states face dilemmas regarding proportional responses: should a cyberattack on a hospital be treated as an act of war, terrorism, or crime?

Several case studies highlight these challenges. For instance, the 2017 WannaCry ransomware attack, allegedly linked to North Korea, disrupted hospitals in the UK and affected systems in over 150 countries, revealing both the scale of vulnerability and the global nature of cyber threats (Greenberg, 2019). Another example is the use of encrypted platforms by terrorist groups to coordinate operations and disseminate propaganda, complicating law enforcement efforts (Conway, 2017). In response, many governments have adopted national cybersecurity strategies, created cyber command units, and entered into international alliances like NATO's Cooperative Cyber Defense Centre of Excellence. However, the dynamic nature of cyberterrorism continues to challenge traditional security paradigms, necessitating adaptive, multi-stakeholder approaches.

Case study analysis on cyberterrorism and National Security

The 2007 Estonia Cyberattacks: A Prototype for Cyberterrorism

One of the earliest and most cited examples of a large-scale cyberattack with national security implications occurred in Estonia in April 2007. Following a political dispute involving the relocation of a Soviet-era war monument, Estonia was subjected to a series of coordinated Distributed Denial-of-Service (DDoS) attacks targeting government agencies, banks, media outlets, and other essential services (Tikk et al., 2010). Although the attacks were not definitively attributed to a single actor, Estonian authorities alleged Russian involvement or encouragement of nationalist hacker groups. The attacks paralyzed digital infrastructure, disrupted financial systems, and triggered national emergency responses. This event is frequently cited as the first instance where a cyberattack had national-scale, political consequences, bordering on a cyberterrorist act due to its ideological motivations and social impact (Ottis, 2008).

Scholars view the Estonia case as a turning point in cyber defense policy. It led to the establishment of the NATO Cooperative Cyber Defense Centre of Excellence (CCDCOE) in Tallinn and underscored the need for international frameworks to deal with cyber threats (Tikk et al., 2010; Czosseck & Geers, 2009).

Stuxnet: State-Backed Cyberterror

The Stuxnet worm, discovered in 2010, was a sophisticated malware designed to target and disable Iranian nuclear centrifuges. Widely believed to have been developed jointly by the United States and Israel (though never officially confirmed), the attack marked a significant escalation in the militarization of cyberspace (Zetter, 2014). While Stuxnet was state-sponsored and did not aim to instill fear in the general population, it demonstrated how cyberweapons could achieve strategic objectives without conventional warfare. Academic debate surrounds whether Stuxnet qualifies as cyberterrorism or cyberwarfare. Some

scholars argue it falls outside the conventional definition of terrorism due to the lack of civilian targeting and overt messaging (Rid, 2012). Others highlight that it opened the door to a new era of cyber conflict, where the use of malware for ideological or strategic goals blurs traditional lines between terrorism, sabotage, and warfare (Farwell & Rohozinski, 2011).

Empirically, Stuxnet revealed the vulnerability of industrial control systems and emphasized the interdependence between cyber capabilities and national security strategies.

The ISIS Cyber Caliphate: Ideological Cyberterrorism in Practice

The Islamic State of Iraq and Syria (ISIS) has been an early adopter of cyber tactics for extremist propaganda, recruitment, and psychological warfare. Between 2014 and 2016, a group known as the Cyber Caliphate, allegedly affiliated with ISIS, launched a series of cyberattacks including the defacement of websites, hijacking of social media accounts, and the publication of "kill lists" targeting U.S. military personnel (Weimann, 2016). One of the most notable incidents was the 2015 hack of the U.S. Central Command's (CENTCOM) Twitter and YouTube accounts, during which pro-ISIS messages and threats were posted. Although the breach caused no direct physical harm, it generated widespread public fear and media attention, which are core objectives of terrorism (Bertram, 2016).

Empirical studies show that ISIS's cyber operations were less technically advanced than their impact suggested. Their primary strength lay in information operations, leveraging digital platforms to create a psychological impact disproportionate to their technical capacity (Conway, 2017). This demonstrates how low-cost cyber tactics can have high political and psychological returns, especially when combined with global media exposure.

The WannaCry Ransomware Attack (2017): Blurring Lines Between Crime and Terrorism

The WannaCry ransomware attack in May 2017 infected over 300,000 computers in 150 countries, including critical systems in hospitals, telecommunications, and government offices. The attack exploited a vulnerability in Microsoft Windows, allegedly developed by the U.S. National Security Agency (NSA), and demanded ransom payments in Bitcoin (Greenberg, 2019). While initially classified as a cybercrime, subsequent investigations linked the attack to the Lazarus Group, a North Korean state-affiliated actor (Department of Justice, 2018). This raised the possibility that the ransomware attack served strategic or political objectives beyond mere financial gain.

Academics argue that the targeting of healthcare institutions and the disruption of public services align with tactics commonly associated with terrorism (Hern, 2017). The WannaCry incident highlights how cyberattacks can transition from being criminal acts to tools of statecraft or cyberterror, depending on intent, attribution, and target.

Cyberterrorism in India: The Pathankot Airbase Case

In 2016, the Pathankot airbase in India was attacked by armed terrorists, but what followed in cyberspace was equally notable. Indian government and military websites experienced a surge in cyber-intrusions, including defacements and malware injections allegedly carried out by pro-Pakistan hacker groups (Bedi, 2016).

While the cyber activities were not directly linked to the terrorists involved in the physical attack, scholars argue that the parallel digital harassment campaign represented a form of asymmetric psychological warfare. The coincidence of physical and cyber tactics intensified the perception of vulnerability and national insecurity.

Empirical studies on India's cyber defense infrastructure following this event have highlighted gaps in coordination between civilian and military agencies and a lack of real-time threat intelligence sharing (Singh & Vij, 2018). The case illustrates how regional rivalries and non-state actors can combine to pose multi-vector threats to national security.

Table 3: Comparative Analysis Table

Case study	Actor type	Theoretical insight	Policy impact
Not Petya	State affiliated	Economic warfare model, no retaliation	New sanctions regimes
Stuxnet	State sponsored	Deterrence failed; attack spurred Iranian nuclear advances	Covert operations normalized
Colonial pipeline	Criminal terror nexus	Critical infrastructure vulnerabilities exposed	First cyber emergency declaration
SolarWinds	State espionage	Espionage-cyber terrorism threshold debate	Supply-chain security reforms

ISIS Cyber Caliphate	Non-state	Constructivism: Attacks as identity-building	Global counter propaganda efforts

Patterns and Trends in Cyberterrorism

Cyberterrorism has evolved from rudimentary hacking by individuals to coordinated, ideologically or politically motivated campaigns executed by state or non-state actors. Current patterns reflect growing diversity in actors, sophistication in methods, and strategic targeting of critical systems. Cyberterrorist actors today range from individual hackers and hacktivist groups to transnational terrorist networks and state-sponsored proxy organizations. Groups such as ISIS have used cyber tools primarily for psychological warfare, propaganda, and recruitment (Conway, 2017). Conversely, state-affiliated actors (e.g., Lazarus Group, APT33) operate with strategic objectives often aligned with national interests (Greenberg, 2019). This has led to increasing convergence between cybercrime, cyberterrorism, and cyberwarfare.

The motives behind cyberterrorist actions typically include political ideology, religious extremism, and nationalist agendas. Additionally, some attacks are conducted to intimidate populations, undermine state authority, or destabilize economies (Weimann, 2016). In recent years, financial motives have merged with ideological aims, as seen in ransomware campaigns by politically aligned hacker groups (Department of Justice, 2018). The most prevalent methods include DDoS attacks against government or media platforms (e.g., Estonia, 2007), Ransomware and wiper malware (e.g., WannaCry, Not Petya), Social engineering and phishing for data breaches and defacement and disinformation through hijacked media channels. Primary targets often include critical infrastructure, military networks, public health systems, and media platforms (Cavelty, 2014). Increasingly, soft targets such as hospitals or education systems are favored due to their weaker security and higher public impact.

Effectiveness of Current Security Policies

The effectiveness of existing cyberterrorism countermeasures varies across nations and regions. While technical capacity and threat awareness have improved globally, gaps persist in coordination, attribution, and regulation. Cyber defense capabilities have been institutionalized in many countries through national CERTs (Computer Emergency Response Teams) and cyber commands (Lewis, 2006). International alliances such as NATO, EUROPOL, and INTERPOL have enhanced cyber intelligence sharing and law enforcement coordination (Tikk et al., 2010). Public-private partnerships have emerged to secure critical infrastructure, particularly in sectors like finance and energy.

Regardless of the strength and success achieved, challenges remain prevalent. Attribution remains a core issue, proving who is behind a cyberattack is complex, enabling state-sponsored terrorism to flourish with plausible deniability (Rid, 2012). Legal frameworks are outdated or inconsistent, particularly in how cyberterrorism is defined and prosecuted across jurisdictions (Hansen & Nissenbaum, 2009). Resource disparities mean that many developing nations lack both the infrastructure and trained personnel to mount adequate cyber defenses. Over-securitization risks infringing on civil liberties, as governments use vague cyberterrorism laws to justify censorship or surveillance (Cavelty, 2007). Despite advancements, most scholars agree that a reactive posture persists globally, Nations are better at mitigating attacks than preventing them (Nye, 2011).

Predicting Future Threats of Cyberterrorism on National Security

The future of cyberterrorism is likely to be shaped by technological convergence, particularly the emergence of AI, deepfake media, and quantum computing. Artificial intelligence is increasingly being used to enhance both offensive and defensive cyber capabilities. AI can automate phishing attacks by mimicking human writing styles, identify vulnerabilities in real time and generate malware that adapts to detection systems. Terrorist groups may use AI to create autonomous hacking tools or even weaponize AI for decision-making in cyber-sabotage operations (Brundage et al., 2018).

Deepfakes, realistic but fake videos created using machine learning present a significant psychological warfare tool. These could be used to discredit political leaders, spread panic during national crises and undermine democratic institutions (Chesney & Citron, 2019). Such tactics blur the lines between cyberterrorism and psychological operations, making defense more challenging. While still nascent, quantum computing has the potential to break existing encryption standards, rendering traditional cybersecurity measures obsolete. Should malicious actors gain access to such capabilities, even highly

secured infrastructure could become vulnerable (Mosca, 2018). Governments and corporations are investing in quantum-resistant cryptography, but a global standard is still in development.

Conclusion and Recommendations

Conclusion

Cyberterrorism represents a rapidly evolving threat that intersects with issues of national security, international relations, technological innovation, and civil liberties. This study has explored the conceptual foundations, historical development, and empirical case studies of cyberterrorism, revealing an increasingly complex landscape shaped by diverse actors, sophisticated methods, and disruptive objectives.

Recommendations

To address the growing threat of cyberterrorism effectively, a multi-pronged strategy is required involving technological resilience, legal harmonization, international cooperation, and capacity building.

- Establish clear and internationally recognized definitions of cyberterrorism to reduce ambiguity in enforcement and policy
- Facilitate collaboration between governments, tech companies, and cybersecurity firms to protect critical infrastructure and improve threat intelligence sharing.
- Develop workforce training programs, national awareness campaigns, and simulations to improve readiness and resilience across sectors
- Support the development of quantum-resistant encryption, AI-driven threat detection, and deepfake verification technologies.
- Strengthen cooperative efforts such as the Budapest Convention and NATO's cyber defense policy to establish norms for acceptable behavior in cyberspace.
- Fund R&D into forensic tools that assist in accurate attribution, critical for effective deterrence and legal action.

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The Role of Soft Power in International Diplomacy: A Critical Examination of the Impact of Cultural Diplomacy on Nation-Branding and Foreign Policy

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Abstract

This study explores the role of cultural diplomacy as a strategic instrument of soft power in shaping national identity, enhancing international image, and influencing foreign policy. It critically assesses how states employ cultural diplomacy to achieve nation-branding and foreign policy objectives through non-coercive means. Drawing on historical and contemporary examples, the research examines the effectiveness of cultural diplomacy in strengthening global influence while addressing its limitations, such as questions of authenticity, political manipulation, and inconsistent impact on international relations. The study is grounded in soft power theory, public diplomacy theory, and nation-building theory, providing a robust framework to analyze the intersection of culture, diplomacy, and global strategy. The findings reveal that while cultural diplomacy contributes meaningfully to cross-cultural exchange and image-building, its influence on concrete foreign policy decisions is highly context-dependent. Ultimately, the research concludes that cultural diplomacy must be strategically aligned with broader diplomatic goals and supported by sustained policy efforts to be truly effective. This work enriches scholarly discussions on soft power and offers practical insights for states seeking to optimize their global engagement through cultural initiatives in an increasingly interconnected world.

Keywords: Soft power, cultural diplomacy, nation-branding, foreign policy, political instrumentalization

Introduction

In the developing landscape of international relations, states increasingly rely on soft power to achieve diplomatic objectives, enhance their global influence, and foster mutual understanding. Soft power, a concept developed by Joseph Nye (1990), refers to a nation's ability to attract and persuade others through cultural appeal, values, and policies rather than intimidation or military force. Among the key components of soft power, cultural diplomacy plays a critical role in shaping how countries project their identities on the global stage. Through cultural exchanges, education programs, and artistic initiatives, nations seek to cultivate a favorable image, thereby influencing foreign perceptions, firming global corporations, and advancing foreign policy goals.

Nation-branding, an emergent strategy within international diplomacy, involves the deliberate shaping of a country's global image to attract economic, political, and cultural engagement (Anholt, 2007). Cultural diplomacy serves as a core mechanism for nation-branding by reinforcing national narratives, fostering people-to-people influences, and establishing long-term diplomatic goodwill. While cultural diplomacy is often perceived as a benign and constructive aspect of international engagement, scholars debate its effectiveness, particularly in its ability to influence policymaking and international relations in tangible ways. This study critically scrutinizes the role of soft power in diplomacy, with a focus on the impact of cultural diplomacy on nation-branding and foreign policy, providing an in-depth analysis of its successes, limits, and strategic implications.

The use of cultural diplomacy as a tactical tool dates back to ancient civilizations, where empires projected influence through cultural exchanges, artistic benefaction, and philosophical traditions. The Roman Empire, for example, spread Latin language, legal systems, and architectural styles across its territories, integrating diverse populations under a common cultural identity. Similarly, the Chinese dynasties used Confucian teachings, literature, and artistic achievements to consolidate influence within East Asia and beyond.

In the modern era, the systematic use of cultural diplomacy became prominent during the 20th century, particularly in the context of ideological competition. During the Cold War, the United States and the Soviet Union heavily invested in cultural diplomacy to project their respective ideological models. The U.S. government sponsored inventiveness such as the Fulbright Program, jazz diplomacy, and the Voice of America broadcasts to promote democratic values and counter Soviet influence. Conversely, the Soviet Union leveraged ballet, literature, and scientific achievements to demonstrate the superiority of socialism and attract supporters worldwide.

With the end of the Cold War and the rise of globalization, cultural diplomacy has taken on new dimensions. The advent of digital media, international sporting events, and cultural industries has amplified the role of soft power in global affairs. Countries such as South Korea, through its Korean Wave (Hallyu), and Japan, through its "Cool Japan" campaign, have successfully leveraged pop culture, cinema,

and fashion to enhance their global standings and attract international investment (Kim, 2011). Similarly, China has expanded its soft power through Confucius Institutes, media initiatives, and infrastructural investments in developing regions (Ding, 2010). These historical precedents underscore the evolving significance of cultural diplomacy as an instrument of international engagement and foreign policy influence.

The growing importance of image and standing in international relations has made nation-branding an essential component of modern diplomacy. Governments recognize that a strong and positive national image can enhance economic opportunities, improve international corporations, and bolster geopolitical influence (Anholt, 2007). Cultural diplomacy, as an extension of soft power, enables states to shape their external perceptions by promoting artistic achievements, educational exchanges, and heritage preservation initiatives. These efforts create promising conditions for trade, tourism, and political alliances, reinforcing a nation's global positioning.

However, the effectiveness of cultural diplomacy in directly influencing foreign policy remains a subject of debate. While cultural exchanges and public appointment strategies contribute to long-term relationship-building, their ability to drive immediate diplomatic or geopolitical outcomes is less certain. Critics argue that cultural diplomacy is often used as a superficial branding tool rather than a substantive means of policy influence. Additionally, the politicization of cultural diplomacy whereby governments selectively curate cultural narratives to serve strategic interests raises ethical and practical concerns regarding authenticity and credibility.

Given these debates, this study seeks to critically analyze the role of cultural diplomacy in nation-branding and foreign policy formulation. By examining historical examples, contemporary case studies, and theoretical perspectives, this research aims to assess the strengths, challenges, and future prospects of cultural diplomacy as a strategic tool in international relations.

Theoretical Frameworks

Joseph Nye (1990) introduced the concept of **soft power** to describe a state's ability to influence others through attraction and persuasion rather than coercion or force. Unlike **hard power**, which relies on military and economic dominance. Cultural diplomacy is a core mechanism through which soft power is exercised. By promoting cultural assets such as language, art, education, and media, states can project an appealing national identity that nurtures goodwill and cooperation. Countries like **South Korea**, through its **Korean Wave (Hallyu)**, and **France**, through institutions like the **Alliance Française**, effectively leverage cultural diplomacy to strengthen their international influence (Kim, 2011; Cull, 2008). Nye (2004) argues that when cultural diplomacy is perceived as authentic and not propagandistic, it enhances a nation's soft power, making its values more attractive globally. Soft power influences foreign policy by shaping international perceptions and fostering favorable diplomatic environments. For example, China's **Confucius Institutes** promote Chinese language and culture, subtly reinforcing its geopolitical strategies, particularly within the **Belt and Road Initiative (BRI)** (Ding, 2010).

However, critics argue that soft power is **difficult to measure** and may have **limited immediate impact** on policy outcomes (Mattern, 2005). While cultural diplomacy fosters long-term goodwill, its ability to **drive concrete diplomatic decisions** remains dependent on other geopolitical factors, such as economic interests and security concerns.

Public diplomacy theory, as articulated by Jan Melissen (2005), extends Nye's concept of soft power by emphasizing **direct communication with foreign publics** to influence international observation and relationships. Unlike traditional diplomacy, which focuses on state-to-state interactions, public diplomacy targets **non-state actors**, including media, civil society, and academic institutions. Cultural diplomacy is a vital component of public diplomacy, as it fosters engagement with foreign audiences through artistic and educational initiatives. For example, the **British Council**, the **Goethe-Institut**, and the **Japan Foundation** actively promote their respective cultures, languages, and values as part of public diplomacy strategies (Melissen, 2005). This engagement enhances **nation-branding** by shaping global perceptions of a country's identity, attractiveness, and credibility.

A key distinction in Melissen's framework is the **shift from one-way broadcasting to two-way dialogue** in public diplomacy. Traditional public diplomacy relied on **government-led information dissemination**, whereas contemporary approaches prioritize **shared engagement**, fostering dialogue and collaboration. This evolution reflects the increasing importance of **digital diplomacy**, where governments use social media platforms like **Twitter, Facebook, and YouTube** to communicate directly with global audiences (Manor, 2019).

Simon Anholt (2007) introduced **Nation-Branding Theory**, arguing that states must actively manage their **global image** to attract economic, political, and cultural benefits. Nation-branding extends beyond traditional diplomacy, incorporating elements of **marketing, communication, and public relations** to shape a country's reputation. Cultural diplomacy is a central strategy in **nation-branding efforts**. Countries invest in cultural diplomacy to create positive associations with their national identity, which enhances their attractiveness for tourism, **trade and investment and geopolitical influence**. While nation-branding can enhance a country's global standing, it is **not always successful or sustainable**. Critics argue that **branding cannot override political realities**, for instance, despite China's heavy investment in cultural diplomacy, its global reputation is still shaped by political controversies such as human rights concerns (Shambaugh, 2015). **Short-term branding efforts may lack authenticity**. A country's status is built over time through consistent policies and cultural interactions rather than short-lived marketing campaigns (Anholt, 2010). Thus, for nation-branding to be effective, it must be **aligned with long-term diplomatic strategies and backed by substantive policies** rather than superficial promotional efforts.

Literature Review

The concept of **soft power**, introduced by **Joseph Nye (1990, 2004)**, has become an essential component of international diplomacy, influencing the way states project their influence beyond coercive means. Soft power is defined as a nation's ability to **shape the preferences and behaviors of others through attraction rather than coercion**, relying on cultural influence, political values, and foreign policies that are perceived as legitimate and desirable (Nye, 2011). In contrast to **hard power**, which relies on military and economic coercion, soft power seeks to **persuade and attract**, fostering long-term relationships that benefit a state's global standing (Keohane & Nye, 2012). **Cultural diplomacy**, as a key instrument of soft power, is increasingly used by governments to shape international perceptions and enhance diplomatic relations. (Melissen, 2005).

Simon Anholt's (2007) highlights the role of **strategic image management** in international relations. According to Anholt, states must actively shape their global reputation to attract **tourism, investment, and diplomatic partnerships**. Nation-branding is closely linked to soft power, as it relies on **cultural narratives and symbolic diplomacy** to project a favorable international image (Dinnie, 2016). Anholt (2010) argues that successful nation-branding requires **policy coherence**, ensuring that cultural diplomacy aligns with political and economic purposes. For instance, South Korea's **Korean Wave (Hallyu)**, which includes K-pop, K-drama, and cuisine, has significantly enhanced the country's global reputation while promoting economic and diplomatic initiatives (Kim, 2011).

Geopolitical diplomacy is often characterized by a struggle for dominance, territory, and influence. Traditionally, hard power tools such as military force or economic sanctions have been primary instruments. However, soft power has become an essential component of modern geopolitical strategy. States use cultural diplomacy, media, education exchanges, and values such as democracy and human rights to influence other states' decisions and create favorable international conditions.

For instance, China's Belt and Road Initiative (BRI) is often framed as an economic and infrastructural effort, but it also functions as a key soft power strategy. Through investments in infrastructure across Asia, Africa, and Europe, China cultivates influence and fosters partnerships that contribute to its geopolitical strategy of expanding its global presence. Scholars like Johnston (2008) emphasize how Chinese soft power, through Confucius Institutes and cultural programs, shapes perceptions and builds diplomatic ties that complement China's hard power capabilities. In contrast, the European Union (EU) has been recognized as a key proponent of soft power through the promotion of democracy, human rights, and multilateralism. The EU's efforts in foreign policy are often characterized by "normative power," a form of soft power that uses its influence to promote norms such as rule of law, democracy, and environmental protection. As Ikenberry (2008) asserts, the EU's role in shaping a post-World War II liberal order has positioned it as a leader in promoting soft power as a vehicle for stability and international cooperation.

Political diplomacy, which involves the management of relations and the negotiation of treaties, is closely tied to soft power mechanisms. A nation's political system, its level of democratic governance, and its stance on global issues can enhance its soft power by making it a beacon of legitimacy and moral authority. The United States, for example, has historically used its democratic values and political ideals to influence global political outcomes. The appeal of the American political system, with its emphasis on individual rights and freedoms, has contributed to its global political leadership. As Nye (2004) suggests,

American soft power stems from its cultural exports, including Hollywood, the global appeal of its educational institutions, and the widespread dissemination of its political ideals. During the Cold War, the U.S. utilized soft power to counter the spread of communism, leveraging cultural and ideological influence to sway countries away from Soviet dominance (Ikenberry, 2008).

The recent rise of populist movements, however, has called into question the potency of soft power in political diplomacy. Countries that have implemented more authoritarian governance models, such as Russia and Hungary, have invested in their own versions of soft power, utilizing state-controlled media, promoting nationalistic narratives, and engaging in digital diplomacy to counter Western influence. Russia's "soft power" approach, which blends cultural diplomacy with the spread of its geopolitical narrative, underscores the ways in which states can adapt soft power to their political objectives, even if their political systems depart from Western democratic norms (Lukyanov, 2018).

In economic diplomacy, soft power plays a crucial role by shaping perceptions of a country's economic model, market opportunities, and trade policies. Countries that project economic stability, technological innovation, and openness to trade are better able to attract investments, forge economic partnerships, and influence global economic governance. South Korea, for example, is often cited as an exemplar of how soft power can influence economic diplomacy. Through the global success of its technology companies like Samsung, LG, and cultural exports like K-pop and Korean cinema, South Korea has enhanced its economic influence. According to Kim (2015), this "economic diplomacy" is closely intertwined with soft power as the country concurrently promotes its economic interests while fostering cultural and technological exchange.

Similarly, India's "Look East" policy demonstrates how soft power can be leveraged to advance economic interests. Through strategic partnerships and trade agreements within Southeast Asia and beyond, India uses its cultural connections, diaspora networks, and technological expertise to build trust and promote economic cooperation. India's software and IT sector have played a pivotal role in enhancing its soft power, which, in turn, opens up new avenues for economic diplomacy. (Kapur, 2004) In the security domain, soft power plays a vital role in conflict prevention, peacebuilding, and fostering cooperation on transnational security challenges such as climate change, terrorism, and pandemics. While hard power is often the instant tool for securing national interests, soft power mechanisms are critical for fostering long-term security and stability (Acharya, 2001).

The United Nations (UN) exemplifies the role of soft power in global security diplomacy. Through peacekeeping missions, human rights advocacy, and conflict mediation, the UN has cultivated an image of legitimacy and impartiality, thereby facilitating global cooperation on security issues. Nye (2004) argues that the UN's legitimacy and ability to mediate conflicts rely heavily on its soft power its reputation as an impartial and credible actor in international security matters. Regional organizations, such as the Association of Southeast Asian Nations (ASEAN), also illustrate how soft power contributes to security diplomacy. ASEAN emphasizes dialogue, cooperation, and the peaceful resolution of disputes, creating a platform for countries with conflicting interests, such as China and the United States, to engage in constructive dialogue. The organization's commitment to building trust and promoting regional stability enhances its ability to prevent conflict and maintain a secure environment (Acharya, 2001).

One of the most successful applications of cultural diplomacy in nation-branding is **South Korea's Hallyu strategy**. The Korean government has strategically promoted K-pop, K-drama, and Korean cuisine to create a positive international perception, boosting both tourism and diplomatic relations (Joo, 2021) The impact of Hallyu on **South Korea's soft power** is evident in the country's **global partnerships, trade agreements, and diplomatic engagements**, particularly in Asia and Latin America (Kim, 2018). China has invested heavily in cultural diplomacy through its **Confucius Institutes**, which promote Chinese language and culture worldwide. These institutes, operating in over **160 countries**, are designed to enhance China's soft power and counter negative perceptions (Hartig, 2016). However, concerns over political influence and academic freedom have led to restrictions in **Western democracies**, demonstrating the limitations of state-driven cultural diplomacy (Shambaugh, 2015). The UK's **British Council** and UK Aid programme are among the oldest and most respected cultural diplomacy institutions, promoting **English language education, arts, and cultural exchanges**. It plays a significant role in strengthening **UK foreign policy objectives**, fostering global goodwill, and maintaining diplomatic influence in the post-Brexit era (Gillespie, 2020)

Despite its benefits, cultural diplomacy faces **several limitations** such as **risk of being perceived as propaganda** (Cull, 2009), **difficulty in measuring long-term effectiveness** (Pamment, 2014) and **geopolitical conflicts overriding cultural engagement efforts** (Snow & Cull, 2020). For example, US

soft power declined in some regions due to foreign policy decisions in the Middle East, despite strong cultural diplomacy efforts (Nye, 2011).

The rise of digital technologies and social media has radically transformed the mechanisms of soft power. In the 21st century, digital diplomacy has become a central tool for influencing global public opinion, especially among younger generations. Social media platforms, online campaigns, and digital narratives enable states and non-state actors to shape international perceptions in real time. Russia's use of disinformation and cyber tactics to influence elections in Western democracies is an example of how soft power can be used in a more covert and manipulative manner (Johnston, 2008). Similarly, the widespread use of social media by political leaders, such as India's Prime Minister Narendra Modi, highlights the increasing role of digital platforms in shaping political discourse and foreign relations. Social media allows countries to engage directly with foreign populations, bypassing traditional diplomatic channels and creating a more immediate connection with the global audience. As Sanger (2018) notes, digital diplomacy has transformed the ways in which countries exert soft power, making it both more accessible and more susceptible to manipulation.

Public diplomacy and cultural diplomacy are integral components of international relations, enabling nations to project their values, culture, and policies to global audiences. These forms of diplomacy serve as instruments of soft power, influencing the global political economy by shaping perceptions, fostering mutual understanding, and facilitating economic and political cooperation. **Public Diplomacy** involves government-sponsored efforts to communicate directly with foreign publics to achieve strategic objectives. This includes initiatives aimed at convincing targeted sectors of foreign opinion to support or tolerate a government's policies and actions (Lukyanov, 2018). **Cultural Diplomacy**, a subset of public diplomacy, focuses on the exchange of cultural elements such as art, music, language, and traditions to foster understanding and cooperation between nations. This approach emphasizes soft power and people-to-people connections, distinguishing it from traditional diplomacy that centers on political and economic negotiations.

Soft power remains a central and evolving tool in the practice of international diplomacy. While hard power continues to dominate in certain spheres, the interplay between soft and hard power is crucial for navigating the complexities of contemporary global relations. States that can effectively combine both forms of power, adapting to the digital age and shifting geopolitical contexts, are better positioned to influence the global order. Soft power, in its many forms, continues to play a pivotal role in shaping the global landscape, influencing political, economic, and security outcomes in ways that are essential for maintaining international stability and cooperation.

Discussion of major research findings

Soft power, a concept introduced by Joseph Nye, refers to a nation's ability to influence others through attraction and persuasion rather than coercion or payment. Cultural diplomacy, a key instrument of soft power, involves the exchange of ideas, values, traditions, and other cultural aspects to strengthen relationships, enhance socio-cultural cooperation, and promote national interests. This discussion critically examines the impact of cultural diplomacy on nation-branding and foreign policy, drawing from contemporary literature.

Nation-branding refers to the strategic process by which a country manages and promotes its image to the international community. Cultural diplomacy plays a pivotal role in this process by showcasing a nation's cultural heritage, thereby shaping perceptions and enhancing its global standing. According to Szondi (2008), cultural diplomacy serves as a tool for nation-branding by communicating national values and cultural assets to foreign publics, thereby influencing their perceptions. This approach helps distinguish a nation from others, creating a unique identity that can attract tourism, investment, and political support. However, the effectiveness of cultural diplomacy in nation-branding is contingent upon authenticity and consistency. An article from the International Affairs Forum highlights that cultural diplomacy must be genuine and reflective of a nation's true culture to avoid perceptions of propaganda, which can undermine credibility and trust.

In the realm of foreign policy, cultural diplomacy functions as a means of soft power, facilitating dialogue and fostering mutual understanding between nations. By promoting cultural exchanges, nations can build trust and reduce tensions, creating a conducive environment for diplomatic negotiations. A study by Ang, Isar, and Mar (2015) argues that cultural diplomacy extends beyond mere image cultivation; it actively contributes to foreign policy by facilitating dialogue and reducing cultural barriers. For instance, cultural exchange programs can open channels of communication between nations, laying the groundwork

for political and economic agreements. Nevertheless, the integration of cultural diplomacy into foreign policy presents challenges. The Brunel University Research Archive notes that the impact of cultural diplomacy is often difficult to measure, as its outcomes are intangible and manifest over the long term. This intangibility complicates assessments of its effectiveness in achieving foreign policy objectives.

Despite its potential benefits, cultural diplomacy faces several challenges. One significant issue is the risk of cultural diplomacy efforts being perceived as cultural imperialism, leading to resistance rather than attraction. Additionally, the authenticity of cultural representations is crucial; superficial or commodified portrayals can undermine credibility and trust. Moreover, the rise of global communication technologies has intensified competition among nations in the realm of cultural diplomacy. An article from the Belfer Center for Science and International Affairs discusses how countries are increasingly utilizing popular culture as a means of soft diplomacy and nation-branding, thereby intensifying competition and potentially diluting the influence of traditional soft power leaders.

Gaps in literature review

One major gap is the lack of a unified theoretical framework that comprehensively integrates soft power, cultural diplomacy, nation-branding, and foreign policy. While Joseph Nye's (2004) concept of soft power is widely cited, scholars interpret and apply it inconsistently. Some focus on state-sponsored cultural initiatives, while others emphasize corporate and non-state actors. The fragmented approaches hinder a cohesive understanding of how these elements interact. Despite its conceptual appeal, soft power remains difficult to quantify. Existing metrics, such as the Soft Power Index by the Portland Group, are methodologically limited and do not adequately capture the long-term impact of cultural diplomacy on foreign policy outcomes. Empirical studies often rely on subjective indicators, which fail to account for the causal mechanisms linking cultural diplomacy efforts with tangible foreign policy gains.

Much of the literature privileges Western perspectives, particularly the United States and the European Union. This neglects non-Western or emerging powers such as China, Russia, India, and Middle Eastern nations, which deploy distinct soft power strategies influenced by historical, ideological, and regional factors. The literature fails to adequately explore alternative cultural diplomacy frameworks, particularly those embedded in post-colonial, regional, or religious narratives. While cultural diplomacy and nation-branding are often discussed in tandem, few studies analyze how cultural diplomacy actively shapes national brands over time. The existing literature tends to treat nation-branding as a marketing tool rather than a strategic diplomatic asset. This gap limits understanding of how states utilize cultural initiatives to construct, maintain, or repair national reputations.

Most research focuses on state-driven cultural diplomacy programs, overlooking the growing role of non-state actors (e.g., multinational corporations, NGOs, cultural institutions, and universities). These actors influence soft power dynamics through academic exchanges, media, and popular culture, yet their contributions remain underexplored in foreign policy discourse. The rise of social media and digital platforms has significantly altered how nations project soft power, yet the literature has not fully accounted for these shifts. Digital diplomacy (or e-diplomacy) enables states to reach global audiences instantly, bypassing traditional diplomatic channels. However, there is a lack of research on how digital engagement affects credibility, authenticity, and the sustainability of soft power efforts.

A critical gap in the literature is the lack of ethical considerations in soft power discourse. Many studies assume cultural diplomacy is benign, yet it can be coercive, manipulative, or neocolonial in nature. For instance, cultural diplomacy efforts may be used to mask human rights violations or deflect from controversial policies. There is a need for research examining the ethical implications of using culture as a strategic diplomatic tool. Most analyses treat soft power and cultural diplomacy as stable, long-term projects, but they are often subject to domestic political shifts. Changes in leadership, government priorities, or public opinion can significantly impact a country's commitment to cultural diplomacy. The literature lacks sufficient discussion on how domestic politics influence the continuity, expansion, or decline of cultural diplomacy initiatives.

Summary, conclusion and recommendations

Summary

Soft power, a concept popularized by Joseph Nye, refers to a nation's ability to shape the preferences and influence the behaviors of others through attraction and persuasion rather than coercion or force. This influence is largely exercised through cultural diplomacy, a strategic tool that leverages cultural exchanges, artistic initiatives, education, and media to enhance a nation's global standing. Cultural

diplomacy plays a pivotal role in **nation-branding**, which refers to the deliberate effort to shape a country's image and identity on the global stage. Countries use cultural diplomacy to foster favorable perceptions, attract tourism and investment, and build strong diplomatic relationships. Moreover, soft power initiatives influence **foreign policy** by enhancing diplomatic negotiations, reducing tensions, and fostering mutual understanding among nations. Despite its advantages, soft power faces several challenges. Measurement remains a key issue, as there is no universally accepted framework to assess the tangible impact of cultural diplomacy on foreign policy.

Conclusion

Soft power remains an essential component of international diplomacy, offering an alternative approach to coercive strategies such as military interventions and economic sanctions. Cultural diplomacy serves as a **bridge for intercultural dialogue**, enhances **international cooperation**, and strengthens a nation's global influence. However, its impact on **nation-branding and foreign policy** is neither uniform nor guaranteed, as it depends on factors such as credibility, strategic alignment, and domestic political stability. The study highlights the need for **greater empirical research, inclusive theoretical frameworks, and innovative strategies** that adapt to the rapidly evolving global landscape. By addressing these gaps, countries can harness the full potential of soft power in **shaping international diplomacy, enhancing their global reputation, and fostering long-term foreign policy success**.

Recommendations

To strengthen the role of **soft power in international diplomacy, cultural diplomacy, nation-branding, and foreign policy**, the following **ten recommendations** are proposed:

- i. Scholars and policymakers should work towards a **comprehensive framework** that integrates cultural diplomacy, nation-branding, and foreign policy.
- ii. Governments and academic institutions should invest in **quantitative and qualitative methodologies** to assess the impact of cultural diplomacy.
- iii. More studies should focus on **emerging powers** such as China, India, Brazil, and the Middle East, which deploy soft power differently from Western countries.
- iv. Governments should **adapt to the digital age** by leveraging **social media, virtual cultural exchanges, and digital storytelling** to enhance their international image.
- v. Collaboration between governments, private corporations, NGOs, and academic institutions can **amplify the reach and effectiveness** of soft power initiatives.
- vi. Soft power initiatives should avoid **cultural manipulation, misinformation, or neocolonial narratives**.
- vii. Cultural diplomacy should not operate in isolation but must align with **national foreign policy priorities**, such as trade agreements, diplomatic negotiations, and security initiatives.
- viii. Rather than focusing on **one-time cultural events**, nations should invest in **sustained educational and cultural exchanges** that build long-term goodwill.
- ix. Cultural diplomacy efforts should be **adaptable to geopolitical tensions, domestic instability, or international crises**.
- x. Countries should **collaborate on global cultural projects**, such as UNESCO programs, international art festivals, and joint research initiatives.

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The African Union Strategy for Regional Security and Asymmetric Threats in the Lake Chad Region

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Abstract

The Lake Chad region has consistently faced insecurity crises due largely to terrorism/insurgency. Consequently, the humanitarian crisis within this region has displaced 1.9 million people, with over 80% of them in Borno state. Managing the insecurity dilemma in the region led to the establishment of the Multinational Joint Task Force (MNJTF) in 2014 based on the African Union (AU) regional security strategy. The management of the MNJTF is however under the oversight functions of the Lake Chad Basin Commission consequent on the stipulated security architecture of the AU. In this vein, the MNJTF is tasked with combating insurgency and terrorist attacks posed by Boko Haram and its splinter group, the Islamic State of West Africa Province (ISWAP). Hence, the core objective of this study is to interrogate the AU's conflict and counter terrorism measures needed for the MNJTF's operational success. Methodologically, this study employed the qualitative approach in sourcing and analysing data. Data were sourced from secondary sources like textbooks, journals, official archived documents, the internet, and newspapers, while qualitative content analysis was used in data analysis. Regional Security Complex Theory was used as the theoretical framework. The study's findings reveal that the African Union's security strategy is being hampered due to the regional body's bureaucratic process that has not been structured to accommodate the dynamic security challenges in the continent which could allow for unilateral military operations and common funding. The study recommends amongst others, that the African Union should discourage managing security operations with multiple resources and should not create more counter-terrorist forces where existing ones have not been properly managed.

Keywords: African Union, Multi-National Joint Task Force, terrorism, insecurity, regional security complex theory, Lake Chad Basin Commission.

Introduction

The Lake Chad region faces immense security challenges from asymmetric threats like terrorism that undermine stability and development. Groups like Boko Haram and its Islamic State West Africa Province (ISWAP) offshoot employ unconventional tactics like suicide bombings, ambushes and kidnappings of civilians and attacks against military targets in Cameroon, Chad, Niger and Nigeria (Onuoha, 2014). As a result of the ongoing conflict, over 1.9 million people have been displaced in the region, with over 80% of internally displaced persons located in Borno State alone (Medicin Sans Frontiers- (MSF, n.d.). This severe humanitarian crisis underscored the need for collective regional action to manage the security situation. Boko Haram in particular rose to international prominence in 2014 when they kidnapped over 200 schoolgirls from Chibok, Borno State, shocking the world (Onuoha, 2014). However, the scale and intensity of the violence perpetrated by these groups, as well as their rapid evolution, prompted a coordinated response from the African Union (AU).

Recognising that security threats emanating from the porous borders and vast ungoverned spaces in any one Lake Chad country could easily destabilise the entire region, the AU pursued a strategy focused on fostering regional cooperation and an intergovernmental approach to counter the growing threat of asymmetric warfare (Lacher, 2020). A key pillar of the AU's strategy was establishing the Multinational Joint Task Force (MNJTF) in 2014, comprised of dedicated troops contributed from the frontline states of Cameroon, Chad, Niger and Nigeria (Onuoha, 2014). Headquartered in N'Djamena, Chad, the MNJTF acts as an intergovernmental sub-regional security force, with its mandate and operations receiving civilian oversight from the Lake Chad Basin Commission (LCBC) and AU (Lacher, 2020).

The MNJTF's core mandate includes conducting cross-border counterterrorism operations and surveillance of the porous borders, securing international boundaries, facilitating intelligence sharing between member states, intercepting weapons smuggling, and coordinating to free civilians kidnapped by terrorist groups (Onuoha, 2014). By pooling their military resources and coordinating efforts, the MNJTF aims to address the terrorism scourge across the vast Lake Chad region in a comprehensive manner. Since 2015, the force has engaged in numerous battles and raids against Boko Haram and ISWAP, helping to push the terrorists back from some areas (Lacher, 2020).

In addition to these hard security measures of the MNJTF, the AU also promotes complementary soft approaches to counter the spread of radicalization and resolve some of the underlying socioeconomic drivers of conflict plaguing the Lake Chad region (Lacher, 2020). Such efforts include liaising with governments on development projects to improve livelihoods, providing humanitarian aid and assistance to the millions of internally displaced persons, and working to enhance governance, inclusion and respect for human rights (Lacher, 2020). The AU also fosters regional cooperation on issues like transnational organized crime, violent extremism and counterterrorism financing through organizations like the G5 Sahel Joint Force and meetings between security chiefs of Lake Chad countries (Lacher, 2020). This holistic strategy reflects the AU's view that sustainable solutions require tackling the interconnected political, economic and social roots of asymmetric threats.

The Core Issues and Knowledge Gap

The Lake Chad region grapples with persistent asymmetric threats from groups like Boko Haram, disrupting security and socio-economic stability in the area (Reader, 2022). Eudes (2021) notes that the African Union (AU) has implemented multifaceted strategies through initiatives like the Multinational Joint Task Force (MNJTF) and stabilization missions such as MINSILC to combat these challenges. However, the effectiveness of these efforts is hindered by fragmented institutional mandates, divergent national interests within Member States, and the adaptable tactics of non-state actors (Ichimi, 2023).

This study seeks to critically analyse the AU's strategies in addressing security issues in the Lake Chad Basin, assessing their effectiveness, limitations stemming from regional dynamics and institutional complexities, and implications for long-term peace and stability. Ofongo (2024), note that the military-focused approaches of the AU have encountered difficulties in keeping up with Boko Haram's adaptive strategies and the broader socio-political vulnerabilities in the region. Moreover, diverging national interests often lead to disparities in resource allocation and inconsistent participation in AU-led missions (Mustapha & Musa, 2020). While existing literature predominantly focuses on the military aspects of the MNJTF, this study seeks to fill the gap by examining the broader bureaucratic and institutional frameworks of the AU. By evaluating regional coordination and governance, the research aims to explore how these mechanisms can evolve to address the dynamic terrorism challenges in Africa.

Methodology

This study utilised the qualitative approach and relied on secondary data from reputable sources such as peer-reviewed journals, official reports, and policy documents. By using a case study of the Lake Chad Basin, the research evaluates real-world applications of strategies like the Multinational Joint Task Force (MNJTF) and AU stabilization missions, focusing on their successes, limitations, and adaptability. Data selection focused on sources from the past decade to ensure relevance and timeliness. Thematic analysis was used to pinpoint recurring challenges faced by the African Union in its counterterrorism efforts. A comparison was made between the structure and operations of the Multinational Joint Task Force (MNJTF) and similar initiatives like NATO's counterterrorism strategies. to identify gaps and redundancies in the AU's approaches relative to other security strategies, while qualitative interpretation highlights the socio-political and institutional factors influencing implementation. This methodology sheds light on the sociopolitical and institutional factors that shape the African Union's strategies, providing valuable insights and actionable recommendations for improvement.

Literature Review and Theoretical Framework

The Lake Chad region stands at the crossroads of multiple security challenges, with non-state actors like Boko Haram posing significant threats to stability and development. In response, the African Union (AU) has implemented various strategies to address these complex security dynamics. This literature review seeks to critically examine existing scholarly works that delve into the efficacy of the AU's security approaches in the Lake Chad Basin. By synthesizing key findings and identifying gaps in the literature,

this review seeks to contribute to a deeper understanding of the regional security governance landscape and the ongoing efforts to combat asymmetric threats in the area.

The Lake Chad region faces a profound security dilemma, driven by asymmetric threats, fragmented regional responses, and competing national interests among key states like Nigeria, Chad, Niger, and Cameroon. Despite the collaborative framework of the Multinational Joint Task Force (MNJTF) and AU-led stabilization missions like MINSILC, the lack of cohesion among member states undermines collective efforts, with national priorities often overriding regional objectives (Mustapha & Musa, 2020). Boko Haram and its splinter factions, including ISWAP, exploit these divisions and adapt their tactics to sustain prolonged conflict, further complicating security efforts (Reader, 2022).

Limited resources, uneven allocation, and external influences exacerbate mistrust among states, while the humanitarian crisis stemming from displacement and socio-economic stagnation diverts attention from long-term security goals (Eudes, 2021; Ofongo, 2024). This cyclical insecurity erodes regional trust, prolongs instability, and increases civilian vulnerability, highlighting the need for integrated military and socio-economic strategies that prioritize collaboration and sustainable development (Ichimi, 2023).

Theoretical Framework

The Regional Security Complex Theory (RSCT), developed by Barry Buzan and Ole Wæver, provides the most appropriate theoretical framework for analysing the African Union's strategies for regional security in the Lake Chad Basin. The theory assumes that security dynamics are best understood at the regional level, where interdependent security threats and shared vulnerabilities create a "security complex" that necessitates collaborative solutions. This aligns with the Lake Chad region, where asymmetric threats such as Boko Haram's insurgency and transnational organized crime transcend borders, impacting Nigeria, Chad, Niger, and Cameroon collectively (Buzan & Wæver, 2003).

RSCT emphasises the interconnectedness of states within a region, where the security of one state is linked to its neighbours, reflecting the shared challenges faced by Lake Chad Basin states. The theory also assumes that regional security cooperation often encounters obstacles due to conflicting national interests and issues of sovereignty. This is evident in the region, where fragmented responses and divergent political agendas undermine the effectiveness of African Union strategies such as the Multinational Joint Task Force (MNJTF) (Eudes, 211; Okolie et al., 2024). Additionally, RSCT accounts for non-traditional threats like terrorism and insurgency, highlighting the necessity of multilateral responses and adaptable frameworks, which are key components of AU-led initiatives (Ichimi, 2023).

Overall, RSCT's assumptions about the regional nature of security threats, interdependence among states, and the challenges of balancing sovereignty with collective action make it the most suitable lens for evaluating the African Union's strategies in the Lake Chad Basin. By focusing on regional interconnectivity and the complexity of asymmetric threats, the theory provides critical insights into the successes and limitations of these strategies.

Terrorist Activities in the Lake Chad Region

Boko Haram was founded in the early 2000s by Mohammed Yusuf, who advocated a radical Salafist ideology and called for the establishment of an Islamic state in northern Nigeria governed by sharia law. In his fiery sermons condemning democracy and Western influence, Yusuf helped galvanise a militant extremist movement (Kassim & Nwankpa, 2018). In 2009, a major military crackdown known as "Operation Flush" led to Yusuf's death in custody, further radicalizing Boko Haram. They launched a coordinated bombing and attack campaign across northeast Nigeria in retaliation (Kerins & Mouaha-Bell, 2018). Over the next decade, Boko Haram engaged in increasingly brutal violence targeting both civilian and military targets. By 2014, their insurgency had spread across borders into the Lake Chad region.

The human toll has been immense. In Nigeria's Borno, Adamawa and Yobe states alone, over 36,000 people have been killed since the conflict began, over 90% of them civilians (MSF, n.d.). Approximately 1.9 million have been displaced within Nigeria, with over 80% in Borno state (MSF, n.d.). Across the Lake Chad region, 17 million people face a complex humanitarian crisis exacerbated by poverty, climate change and violence (MSF, n.d.). Boko Haram's activities have also had devastating socioeconomic impacts. The World Food Programme (2016) estimated 4.4 million people faced food insecurity in the Lake Chad region and over 40,000 internally displaced people required aid in Cameroon's Logone and Chari alone where over \$334 million was needed for life-saving assistance. In 2015, a faction split off to pledge allegiance to ISIS, becoming ISWAP. While still violent, ISWAP moderated Boko Haram's extreme ideology and poses an even greater threat to West Africa's stability given its affiliation with the

global jihadist network (Kerins & Mouaha-Bell, 2018). Both groups continue perpetuating violence and insecurity across the Lake Chad region.

The African Union Bureaucratic Process and the Multinational Joint Task Force

The politics involved in the setting up of the Multinational Joint Task Force by the African Union was in all ramifications faulty because there were no clear-cut principles to guide the oversight functions in care of the Lake Chad Basin Commission. This situation exists because “the African Union Act did not initially provide for any mechanism for conflict prevention, management, and resolution, though this is one of the goals of the Union” (Udombana, 2002, p. 122).

The failure of the 2000 Constitutive Act to reestablish the Cairo Declaration, with focus on the MCPMR became the main reason the AU does not have a clear-cut conflict resolution mechanism that should deal with security issues in the continent. This situation has led to the sluggish notion of conflict resolution as countries under the AU hardly work together towards the peaceful and speedy resolution of all the conflicts on within the continent (Udombana, 2002). The Cairo Agenda for Action under the OAU was a pragmatic pledge that gave maximum political and financial support to the OAU Mechanism for Conflict Prevention, Management and Resolution (MCPMR), for effective peacemaking operations. This peace process got all segments of the population involved and mobilized adequate official and private resources for the OAU Peace Fund (Udombana, 2002, p. 122).

The statement concerning the design of the conflict resolution mechanism under Article 5(2) is a statement of probability rather than a statement of purposeful intent. “In recognition of the current threat posed by international terrorism, the Protocol has, as one of its objectives, the prevention and combating of terrorism. Consequently, the PSC shall harmonize efforts of the Member States in this regard” (Udombana, 2002, p. 126). However, the current handling of the composition or structure of the Multinational Joint Task Force in their handling of the issue of insecurity amidst terrorism has not involved the collection of all states in the Union except the States hit by the acts of terror.

The inability to centrally harmonise the fight against terror with well structured force and leadership is the reason the MNJTF has become more of individual State’s business fighting in their territory than a collective and unilateral fight. This situation is rightly corroborated by Wolde-Michael (2020, n.p) who asserts that “while the AU has developed a general definition of terrorism, what qualifies as a terror threat is articulated differently by member states. This will become a major obstacle in deciding whether the ASF should be deployed in response to specific ‘terror’ groups” as there are many terrorists’ groups across the various subregions in the African region. the AU can be effective in its fight against terrorism when it has a centrally focused mechanism towards fighting terrorism instead of leaving the oversight functions to regional bodies.

The African Union and the Management of the Security Situation in the Lake Chad Region

Security issues coming on the heels of terrorism in the West and Central Africa is particularly worrisome especially when we look at the Lake Chad region where the Multinational Joint Task Force operates to stem the growing influence of terrorism in the region. Managing the crisis in this region has been a herculean task requiring effort not just from the countries involved in the fight against terror nor the immediate subregions (Lake Chad Basin Commission-LCBC and the Economic Community of West African States-ECOWAS), but it also requires the effort of the African Union because its security management activities encompass all other subregional arrangements.

In managing the security situation with regards to terrorism in Africa, there has been the defective counter-terrorism mechanism that has not allowed for the effective operations of the subregional effort under the authorization of the African Union. Since the Peace and Security Council lacks the outright powers to deal with terrorism in a unilateral manner that allows for the tackling of terrorism issues not only by countries concerned but by all countries, there is the need for to revisit the protocol establishing the PSC.

More so, the African Union realises this and is attempting to amend what the definition of peace support operations (PSOs) means within the PSO Doctrine. Therefore, the mechanism for managing security through peace operations was due for endorsement by the PSC before the February 2021 AU summit which has now been endorsed. “This policy recognises that AU-authorized or -endorsed multinational and multidimensional operations deployed to restore or maintain peace amount to PSOs. The endorsement of this security mechanism for peace and conflict resolution means that, African-led

counter-terrorism missions will be able to access funding from the Peace Fund” (Woldemichael 2020, n.p).

This restructured security management mechanism must be synchronized with the United Nations resolution to become more effective. According to Woldemichael (2020, n.p.) “to reach consensus on the proposed unit under the ASF, the PSC must agree on a draft United Nations (UN) resolution regarding accessing UN-assessed contributions. It must also decide on what kinds of interventions will be aided by the Peace Fund and conclude the Common African Position on Financing. Also, If the PSC endorses the proposal to form a counter-terrorism unit under the ASF, it will have to negotiate extensively with the UN Security Council. The significant doctrinal variance regarding the deployment of PSOs for counter-terrorism missions, to access UN-assessed contributions, needs to be resolved.” The situation above is what has made security management under the AU difficult because there is not enough fund to set up a robust security force with a unilateral position that can tackle issues of insecurity headlong in the continent.

Challenges Confronting the Effective Operations of the MNJTF

The Multinational Joint Task Force (MNJTF) faces significant challenges that have undermined its ability to effectively achieve its mandate as established by the African Union (AU). A core issue is the lack of a unified command structure (Onuoha, 2014). The reluctance of Nigeria, Chad, Niger and Cameroon to cede full authority over their respective national contingents has fragmented the MNJTF's command (Onuoha, 2014). Rather than operating as a cohesive force with a single chain of command, the MNJTF functions more as a loose coalition where units remain primarily accountable to their home countries (Onuoha, 2014).

This weakens coordination of vital functions like intelligence sharing, logistics planning and joint combat operations against militant groups like Boko Haram and ISWAP that cross porous borders at will. Rotating contingents in and out of the MNJTF based on domestic political priorities exacerbates these issues by disrupting morale and hampering the development of standardized operating procedures across the task force (Lacher, 2020). New units constantly need to be integrated and trained up to the same standards as longer-serving counterparts. Lack of stable and adequate funding poses another major challenge. Member states have been inconsistent in providing the necessary financial and material resources to sustain MNJTF operations over time. This has led to shortfalls that negatively impact critical areas such as equipment procurement, infrastructure development, and personnel salaries. As a coalition force dependent on individual country budgets, the MNJTF is more vulnerable to competing spending priorities within contributing nations (Lacher, 2020).

Furthermore, the Lake Chad Basin Commission confronts its own difficulties in exercising robust civilian oversight of the MNJTF's activities on the AU's behalf. It remains hampered by insufficient funding and lacks enforcement powers to independently investigate allegations of human rights violations during military operations (Onuoha, 2014). Without strong civilian oversight, the MNJTF risks losing the trust and cooperation of local populations through heavy-handed tactics. Unless these interrelated challenges are systematically addressed, the MNJTF will continue finding it difficult to coordinate an effective and unified response to the dynamic security threats confronting the Lake Chad region. Strengthened support from the AU is imperative.

African Union's Challenge in Coordinating Regional Counterterrorism Efforts

The African Union (AU) has faced significant difficulties in coordinating an effective regional response to the growing terrorism threat across the Lake Chad region, as evidenced by the challenges confronting the Multinational Joint Task Force (MNJTF). While establishing the MNJTF framework in collaboration with the Lake Chad Basin Commission (LCBC) was an important step, the AU's bureaucratic nature and lack of central authority have hampered its efforts. A major issue undermining the MNJTF has been the lack of a unified command structure with full control over national contingents. By allowing Nigeria, Chad, Niger and Cameroon to retain primary command of their own forces, the AU failed to establish a truly integrated regional response mechanism. As a result, the MNJTF functions more as a loose coalition of states operating independently within their borders rather than a cohesive multilateral force (Onuoha, 2014).

This fragmented structure has weakened vital functions such as intelligence sharing, cross-border operations and a coordinated long-term strategy. It also disrupts troop cohesion by enabling the constant rotation of units based on domestic priorities rather than operational needs. Without a centralized

authority, the AU is further unable to ensure stable funding, equipment provisioning or enforcement of civilian oversight through the LCBC as mandated (Lacher, 2020). The AU's bureaucratic processes have also slowed decision making, as its multiple organs must reach consensus on sensitive security issues. This lack of agility has made it difficult to adapt the MNJTF framework to the evolving terrorism threat (Akuche, 2016).

Regional powers like Nigeria have grown frustrated with these limitations, preferring direct unilateral action at times (Lacher, 2020). If the AU wishes to more effectively stabilise the Lake Chad region, it must address these shortcomings by empowering the MNJTF and LCBC with independent and assertive authorities on par with the gravity of the crisis at hand. Only through coordinated, centralised and well-resourced regional efforts can terrorism be comprehensively confronted. Within its Constitutive Act, the AU established various organs to coordinate its activities, with the Peace and Security Council (PSC) playing a central role in conflict resolution. Modelled after the UN Security Council, the PSC has 15 members elected on a regional basis to handle situations of conflict prevention, management and post-conflict peacebuilding (Akuche, 2016).

The LCBC and MNJTF were established within this overarching AU framework. Formed in 1994, the LCBC aims to foster regional integration and development among Lake Chad basin countries. In response to Boko Haram's rise, the LCBC reactivated the Multinational Joint Security Force (MNJSF) in 2014 as the MNJTF with an expanded mandate of counterterrorism (Galeazzi et al., 2017). Comprising sectors from Cameroon, Chad, Niger and Nigeria, with Benin providing intelligence support, the MNJTF has over 8,000 authorised troops conducting operations against Boko Haram since 2015 (International Crisis Group, 2020). The LCBC was envisioned to provide civilian oversight of the MNJTF on behalf of the AU (International Crisis Group, 2020).

However, structural limitations have undermined effectiveness. National contingents primarily operate within their own borders, weakening the chain of command (International Crisis Group, 2020). While Nigeria has always led operations, the LCBC and AU have struggled to establish a truly unified force (International Crisis Group, 2020). Coordination of funding, equipment and intelligence is also challenging for a coalition of this scale. Unless the AU can strengthen the MNJTF's autonomous capabilities and LCBC's oversight powers, their inter-connected roles risk remaining hampered in comprehensively addressing the dynamic terrorism crisis across the Lake Chad region. Greater centralization of command is needed.

From the foregoing, the study's findings reveal that the Multinational Joint Task Force (MNJTF) operating in the Lake Chad Basin faces significant challenges. The fragmented command structure, where national contingents retain primary control, hampers operational cohesion. This results in issues like inefficient intelligence sharing and disrupted troop morale, ultimately impacting the effectiveness of counterterrorism operations. Additionally, inadequate funding due to inconsistent contributions from member states leads to resource shortages, affecting critical aspects such as equipment, salaries, and infrastructure. Moreover, human rights concerns arise from heavy-handed tactics and a lack of civilian oversight, which not only erode public trust but also complicate counterterrorism efforts.

On the other hand, within the African Union (AU), bureaucratic barriers impede swift decision-making processes necessary to adapt to the evolving tactics of terrorist groups. The lack of enforcement authority in the Peace and Security Council further complicates matters by hindering compliance among member states. These challenges underscore the need for strategic improvements in command structures, funding mechanisms, and adherence to human rights standards to enhance the AU's counterterrorism strategies.

Conclusion

This study unravelled the challenges faced by the Multinational Joint Task Force (MNJTF) in the Lake Chad Basin, such as fragmented command structures, inadequate funding, and human rights concerns. The African Union (AU) also encounters bureaucratic barriers that hinder its ability to respond effectively to evolving security threats. The discussions emphasize the importance of centralizing command structures, improving funding mechanisms, and aligning operations with human rights standards to enhance counterterrorism efforts. Addressing these issues and implementing the recommended actions will enable the AU to strengthen its strategies and improve regional security in the face of asymmetric threats.

Additionally, the AU's endeavours in the Lake Chad Basin highlight the intricate nature of regional security challenges posed by asymmetric threats. While the MNJTF has shown some progress, addressing

the fragmented structure and funding limitations is crucial to unlocking its full potential. In tackling these issues and incorporating ethical governance practices, the AU can significantly improve the efficacy of its counterterrorism efforts, serving as a model for regional security initiatives globally.

Recommendations

To achieve these improvements, several recommendations are proposed.

1. Establishing a centralized command structure with AU oversight can streamline operations and enhance coordination among national contingents.
2. Creating a sustainable funding model, possibly through a dedicated counterterrorism fund supported by member states and international partners, can address resource shortages.
3. Introducing independent human rights monitoring committees can ensure compliance with ethical standards during MNJTF operations.
4. Investing in capacity building through training programmes for MNJTF personnel can enhance operational efficiency and adaptability. This can bolster the AU's counterterrorism efforts in the Lake Chad Basin.

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Ungoverned Spaces and Armed Banditry in Northern Nigeria

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Abstract

Ungoverned spaces in Northern Nigeria have emerged as a critical enabler of armed banditry, posing a significant threat to the region's security, socio-economic development, and political stability. These spaces, characterized by the absence or weakness of state authority, provide fertile ground for criminal activities, including kidnapping, cattle rustling, and armed robbery. This paper examines the phenomenon of ungoverned spaces and their role in nurturing armed banditry in Northern Nigeria, with a particular focus on the neglect of traditional institutions as a contributing factor to the region's insecurity. The paper argues that the erosion of traditional governance structures, coupled with the failure of the modern state to establish effective authority, has created a power vacuum that armed groups exploit. By interrogating the interplay between ungoverned spaces, armed banditry, and the marginalization of traditional institutions, the paper aims to provide an insight into a comprehensive understanding of the security challenges in Northern Nigeria. Methodologically, the paper adopts qualitative approach using secondary data from textbooks, journals, newspapers, internet materials and content analysis to provide the much-needed analysis. Part of the findings of the paper revealed that porous borders, corruption, marginalisation of traditional institutions, proliferation of small arms and light weapons and ineffective local government system are amongst other factors that contributed to the deteriorating security challenges in the North. The paper recommends amongst others revitalization of traditional institutions, strengthening state presence in ungoverned spaces, and addressing the root causes of banditry.

Keywords: Ungoverned spaces, armed banditry, traditional institutions, Northern Nigeria

Introduction

Northern Nigeria has been plagued by persistent insecurity, with armed banditry emerging as one of the most pressing challenges in recent years. This crisis is characterized by widespread criminal activities, including kidnapping, cattle rustling, and armed robbery, which have devastated communities and undermined socio-economic development in the region. The escalation of armed banditry is closely linked to the existence of ungoverned spaces—areas where state authority is weak or absent, creating a vacuum that non-state actors exploit (Clunan & Trinkunas, 2014). These ungoverned spaces, often found in remote and rural areas, provide safe havens for armed groups, enabling them to operate with relative impunity (Onuoha, 2014).

The problems of ungoverned spaces are not peculiar to Nigeria alone, rather it is a global phenomenon that has been observed in regions such as the Sahel, Afghanistan, and parts of Latin America (Williams, 2016). However, in the context of Northern Nigeria, the situation is deepened by a combination of historical, socio-economic, and political factors. The region's vast and rugged terrain, coupled with poor infrastructure and limited state presence, has makes it difficult for the government to assert control over these areas (Okoli & Ugwu, 2019). Additionally, the proliferation of Small Arms and Light Weapons (SALW), as well as the marginalization of traditional institutions, has further exacerbated the security challenges in the region (Ibrahim, 2018).

Traditional institutions, such as emirates, community leaders, and local councils, have historically played a crucial role in maintaining peace and order in Northern Nigeria. These institutions possess deep knowledge of local dynamics and enjoy the trust of their communities, making them essential actors in conflict resolution and peacebuilding (Albert, 2017). Notwithstanding the indispensable role they continued to play in peace building, the marginalization of traditional institutions by the modern state has weakened their capacity to address security challenges, creating a governance vacuum that armed groups exploit (Ostien, 2016).

The socio-economic context of Northern Nigeria also plays a significant role in fueling armed banditry. The region is characterized by high levels of poverty, unemployment, and illiteracy, which create a pool of recruits for criminal networks (Ewetan & Urhie, 2014). The lack of economic opportunities, particularly among youth, has made banditry an attractive livelihood option, further entrenching the crisis. Additionally, the proliferation of small arms and light weapons, often stemming from regional conflicts and porous borders, has armed these groups and increased their capacity for violence (Onuoha, 2014).

This paper seeks to explore the relationship between ungoverned spaces and armed banditry in Northern Nigeria, with a particular focus on the neglect of traditional institutions as a critical factor in the region's insecurity. To do this, the study is structured into five sections. Following this introduction, section 2 provides a literature review on the concept of ungoverned spaces and their implications for security. Section 3 examines the specific context of Northern Nigeria, highlighting the prevalence of ungoverned spaces and the rise of armed banditry. Section 4 explores the neglect of traditional institutions as a contributing factor to insecurity. Section 5 concludes the paper with recommendations for addressing the challenges of ungoverned spaces and armed banditry in Northern Nigeria.

Ungoverned Spaces: Literature Review

The concept of ungoverned spaces has gained significant attention in security studies, particularly in the context of weak or failing states. Ungoverned spaces are defined as areas where state authority is either absent or insufficient, creating a vacuum that non-state actors, including armed groups, criminal networks, and insurgents, can exploit (Clunan & Trinkunas, 2014). These spaces are often characterized by limited infrastructure, poor access to basic services, and a lack of effective governance, making them fertile ground for illicit activities (Williams, 2016). According to Taylor (2016:2) ungoverned spaces can be defined as a “a place where the state or central government is unable or unwilling to extend control, effectively govern, or influence the local population, and where a provincial, local, tribal or autonomous government does not fully or effectively govern, due to inadequate governance capacity, insufficient political will, gaps in legitimacy, the presence of conflict, or restrictive norms of behavior. “Ungoverned areas” should be assumed to include under-governed, ill-governed, contested, and exploitable areas.” This definition is mainly influenced by the state failure thesis.

Theoretical Foundations of Ungoverned Spaces

The study of ungoverned spaces is rooted in the broader discourse on state fragility and the erosion of sovereignty. According to Clunan and Trinkunas (2014), ungoverned spaces emerge when states are unable to exercise monopoly over the use of force within their territories, a concept central to Max Weber's definition of the state. In such contexts, non-state actors often fill the governance vacuum, establishing parallel systems of authority and control. This phenomenon is particularly prevalent in regions with weak institutions, poor governance, and limited state capacity (Menkhaus, 2014).

Ungoverned spaces are not necessarily uninhabited or devoid of governance structures. Instead, they are areas where formal state institutions are either absent or ineffective, and where alternative forms of governance, such as traditional or informal systems, may exist (Staniland, 2015). These alternative systems can sometimes provide stability and order, but they can also be co-opted by criminal or insurgent groups, further complicating the security landscape (Williams, 2016).

Global Perspectives on Ungoverned Spaces

The phenomenon of ungoverned spaces is not unique to any single region; it has been observed in various parts of the world, including the Sahel, Afghanistan, and parts of Latin America (RAND, 2007). In the Sahel, for example, vast desert regions with limited state presence have become hotspots for transnational criminal networks and terrorist groups such as Al-Qaeda in the Islamic Maghreb (AQIM) (Laremont, 2014). Similarly, in Afghanistan, remote and mountainous areas have long served as safe havens for insurgent groups like the Taliban (Giustozzi, 2016). In Latin America, ungoverned spaces have facilitated the operations of drug cartels and organized crime syndicates. For instance, the Amazon rainforest, with its dense vegetation and limited state presence, has become a hub for illegal logging, drug trafficking, and other illicit activities (Bunker & Sullivan, 2014). Furthermore, RAND Report has provided a typical example of ungoverned spaces that can housed terrorist organizations from eight regions to includes the East African Corridor, West Africa, the Sulawesi–Mindanao Arc, the Colombia–Venezuela Border, the Guatemala–Chiapas Border, the Pakistan–Afghanistan Border, the North Caucasus and the Arabian Peninsula (see John,2020). These examples highlight the global nature of the challenge posed by ungoverned spaces and the need for context-specific solutions. Many factors are said to be responsible for making a territory “ungovernable,” these include: (1) the level of state penetration of society, (2) the extent to which the state has a monopoly on the use of force, (3) the extent to which the state controls its borders, and (4) whether the state is subject to external intervention by other states or outside forces (RAND, 2007). For instance, the presence or absence of state institutions; social and cultural resistance

to state penetration; and lack of physical infrastructure can be used to measure the level of state penetration of society.

Descending down to Africa, ungoverned spaces are often linked to the proliferation of armed groups, insurgencies, and criminal networks. The continent's vast and diverse geography, coupled with weak and/or fragile state institutions, has created numerous areas where state authority is either absent or contested (Okoli & Ugwu, 2019). For example, the Horn of Africa, particularly Somalia, has been described as a classic case of ungoverned spaces, where the absence of a functioning central government has allowed militant groups like Al-Shabaab to flourish unaverred (Menkhaus, 2014). While in West Africa, the Sahel region has dominated public discussions on ungoverned spaces due to the activities of groups like Boko Haram and AQIM. These groups exploit the region's porous borders, weak governance, and limited state presence to establish camps and carry out attacks (Laremont, 2014). The situation is further complicated by the proliferation of small arms and light weapons, which have armed these groups and increased their capacity for violence (Onuoha, 2014).

This has to a large extent explained the presence of banditry in Nigeria and other West African countries especially its closest neighbors. For instances, the porous borders between Nigeria and Niger Republic in addition to the socio-economic factors that bedeviled the two countries has created an atmosphere that breeds banditry. While the porous borders aide movement between the two countries very easy for the bandits, it also allows bandits to unleash their mayhem in one country and seek asylum in the other. And because of national sovereignty this makes it difficult for the security agencies to pursue them.

Ungoverned Spaces and Armed Banditry in Nigeria

In Nigeria, ungoverned spaces are particularly prevalent in the northern region, where vast rural areas lack effective state presence. These areas, often characterized by rugged terrain and poor infrastructure, have become safe havens for armed bandits and other criminal elements (Okoli & Ugwu, 2019). Armed banditry in Northern Nigeria involves activities such as cattle rustling, kidnapping, and armed robbery, which have devastating effects on local communities (Ibrahim, 2018).

The rise of armed banditry in the region is closely linked to the proliferation of small arms and light weapons, as well as the increasing involvement of youth in criminal activities (Okoli & Orinya, 2020). Bandits often exploit the lack of state authority in ungoverned spaces to establish bases and carry out attacks with impunity. The situation is further compounded by the region's socio-economic challenges, including poverty, unemployment, and illiteracy, which create a pool of recruits for criminal networks (Ewetan & Urhie, 2014).

The Role of Traditional Institutions in Ungoverned Spaces

According to Albert (2017) traditional institutions encompassing the local councils, emirates, community and religious leaders have continued to play a pivotal role in maintaining peace and order in the society. Given their vast knowledge of the locality, these institutions have continued to enjoy the trust of their communities, making them critical actors in conflict resolution and peacebuilding. This notwithstanding however, Ostein (2016) have argued that the marginalization of these institutions by the modern state has faded their ability to address security challenges, creating a governance vacuum that armed groups exploit especially in the ungoverned spaces.

To buttress this fact Ibrahim (2018) noted that in Northern Nigeria, for example, the erosion of traditional authority has undermined community cohesion, making it easier for armed bandits to recruit followers and establish control over ungoverned spaces. To further support this argument Albert (2017) observed that the neglect of traditional institutions has also limited their capacity to mediate conflicts and prevent the escalation of violence, further exacerbating insecurity in the region.

The literature on ungoverned spaces highlights the complex interplay between weak state authority, non-state actors, and local governance structures. While ungoverned spaces are a global phenomenon, their manifestations and implications vary depending on the context. In Northern Nigeria for instances, ungoverned spaces have become a breeding ground for armed banditry, posing a significant threat to the region's stability and further undermining its development and growth. Addressing this challenge requires a nuanced understanding of the local dynamics, as well as the revitalization of traditional institutions and the strengthening of state presence in these areas.

Northern Nigeria's Ungoverned Spaces and Armed Banditry

Northern Nigeria has become a focal point for discussions on ungoverned spaces and their implications for security, particularly in the context of armed banditry. The region, which comprises states such as Zamfara, Katsina, Kaduna, Sokoto, and Niger, is characterized by vast rural areas with limited state presence, poor infrastructure, and rugged terrain. These conditions have created fertile ground for the proliferation of armed banditry, a phenomenon that has escalated in recent years and poses a significant threat to the region's stability and development (Okoli & Ugwu, 2019).

The Geography of Ungoverned Spaces in Northern Nigeria

Northern Nigeria's ungoverned spaces are primarily located in remote and rural areas, where state institutions are either absent or ineffective. These areas often lack basic infrastructure, such as roads, schools, and healthcare facilities, making them difficult to access and govern (Onuoha, 2014). The region's geography, which includes vast forests, savannahs, and mountainous terrain, further complicates efforts to establish state authority. For example, the Kamuku-Kuyambana forest, which spans Zamfara and Kaduna states, has become a notorious hideout for armed bandits (Ibrahim, 2018). Security agents have described the two forests as some of the most dangerous in the country and are often compared to the famous Sambisa Forest in the North East. The Sambisa Forest in the southern part of Borno State, located along the Lake Chad shores near Nigeria's border with Cameroon, used to be a game reserve where wild animals such as elephants strayed in from other countries, but constant hunting and other human activities drove most of the wild animals away. There are two dangerous forests in Kano State namely – Falgore Forest in Doguwa Local Government Area and Gomo Forest in Sumaila Local Government Area. Both forests had been dens for series of criminal activities over the years. It was also gathered that the Gomo forest is linked with Bauchi State's Yankari forest and as such, criminals usually navigate at will across the forest boundaries to unleash mayhem on innocent villagers. The Uttu/Kenyehu forest and its contiguous hills, in Toto Local Government Area of Nasarawa State, is another safe haven for bandits and other non-state actors. The in Dansadau-Rafin Kuka forests that spans from Dansadau Zamfara State extends to Zuru Emirate in Kebbi State and down to Niger State (see Daily Trust, Sun, 11 October, 2020).

The lack of state presence in these areas has allowed non-state actors, including armed bandits, to establish parallel systems of authority and control. Bandits often exploit the remoteness of these areas to evade security forces and carry out attacks with impunity (Ewetan & Urhie, 2014). This dynamic has turned ungoverned spaces into safe havens for criminal activities, including kidnapping, cattle rustling, and armed robbery, which have become endemic in the region.

The Rise of Armed Banditry in Northern Nigeria

Armed banditry in Northern Nigeria is not a new phenomenon, but it has escalated significantly in recent years, driven by a combination of socio-economic, political, and environmental factors. Cattle rustling, which was once a localized and sporadic activity, has evolved into a highly organized and lucrative criminal enterprise, involving sophisticated networks of bandits, traders, and collaborators (Okoli & Orinya, 2020). The proliferation of small arms and light weapons has played a critical role in the rise of armed banditry. Many of these weapons are smuggled into Nigeria from neighboring countries such as Chad, Niger, and Libya, where conflicts have created a surplus of arms (Onuoha, 2014). The availability of these weapons has armed bandits and increased their capacity for violence, enabling them to carry out large-scale attacks on communities and security forces.

Socio-economic factors, such as poverty, unemployment, and illiteracy, have also contributed to the rise of armed banditry. Northern Nigeria is one of the poorest regions in the country, with high levels of youth unemployment and limited access to education and economic opportunities (Ibrahim, 2018). These conditions have created a pool of recruits for criminal networks, as many young people see banditry as a viable livelihood option.

Environmental factors, such as desertification and resource scarcity, have further exacerbated the crisis. Competition over dwindling resources, particularly water and grazing land, has fueled conflicts between farmers and herders, creating a fertile ground for banditry (Albert, 2017). In some cases, bandits have taken advantage of these conflicts to expand their operations and establish control over contested areas.

The Impact of Armed Banditry on Communities

The impact of armed banditry on communities in Northern Nigeria has been devastating. Bandits often carry out brutal attacks on villages, killing and abducting residents, burning homes, and looting property. These attacks have displaced thousands of people, creating a humanitarian crisis in the region (Okoli & Ugwu, 2019).

Kidnapping for ransom has become a particularly lucrative activity for bandits, with victims ranging from schoolchildren to government officials. For example, in December 2020, over 300 schoolboys were abducted by bandits in Katsina State, highlighting the brazenness of these criminal groups (BBC News, 2020). The psychological trauma inflicted on victims and their families, coupled with the economic burden of paying ransoms, has further deepened the crisis.

Cattle rustling, another major activity of armed bandits, has had a severe impact on the region's agrarian economy. Many communities in Northern Nigeria rely on livestock farming for their livelihoods, and the loss of cattle to bandits has pushed families into poverty (Ibrahim, 2018). The destruction of farms and grazing lands has also disrupted agricultural activities, leading to food shortages and increased food prices.

The Role of Ungoverned Spaces in Armed Banditry

Ungoverned spaces play a critical role in enabling armed banditry in Northern Nigeria. These areas provide bandits with safe havens where they can plan and launch attacks, store weapons, and hide from security forces. The remoteness and inaccessibility of these spaces make it difficult for the government to monitor and control bandit activities, allowing the problem to persist (Onuoha, 2014).

In addition to providing physical hideouts, ungoverned spaces also serve as logistical hubs for bandit operations. For example, bandits often use these areas to establish networks of informants, collaborators, and suppliers, who provide them with intelligence, food, and other resources (Okoli & Orinya, 2020). These networks enable bandits to operate with a high degree of coordination and efficiency, further complicating efforts to combat them.

The lack of state presence in ungoverned spaces has also undermined community resilience to banditry. In the absence of effective governance, many communities have resorted to self-help measures, such as forming vigilante groups, to protect themselves from bandit attacks. While these measures have had some success, they have also led to unintended consequences, such as the proliferation of armed groups and the escalation of communal violence (Albert, 2017).

Northern Nigeria's ungoverned spaces have become a breeding ground for armed banditry, posing a significant threat to the region's stability and development. The combination of weak state authority, socio-economic challenges, and environmental factors has created a fertile ground for criminal activities, which have devastated communities and undermined efforts to achieve peace and security. Addressing this challenge requires a multifaceted approach that includes strengthening state presence in ungoverned spaces, addressing the root causes of banditry, and revitalizing traditional institutions.

Neglecting Traditional Institutions as the Bane of Insecurity in Northern Nigeria

The neglect of traditional institutions in Northern Nigeria has been identified as a critical factor contributing to the region's insecurity. Traditional institutions, such as emirates, community leaders, and local councils, have historically played a vital role in maintaining peace, resolving conflicts, and fostering social cohesion in the region. However, the marginalization of these institutions by the modern state has weakened their capacity to address contemporary security challenges, creating a governance vacuum that armed groups and criminal networks have exploited (Albert, 2017). This section explores the role of traditional institutions in Northern Nigeria, the consequences of their neglect, and the implications for the region's security.

The Historical Role of Traditional Institutions in Northern Nigeria

Traditional institutions in Northern Nigeria have deep historical roots, dating back to the pre-colonial era when emirates and local chiefs exercised significant authority over their domains. These institutions were central to the administration of justice, the maintenance of order, and the resolution of disputes (Ostien, 2016). The colonial administration recognized the importance of traditional institutions and incorporated them into the system of indirect rule, allowing them to retain considerable influence over local governance (Smith, 2015). This relevance has continued to dominate local government system up to post-colonial period. However, with advent of military regimes and civilian administration in post-independence Nigeria especially after the 1966 coup, the role of traditional rulers has continued to deteriorate in the

local governance. This perhaps made Sokoh (2018) to assert that following the 1966 military coup, traditional rulers had seen their role eroded from that of being members of House of Representatives to that of playing mere advisory role. It was in this context that the military junta of Olusegun Obasanjo decided to reform the local government system in Nigeria in 1976. The Obasanjo military administration was motivated by the recommendation of Udoji Public Service Review Commission. In his forward to the guidelines the then Chief of Staff Supreme Headquarters, Brigadier Shehu Musa Yar'Adua noted that the reforms were initiated because of inherent defects in the practiced of local government system under the military regime of 1968-1975 noting that the local government has over the years suffered continued deterioration in influence (Gboyega, 1987). Thus, the 1976 local government reforms marked a radical departure from what used to exist during the colonial and early independence period when the traditional institutions enjoy a greater influence and participation in local and national governance, yet the reforms failed to address the role of traditional institutions in grassroot governance. As Sokoh further noted the traditional institutions were only given advisory role that were not even enforceable.

Though, it remains to be argued that the traditional institutions are still very much influential in contemporary Nigerian setting as Sokoh (2018) would like to believe. Sokoh's argument is anchored on the role the traditional institutions are playing in the emergence and choice of political candidates for elections. While Sokoh's argument may sound plausible, it cannot continue to hold sway in contemporary Nigeria. A situation where traditional rulers are being removed at will by a governor leaves much to be desired. The cases of the Emir of Gwandu Alhaji Mustapha Jokolo, Emir of Kano Sanusi Lamido Sanusi II, and even the Sultan of Sokoto Alhaji Ibrahim Dasuki are a few examples to ponder. Little wonder why Adesoji (2010) posits that traditional rulers faces personal humiliations, restriction, banishment and dethronement. In similar vein, the Alafin of Oyo and Oba of Benin, two prominent traditional rulers have expressed concern at different public fora on how the traditional rulers and institutions were relegated to the background (Amadi, 2007). Traditional rulers in different part of the country also complained of shabby treatment by local government elected functionaries to justify their lukewarm attitude in performing their advisory role. This is in addition to the perceived role of traditional rulers as needless burden by some local government staffs (Amadi, 2007). All these has added up to the increasing insecurity in the Northern Nigeria, where traditional institutions have higher regards and respect but are being dehumanize by political actors in the modern state.

In the post-colonial period, traditional institutions continued to play a crucial role in Northern Nigeria, particularly in rural areas where state presence was limited. Traditional leaders, such as emirs, district heads, and village chiefs, were often the first point of contact for communities seeking justice or mediation. Their deep knowledge of local customs, values, and dynamics made them effective intermediaries in resolving conflicts and maintaining social harmony (Albert, 2017) despite the growing challenges they continued to face on daily basis.

The Marginalization of Traditional Institutions

Despite their historical significance, traditional institutions in Northern Nigeria have been increasingly marginalized by the modern state. This marginalization can be attributed to several factors, including the centralization of power, the erosion of traditional authority, and the failure to integrate traditional leaders into the formal governance structure (Ostien, 2016).

The centralization of power in Nigeria's federal system has limited the role of traditional institutions in governance. State and local governments, which are responsible for local administration, often prioritize formal institutions over traditional ones, leaving traditional leaders with little influence over decision-making processes (Smith, 2015). This has undermined the ability of traditional institutions to address local challenges, including insecurity.

The erosion of traditional authority has also contributed to the marginalization of traditional institutions. In many communities, the legitimacy of traditional leaders has been challenged by younger generations, who view them as outdated or irrelevant to contemporary issues (Albert, 2017). Additionally, the politicization of traditional institutions has further weakened their credibility, as some traditional leaders have been accused of aligning with political elites at the expense of their communities (Ostien, 2016). In Northern Nigeria it has become increasingly difficult to detached the traditional rulers from politics, since their source of funding is directly from the local government, where since the 1976 local government reforms allocated 5% of the local government total share from the federal allocation. The ineffectiveness of the local government and the new phenomenon of local government joint account as adopted by the state governors have rendered many powerful traditional institutions to aligned with the

state governors and thereby diminishing their role and functions in local governance including the provision of security in their local domains thus, causing serious security concern.

The Consequences of Neglecting Traditional Institutions

The neglect of traditional institutions has had far-reaching consequences for security in Northern Nigeria. Traditional leaders, who once played a central role in conflict resolution and peacebuilding, have been sidelined in efforts to address the region's security challenges. This has created a governance vacuum that armed groups and criminal networks have exploited to establish control over ungoverned spaces (Ibrahim, 2018).

One of the most significant consequences of neglecting traditional institutions is the loss of community trust in governance structures. Traditional leaders, who are often seen as more accessible and accountable than formal authorities, have historically served as a bridge between communities and the state. Their marginalization has eroded this trust, making it more difficult for the government to mobilize communities in the fight against insecurity (Albert, 2017).

The attrition of traditional authority has also weakened community cohesion, making it easier for armed groups to recruit followers and establish control over local populations. In many cases, bandits and insurgents have exploited the absence of effective governance to present themselves as alternative sources of authority, offering protection and justice in exchange for loyalty (Okoli & Ugwu, 2019). This dynamic has further entrenched insecurity in the region.

The Role of Traditional Institutions in Addressing Insecurity

Despite their marginalization, traditional institutions remain a valuable resource for addressing insecurity in Northern Nigeria. Traditional leaders possess deep knowledge of local dynamics and enjoy the trust of their communities, making them critical actors in conflict resolution and peacebuilding (Ostien, 2016). Their involvement in security initiatives can help bridge the gap between communities and the state, fostering collaboration and trust.

Traditional institutions can also play a key role in countering the narratives of armed groups and criminal networks. By promoting local values, such as respect for human life, communal solidarity, and peaceful coexistence, traditional leaders can challenge the ideologies that fuel violence and criminality (Albert, 2017). Additionally, traditional institutions can serve as early warning systems, alerting authorities to potential security threats and facilitating timely interventions.

To harness the potential of traditional institutions in addressing insecurity, it is essential to revitalize their role in governance by formally recognising and integrating traditional leaders into the governance structure, with clearly defined roles and responsibilities especially in security and conflict resolutions. Traditional leaders should be provided with adequate training and resources to enhance their capacity to address contemporary security issues and be actively involved in community-based security initiatives such as local vigilante, fostering collaboration between communities, the state, and security agencies. Traditional conflict resolution mechanisms, such as mediation and reconciliation should be encouraged to complement formal justice system.

The neglect of traditional institutions has been a significant factor in the insecurity plaguing Northern Nigeria. These institutions, which once played a central role in maintaining peace and order, have been marginalized by the modern state, creating a governance vacuum that armed groups and criminal networks have exploited. Revitalizing traditional institutions and integrating them into the governance structure is essential for addressing the region's security challenges. By leveraging the strengths of traditional institutions, Northern Nigeria can restore stability and foster sustainable peace.

Conclusions

The persistent insecurity in Northern Nigeria, characterized by armed banditry, kidnapping, terrorism and communal violence, is a multifaceted challenge rooted in the existence of ungoverned spaces, socio-economic disparities, and the neglect of traditional institutions. This paper has explored the interplay between these factors, highlighting their collective impact on the region's stability and development. The findings underscore the urgent need for a comprehensive and inclusive approach to address the root causes of insecurity and restore peace in Northern Nigeria. Key findings of the paper include ungoverned spaces as enablers of insecurity in Northern Nigeria's vast and remote areas, where state authority is weak or absent. These ungoverned spaces provide the physical and logistical infrastructure for banditry, enabling criminal groups to operate with impunity. Poverty, unemployment, and illiteracy are the major socio-

economic drivers that have created a pool of recruits for armed groups, while competition over dwindling resources caused by climate change and increasing population has fueled conflicts between communities. The proliferation of small arms and light weapons has further exacerbated the crisis. The marginalization of traditional institutions by the modern state has weakened their capacity to address security challenges, creating a governance vacuum that armed groups have exploited.

Recommendations

To address the security challenges in Northern Nigeria, the following recommendations are proposed:

1. Strengthening state presence in ungoverned spaces: The government must prioritize extending its authority to ungoverned spaces by improving infrastructure, deploying security forces, and making local government to function more effectively.
2. Addressing Socio-Economic Inequalities: Efforts to combat banditry must address the root causes of insecurity, including poverty, unemployment, and illiteracy. This can be achieved through targeted development programs, such as job creation initiatives, education reforms, and agricultural support schemes. Fight against corruption should be intensified and strong data bases for socio-economic indicators should be build.
3. Traditional institutions should be formally recognized and integrated into the governance structure, with clearly defined roles in security and conflict resolution in the constitution. Capacity-building programs should be implemented to enhance the ability of traditional leaders to address contemporary security challenges.
4. Local communities should be actively involved in security initiatives, fostering collaboration between traditional leaders, the state, and security agencies. Community policing and vigilante groups can play a complementary role in addressing banditry if properly guided and supported and can be a veritable tool for discovering informant.
5. Regional and international collaboration should be explored with neighboring countries and international partners to address cross-border security challenges. This can be achieved through intelligence sharing, joint military operations, and efforts to curb the proliferation of small arms and light weapons that are being smuggled through our porous borders.

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The Perception of Army Personnel Wives on the Husbands' Deployment to the Conflict-Ridden Section of the Country: North-East Nigeria

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Abstract

The humanitarian crisis in the Northeastern, Nigeria remains profound and widespread across the region. Hence, people in this region face extreme deprivation beyond their existing poverty levels, including daily threats to their well-being. Thus, this study examined the perception of army personnel wives on the husbands' deployment to the conflict-ridden section of the country: North-east Nigeria. Health Belief Model and a semi-structured questionnaire was administered to 890 army wives (AW). Thirty-six in-depth interviews were conducted with AW and medical personnel. Twenty-seven Key Informant Interviews were conducted with six doctors and 21 nurses in each ABs. The quantitative data were analysed using descriptive statistics and Spearman Rank Correlation. The age of the majority were 50.3% (31-39 years), 26.85% were Multiparous, 32.1% were from the South-south, and 19.1% had tertiary education. The result showed that there were positive correlations between Nos of SD and FUSL ($r=0.075$, $Sig=0.026$), *EMOD* ($r=.082$, $Sig.=0.014$), *AFD* ($r=.067$, $Sig.=0.045$) and *MIN* ($r=.081$, $Sig.=0.016$). And durations of SD and; *FUSL* ($r=.075$, $Sig.=0.026$) and *MIN* ($r=.083$, $Sig.=0.013$). These experiences led to the negative perception of SD. Deployments influenced negative perception among wives. Military authorities should consider numbers of time and longer duration spouses during deployment exercise.

Keywords: Spousal deployment, perception of spousal deployment, experiences of perinatal personnel wives during spousal deployment and Negative Perception of Spousal Deployment

Background to the Study

Globally, deployment is a common act in work settings. In the military, it connotes sending troops (i.e. soldier) from their original home base to temporal base to carry out special duties (Mcintosh, 2013; Hanks & Urdang, 2014). The perception of spousal deployment (SD) by Army perinatal wives (APW) is crucial because perception addresses issues such as past and present experiences, expectations, attention, emotions, socio-cultural issues, religious beliefs, feelings, thoughts, different phases and challenges exhibited by APW during deployment of spouses (DS). Although, perceptions can be positive (that is, deployment is inevitable in the military, with the hope that spouses would come back alive and uninjured/lack physical wound) and negative (that is, DS can result in death, injury, coital deprivation and new connubiality).

Again, the nature of deployment influenced negative perception among spouses. According to statistics between 2010 and 2017, 75% of the conflicts in the North-East was caused by terrorism/insurgency. This makes Boko Haram one of the most dangerous terrorist groups in the world today (Dudley, 2018; Global Terrorism Report, 2018) and North-East Nigeria, one of the most conflict-ridden sections of the country. Presently, Nigeria is ranked as the 33rd in the world in which 7% deadliest/most fatal attack was carried out in 2024. Also, 32% increase in death from 2023 to 2024 was carried out by terrorist, (Measuring the impact of terrorism, Global Terrorism Index, 2025).

In cognizance of the aforesaid situations, the affected APW sometimes experience perinatal risks (PR), due to SD to combat or war zones (Army, 2017; Mansfield et al., 2010). Sometimes, negative experiences and insecurities during SD in the absence of spouse influenced negative perception. Specifically, it put perinatal (PT) into a lot of risks. Therefore, this work examined the perception of personnel wives (PW) on deployment to the one of the most conflict-ridden sections of the country: North-east (NE), Nigeria.in selected army barracks in the Southwest, Nigeria.

Literature Review and Theoretical Framework

Perinatal (PT)

WHO (2019) stipulates that PT periods commence from the twenty-second week of conception (154 days) to seven days after birth. Yet, some scholars opine that it is usually between the twelfth week (three months) of gestation/pregnancy and four weeks (one month) after delivery (Hanks & Urdang, 2014).

Perinatal Period (PP)

Buultiens, Murphy, Robinson, and Milgrom, (2013) view PP as a complex life altering phenomenon influenced by certain forces that will enable PT outcome positively. This entails the following: safe delivery and influence from a multitude of bio-psycho-social factors such as biomedical, psychological, physical and social factors; and all these factors are associated with perinatal health and safety.

Perception of Army Personnel Wives towards Deployment of Spouses (DS)

Steelfisher, Zaslavsky, and Blendon, (2008) studied the impact of deployment extensions on the health of spouses of active duty army personnel in the war. The findings showed that 666 personnel wives experienced more pressure and stress such as depression, household maintenance, household strains, induced problems in the operation of daily life and aggravation of problems. However, frustration and communication problems were more statistically significant and more prevalent than other problems. Others were higher level of loneliness, anxiety and depression. These findings are indications of distress among wives and formed the basis of their negative perception. Clearly, the findings above focused on the perception of spouses and challenges during spousal deployment period.

Marnocha (2012) did a study titled *Military Wives' Transition and Coping: Deployment and the Return Home*. Findings revealed that these spouses (wives) faced significant stress in all the three phases, namely preparation stage/pre- deployment stage (e.g. emotional chaos, increase in workload and stress), during spousal deployment (e.g. emotional and physical turmoil due to being the only adult in the house, more responsibilities, financial constraints (a significant source of stress for spouses)).

The last stage was the return period of spouses, another stressful time for wives due to the change/shift in the family, especially in areas such as roles, power and responsibilities. In this stage, readjusting and re-establishing family roles became difficult for both parties. This formed the basis of their negative perception towards spousal deployment.

Green, Nurius, and Lester (2013) did a study titled *Spouse psychological wellbeing: a keystone to military family health*. The study was conducted in Madigan Army Medical Centre, located in Joint Base Lewis Mc Chord, Washington and Naval Medical Centre San-Diego, Southern California U.S., among spouses whose partners were deployed to Afghanistan and Iraq in 2012.

Findings revealed that these spouses' uncertainty of the future cumulated to day-in-day- out family stress. The support systems were usually inadequate, which affected their capacities to anchor family affairs in the absence of their partners. Furthermore, family stress, strain and resources were significantly contributing towards maternal psychological health vis-à-vis psychosocial family health. These situations affected wives' psychological health and negative perception of spousal deployment.

The studies cited above have been able to highlight the perception of military wives towards SD; causes of the negative perception of SD among military wives; and remedies of the negative perception of SD.

Perception of Army Personnel Wives towards Deployment of Spouses

SD is inevitable in the military and it is not alien to spouses and their families. Examples of their operations internally and externally in Nigeria are; the Boko-Haram Crisis (2020, 2024 and 2025), Southeast separatist violence, militancy in Niger Delta, and herders and farmers clashes in the North-central (2020 - 2025) and, the Lakurawa crisis in Nigeria and Niger border (2025), (2025 ALJAZEERA Media Network).

Everson, (2005) studied the quality of life among army spouses in relation to parenting and family stress as a result of deployment to Operation Iraqi Freedom. The perceptions of events were used to predict the quality of life for the participants. The quality of life was used as the criterion variable to determine the relative levels of organisation or dis-organisation and crises experienced by each participant. There were three category families; group 1(non-deployed spouses), group 2 (spouses whose partners have been deployed less < than 6 months), and group 3 (spouses whose partners have been deployed more than more than> 6 months)

The findings revealed that group one had the greatest quality of life due to well-being and family coping. Findings in group two revealed that their greatest challenge was total effect of deployment on quality of life was negatively affected. This emanated from family coping and family stress in the absence of partners. Findings in group three indicated that their greatest challenges were as follows: parental/family stress due to finance and separation of partners, stressors (due to intra-family strains, work and family transitions), parental/marital strains, psychological strains and lack of control. These challenges had total effect on the quality of life. Generally, findings revealed that lower stress and coping

factors influenced the quality of life among the three categories of spouses. That is, an individual's perception of their position in life as regard their culture and value systems in which they live vis-à-vis their goals, expectations, standards and concerns' (WHO, 2012). However, quality of life had positive relationship with deployment periods and locations.

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The studies cited above have been able to highlight the perception of military wives towards SD; causes and remedies of the negative perception of SD among military wives.

Theoretical Framework: The Health Belief Model

The Health Belief Model was originally developed to explain and predict the likelihood of a person utilising recommended preventive health actions and to understand a person's motivation and decision-making on seeking healthcare services (Hochbaum, 1974). The model focuses on health-related behaviour. In the process, an individual's perception and beliefs on preventive health are taken into consideration.

Application of Health Belief Model to the Study

This model uses the following premises:

Perceived Severity

Premise one can be examined by using biological/medical, psychological, social and economic harm that may arise if a certain health condition is not avoided. For instance, perception of SD may result in emotional disorganization, maternal hardship, anxiety, and stressful life events. The idea of perceived seriousness is relative to perinatal beliefs about the seriousness or severity of the medical experience, and this is akin to medical knowledge or information. Sometimes, this may be attributed to individuals' beliefs or perception about the havoc of SD may cause to their lives. For instance, negative perception of SD may be due to; fear of spousal loss, emotional disorganization, fear, anxiety, and being one of the most conflict-ridden sections of the country.

Therefore, the seriousness or severity of the above risks may influence immediate action or delay. In this regard, it is vital to examine the perception of personnel wives during SD to Boko-Haram zone to provide social approaches these women will adopt for preventive measures.

Perceived Susceptibility

This premise relates to the perception of perinatal and the possibility of being predisposed/vulnerable (i.e. *Lugbadi, Konge, and Farakasha*, in the Yoruba context) to a health condition due to health behaviour a woman embraces as a result of her spouse being deployed to a combat zone area. The respondents/participants may perceive negative experiences as not related to SD but instead, as a normal occurrence, (i.e. health history or lifestyle of an individual before pregnancy (Mottola, Davenport, Ruchat, Davies, Poltrass, Grays, Garcia, Barrowman, Adamo, Duggan, Barakat, Chilibeck, Fleming, Forte, Korolnek, Nagpal, Siater, Stirling, and Zehr, 2019). Hence, this health condition/negative experiences can make such individuals more susceptible (i.e. *Lugbadi, Konge, and Farakasha*, in the Yoruba context) to risks if it is not well controlled.

Perceived Value of the Treatment Benefits

The idea of perceived benefits (that is, *Anfanni* in the Yoruba context) emphasises on a particular pattern of healthcare utilisation which aid the prevention of negative experiences. This decision consequently is subject to belief and reliability of a specific pattern of healthcare utilisation as against others.

Perceived Barriers

Premise four focuses on conditions that prevent negative experiences. Hindrances (i.e. *Idiwo, Idena, ati ijakule* in the Yoruba context) are subject to psychological, social, economic and cultural/religious factors. The interplay of these factors can sometimes influence a decision in healthcare utilisation towards any of the healthcare services or patterns within their domain or community during SD.

Cues to Action

Premise five is the cues to action. That is, *Igbese tii agbodo gbe or Ilana tii agbodo too kii ato yegee*. These are events or interventions that influence positive perception. Examples of these are degree of social support (*Iranlowo lati awujowa, Iranlowo lati odo awa ara sira waa*) from significant others (*Iranlowo lati odo awon elegbe jegbe*), social influence (*Ikunpa lati awujo*), and availability of information (*Itaniji/Alaye lore kore*) through significant others, etc. These can influence positive perception among wives.

The Yoruba, Hausa-Fulani, Igbo, and most of the ethnic groups in Nigeria appreciate and recognise the essence of *aladuugbo, makwabtakadamakwabtaka, gondo, taakalemme, yakkaajo, and ndi agbata obi na ndi agbata obi*. That is, neighbours and neighbourliness in their social life because they value communal living/association and this manifests in their social gatherings such as naming, marriage, burial ceremonies and so on. Thus, Army barracks was naturally designed to embrace neighbor friendly relations irrespective of tribe/ethnicity and religion because members are bonded by *one nation and one destiny slogan*. Consequently, the issue of negative experience is sometimes subject to the degree of social support or significant others among the barracks residents.

Cues that Stimulate Actions

Premise six focuses on cues that stimulate actions towards treatment. Some situations encourage positive perception. These situations are trust, comfortability, the role of significant others, etc. These conditions may serve as motivation towards positive perception of spousal deployment. Examples, good neighbourliness (*aladuugbo, makwabtaka da makwabtaka, gondo, taakalemme, yakkaajo, and ndi agbata obi na ndi agbata obi*).

Therefore, the model is universal in its arguments of people's health (most especially, maternal health) which is central to the sociological discourse. Similarly, it explains utilisation based on decision-making process, human nature and socio-cultural factors and consequences of those actions. It is in the light of all the above factors that the researcher adopts the HBM for the research.

Methodology

The study was a cross-sectional household and MHs survey in selected ABs in SW, Nigeria. Data were collected through qualitative instruments such as In-depth Interviews (IDI), and Key Informant Interviews (KII). The quantitative methods involved the distribution of questionnaires to the targeted respondents in eight barracks and two MHs in SW, Nigeria.

The selected ABs in Lagos were Bonny Camp, Dodan, Myhoun, Ikeja, Ojo and Ibereko Badagry. Those in Ogun were Lafenwa and Alamala ABs in Abeokuta. The two sampled MHs were the MH, Ikoyi and the Yaba Reference Hospital. They are both in Lagos.

The target population for this study included the perinatal, who were APWs deployed to the combat zones in the N-EN, which is occupied by Boko Haram insurgents in the following periods; quinquennial years ago, some years ago and more than three times. Healthcare workers/personnel who had encounters with perinatal during the SD period.

The inclusion criteria included: (i) all the respondents in their twenty-second week of pregnancy (154 days) to seven days after birth/delivery; (ii) all the respondents were wives of deployed personnel at the time of the study; (iii) those that had experienced it in the last five years at the time of data collection; and (iv) the health care practitioners (doctors and nurses) in the MHs who had an encounter with perinatal whose spouses have been deployed at that moment or in the past.

The total sample size for quantitative data collection was nine hundred (900). The respondents were purposively selected in all the identified barracks and MHs, in which eight hundred and ninety (890) were retrieved in general. The quantitative data were analysed at the univariate, bivariate and multivariate levels using descriptive statistics, Chi-square, and Spearman Rank Correlation. In recognition and adherence to ethical considerations for the research, participants' consent were sought and permission to withdraw participation was allowed. Respondents' privacy was respected and confidentiality was ensured as no information was traced to any participants.

Results and Discussion

This section focusses on the presentation of socio-demographic and economic characteristics of the respondents.

Table 1: Socio-Demographic and Economic Characteristics of Respondents (N=890)

Demographic characteristics	Frequency	Percent
Age		
22-30	389	43.8
31-39	447	50.3
40	54	6.1
Level of parity		
Multiparous (MP)	239	26.85
Others (Pp, GMp, & GgMp)	651	73.15
Ethnic-origin		
North-west region	100	11.2
North-east region	130	14.6
North-central region	75	8.4
South-west region	198	22.2
South-east region	100	11.2
South-south region	287	32.1
Education		
No formal	70	7.9
Primary Sch. Leaving Certificate Holders	161	18.0
Junior Secondary School Certificate Holders (J.S.S.3)	159	17.9
Senior Secondary School Certificate Holders (S.S.S.3)	164	18.4
Tertiary	170	19.1

Source: Field survey, 2020

From Table 1 above, the age distribution of the respondents reveals that majority (50.3%) were in the age category of 31-39 years and the least (6.1%) fell within 40 years old.

Similarly, the highest level of parity was Multiparous (Mp) respondents (26.85%); and others were (73.15%) in the population. Likewise, the parity distribution of the qualitative show Multiparous (Mp) participants were in the majority and followed by others in the population.

In terms of ethnicity, the results showed that South-south region was dominant (32.1%), next to it was South-west region (22.2%). The qualitative report indicated that North-east and North-west region were in average category and the least category was South-west. The educational distribution of the

respondents showed that many of the respondents had had degrees from tertiary institutions (19.1%) and the least in the population had no formal education (7.9%).

Perceptions of Personnel's Perinatal Wives (PPWs) towards Deployment

This section examines the perception of SD by PPWs, using mixed methods. This is crucial because perception addresses issues such as experiences, feelings, thoughts, different phases and challenges exhibited may be key predictors of SD. Their perceptions were respectively positive (that is, deployment was inevitable in the army profession, with the hope that their spouses would come back alive and uninjured/lack physical wound) and negative (that is, phobia about death, psychological, coital deprivation and new connubiality). Crucially, their perceptions were largely negative.

Likewise, they were influenced by their personal experiences, experiences of neighbours and information about the N-EN war zone from different sources. Particularly, spouses whose husbands were deployed to hot spots of Boko-Haram insurgency were very uncomfortable and scared about their husbands' deployment.

Table 2: Statistical Relationship between Duration of SD and Hardship

Statistical relationship between duration of deployment and hardship	Correlation coefficient	Sig. (2-tailed)	Frequency
Emotional disorganization (EMOD) during deployment	-.131	.000 (-ve sig)	890
Fear of uncertainty of spousal loss (FUSL)	.075	.026 (+ sig)	890
Marital instability and neglect (MIN)	.083	.013 (+ sig)	890
Hardship	-.046	.168 (-ve non-sig)	890
Anxiety and fear during deployment (AFD)	.067	.045 (+ non sig)	890
Loneliness, isolation and lack of Communication (LILC)	.050	.133 (+non sig)	890
Total			890

Source: Field survey, 2020

Table 2 indicated a statistically negative significant correlation was observed with the variable, *EMOD during deployment* ($r = -.131$, $\text{Sig.} = 0.000$). This connotes that the nature of the relationship between the number of SDs (independent variable) and these variables (dependent variables) is in the opposite direction such that any increase in the magnitude of one decreases the other and vice-versa. The quantitative data corroborated the findings on the negative perception of SD.

A statistically significant correlation was observed with the variable *FUSL* ($r = .075$, $\text{Sig.} = 0.026$) and *MIN* ($r = .083$, $\text{Sig.} = 0.013$) respectively. This connotes a magnitude geared in the same direction such that an increase in the magnitude of one (that is, independent variable/number of SD) automatically induces an increase in the other (that is, dependent variables) and vice versa in the case of decrease. This implies that the longer the duration of DSs, the more the negative perception of the N-EN could result in FUSL and MIN. However, a statistically non-significant negative correlation was observed with the variable *Hardship* ($r = -.046$, $\text{Sig.} = 0.168$), as shown by the significant value of greater than the set probability level, showing that the number of deployments of a spouse has no significant influence on some of the identified perceptions, while it has on others. Finally, a statistically non-significant correlation was observed with the variables *AFD* ($r = .067$, $\text{Sig.} = 0.045$) and *LILC* ($r = .050$, $\text{Sig.} = 0.133$).

Table 3: Statistical Relationship between Number of Spousal Deployment and Hardship

Statistical relationship between number of deployment and hardship	Correlation Coefficient value	Sig. (2-tailed) influence/value	Frequency
EMOD during deployment	.082	.014 (+)	890
AFD	.067	.045(+)	890
MIN.	.081	.016(+)	890
FUSL	-.043	.203 (-ve non)	890
LILC	.041	.226 (+ ve non)	890

Hardship	.004	.897(+ ve non)	890
Total of respondents			890

Source: Field survey, 2020

Relationship between Number of SDs and Perception

Table 3 shows the condition for this analysis was a probability level of $p \leq 0.05$ and at a confidence interval of 95%. The correlation analysis revealed that the number of SDs has no significant influence on the incidence of perinatal stress levels as well as the possible influencing factors. This was revealed in the low correlation value denoted by “r” as well as the high significance values, which are above the probability level of 0.05.

A statistically significant correlation was observed with the variables, *EMOD during deployment* ($r = .082$, Sig. = 0.014), *AFD* ($r = .067$, Sig. = 0.045) and *MIN* ($r = .081$, Sig. = 0.016). This connotes that the nature of the relationship between the number of SD (independent variable) and these variables (dependent variables) is in the same direction such that any increase in the magnitude of one increases the other and vice-versa.

However, a statistically non-significant positive correlation was observed with the variables, *LILC* ($r = .041$, Sig. = 0.226) and *Hardship* ($r = .004$, Sig. = 0.897), connoting a magnitude geared in the same direction such that an increase in the magnitude of one, automatically induces an increase in the other and vice versa in the case of decrease. Though these results may not be significant in this regard, they have a positive relationship with SD to combat zone areas. However, a statistically non-significant negative correlation was observed with the variables, *FUSL* ($r = -.043$, Sig. = 0.203), as shown by the significance value of greater than the set probability level. It shows that the number of deployments of a spouse has no significant influence on some of the identified perceptions, while it has on others.

FUSL and Phobia of the Combat Zone

The major factor for the negative perception of SD to a war zone had been fear borne out of uncertainties. They were mostly uncertain of whether their spouse would come back home alive or be brought back dead.

The participants reflected that *death of personnel occurs every day* in all the locations. This assertion concurs with Hausa-Fulani view that *mata auree sojaa, bata sonii baa, kobede dawoba* meaning a woman that marries a soldier is uncertain of his spouse coming back alive or dead, so she should accept fate, whatever the case may be. These participants narrated that suffering was the major experience they had. Connubiality to most personnel during SD is usually threatened with lack of comfort among spouses.

One of the widows, who was pregnant before her husband was deployed to the N-EN war zone, narrated her experience thus:

Suffering is the only uniform and companion I have ever had since he was deployed to Boko-Haram zone! There was no marriage enjoyment throughout the 7 years of the union because he rarely came home, except once or sometimes, twice in a year. (*IDI, Some years ago, Lagos State*)

A case in point was the explanation of a participant who stated thus:

We were frightened of the location because of the negative experiences before and during SD periods. This is because the zone is scary and full of crisis and all this resulted in fear. (*IDI, Some years ago, Ogun State*)

Another widow participant emphasised that the moment she received the news of her husband's deployment to the Boko-Haram zone *her mind just cut*, that is dumbstruck/mystified for a moment. To some, *it was a funeral day* that is, departure to Boko-Haram zone is sorrowful or mournful day to some wives. Equally, a widow illuminated that the moment her husband announced his deployment to the Boko-Haram zone: *she felt bad, uneasy; even her husband felt bad too because he left her alone in her pregnant state. I cried and had to resort to prayer because of the daily attack/killings, fear of him being dead or alive was constantly there, fear of uncertainty too.* (*IDI, Quinquennial years, Lagos-State*)

The extract above demonstrates the causes of *fear* of the unknown in the life of the majority of the participants whose husbands are in war zones. Using the Yoruba analogy as an illustration, *Iberu wipe aho moo ohunti, ole, sele, loju, iwaju*, fear of the unknown/uncertainty is relevant here.

The majority of personnel's wives and the majority of widow participants attributed their negative perception to fear/uncertainty of spousal loss and phobia of the combat zone whenever their spouses informed them of their deployment to war zone areas. In the process, they felt sad, anxious, frightened and some experienced MSCs whereby, foetuses. These women sometimes were in the state of shock for longer period because of the fear of the unknown. Thus, the fear was borne out of uncertainties. The aforesaid view reveals some of the causes of the negative perceptions of SD among spouses.

Discussion

The age distribution revealed that age category 31 -39 years was dominant (50.3%) in the population in the quantitative report. The least (6.1%) fell within 40 years old. This implies that majority of the respondents were still within their reproductive age. Also, they are young population and sexually active and this can contribute to negative perception of Deployment and conflict between couples.

Furthermore, the Mp respondents been the highest (26.85%) indicated that this practice was predominant in the location areas. This suggests that the Mp wives were higher in the negative experiences, and conflict between couples due to negative perception more than other parities. Other parities occupied 73.15% in the population.

In terms of ethnicity, the results revealed that South-south region was the major (32.1%) region in the distribution, next to it was SW region (22.2%). The qualitative report indicated that NE and NW regions were in average categories and the least category was SW. Therefore, it can be deduced that the major ethnic regions that experienced this phenomenon in both methods were the worst hit in the SD experiences and negative perception of deployment. Educationally, majority of the respondents (19.1%) had tertiary education and the least in the population had no formal education (7.9%). However, the qualitative method revealed that the majority of the participants had completed secondary education. This signifies that a large majority of the women had tertiary and middle-level education (senior secondary education) in both methods. Hence, it can be inferred that the negative perception of deployment and conflict is not based on ignorance or illiteracy.

Similarly, the relationship between the duration of SD revealed $EMOD\ r = -.131$, $Sig. = .000$; $MIN\ r = 0.083$, $Sig. = 0.013$; $Hardship = -.046$, $Sig. = .168$, $AFD\ r = .067$, $Sig. = 0.045$; and $LILC\ r = .050$, $Sig. = 0.133$. The cause of negative perception was $FUSL\ r = 0.075$, $Sig. = 0.026$. These connote that these experiences were related to negative perception of SD. Carter, and Renshaw, 2015; Ahimie, Anyama, and Odiase, (2023) emphasised this in their various studies. Similarly, the relationship between the number of SD revealed $EMOD\ r = -.0082$, $Sig. = .014$; $AFD\ r = .067$, $Sig. = 0.045$; and $MIN\ r = 0.081$, $Sig. = 0.016$. These connote that these experiences were related to negative perception of SD. Filiz, (2024), Borah, and Fina, (2017) ascertained this in their studies.

Using the Yoruba analogy, the MIN is synonymous to; *aisedede larin lokolaya, tio mu ki won gbagbe ara won*. FUSL is tantamount to; *Iberubojo, wipe aho moo ohun ti ole, sele, lojo, iawju, and among the Igbos it means itu egwu ma o bu egwu, ezigbo ujo jidere, na-egwu*. The fact that this view was accepted by the majority of the respondents/participants degenerated to negative perception of SD.

Also, the negative perceptions of PT were from the increasing number of widows' experiences daily in their neighbourhood. Thus, this menace caused phobia about becoming widows. Generally, most African communities are patriarchal in structure. This reflected in their marriage ceremonies and the names they bear.

Moreover, marriage in most African communities (e.g. Nigeria) is socially and culturally recognised. Marriage is a status symbol, if a woman is happily married, she bears her husband's name with pride. Additionally, Nigerian communities place importance on the husband as the head of a household. Besides, Nigerian communities are culturally and religiously inclined. Hence, women without husbands may be prone to series of social stigma, rebuke and humiliation. Thus, living with a husband, apart from being a form of status symbol, also gives a woman a sense of security and respect. For example, numerous evidence of these abounds in Yoruba eulogies such as *Oko ni olowo ori aya or Okomi olowo orimi, Baale mi/wa* (meaning my husband is the owner of my bride price and head of our household), *Ade mii* (meaning my crown), *Aisiniile ologbo, ile di ileekute* (meaning the absence of a spouse from home exposes the wife to danger/risk) and so on.

The same applies to the Fulani. Examples are *a Shujina* (meaning my master), *Watashi no otto* (meaning my husband), *Jawro/Jemuwuro* (meaning my husband), *Gorko* (means the brave man), *Ardo/Hardo* (meaning the leader). Equally, among the Hausa, the following sayings also attest to the value and significance of husbands among their ethnic group. Examples of expressions in Hausa that

refer to husbands are *Meiggidah* (means the head of the house/master), *Mijina* (husband) *moosoyinna* (meaning my husband, the owner of my bride price). Some others include *Mijiina*, *inna rasashi*, *nayasara* (meaning the demise of a husband is a calamity in the life of a woman), *Mijina meshau* (means good husband). *Mijishiine ikegabadeni* (my husband is my leader). Also, among the Nupe *Eba mii* (means my husband, the owner of my bride price), *Izhie le mii* (means husband as the owner of my life).

Likewise, among the Igbo are *Nwunyeawosina di atokauto*, *yajirinutankeyakworoyan`azu* (means the female toad said that husband is so sweet that when she got married, she carried her husband permanently on the back) and *Onye a kporoapari, o na-ehin`amannaya, abughi`* (means a presumed fool who sleeps in his father's house is not a fool). Others include *Eze* (means my king), *Ike`m* (means my support, pillar, power) and *Agunwoke* (means lion-like man, brave and powerful). Even, among the Efik women, it is assumed that before their happiness, must be their husbands, *Di naLu`m* (meaning the husband marrying me), *Odu`m* (means my lion), *Anya anwuututu`m* (meant my sunshine). Hence, these statements expressing honour clearly explain the patriarchal picture of some Nigerian communities, irrespective of whether it is a civilian or military setting. Thus, they reveal the significance and power of masculinity in the Nigerian society.

Consequently, losing a husband in connubiality (marriage) through sickness, natural death, warfare, and so on, is not the wish of any woman. Therefore, these cultural and religious beliefs influenced the negative perceptions of SD to the Boko Haram zone. The perceptions were due to the FUSL, and this created tension or apprehension for most PT whose husbands are still in the zone and corroborate the views of Marnocha (2012); and Allen, et al. (2014). Psychological and emotional pains during this period were more than in any other period. Elsenbruch, et al. (2007) assert that APW are in a class of their own. This is because separation from loved ones, due to deployment, is one of the most difficult experiences to bear.

Likewise, on the issue of *EMOD* the realities of this word and meaning exist in our local languages in Nigeria. For example, the Fulani of the Northern, Nigeria refers to it as; *Hisia*, *kuumizwa*, *kuudhika*, *kusikitika ugawaji*, *an tsara su*, *rashin tsari*. The following scholars also affirmed this in their various works; Ryan and Ehmke, (2023), Bratton, (2024), Tomforde, (2015), and Pincus, Simon, House, Robert, Christenson, Joseph, Adler, Lawrence, (2001).

Specifically, the point of demarcation between qualitative and quantitative findings is that the qualitative based its assertion on the perception of SD only. Hitherto, the quantitative study emphasized on the experiences during number /duration of deployment which cumulated to negative perceptions SD.

Summary

The study discovered that the perception of wives to the conflict ridden Northeastern, Nigeria was negative. The negative perception was borne out of the FUSL, MIN and EMOD. The negative perception was higher among the spouses whose husbands were deployed to the zone for the first time. This phenomenon was common among the 31-39 age category, In the case of parity, it was higher among Mp respondents/participants. Whereas, in the case of frequency/duration of SD it was common among PT whose spouses have been in the zone quinquennial years and some years ago. These groups were the worst hit in negative perception of SD because their spouses spent more years in the zone, making them the worst hit of the phenomenon.

Conclusion

The study examined the perception of personnel wives on SD in selected Army Barracks in the Southwest, Nigeria. The study concluded that most wives have negative perception of SD. The majority of the respondents/participants attributed the causes of negative perception to FUSL.

Recommendations

1. It is beneficial if most wives before marriage endeavour to go through the counselling of RSM, Platoon Commander and Commanders (COs) on the occupational risks involved in their husbands' profession. This step will prepare them for any future challenge(s) and build in them the capacity to cope in their various marriages.
2. Frequent communication should be encouraged because reports have shown that lack of communication has led to phobia about a husband's location and spousal loss.
3. Furthermore, an increase in the durations of pass from two weeks to one month makes it flexible; allows children to associate with their fathers more; allows wives to feel more relaxed with their

husbands; and reduce the issue of role conflict, role strain, and single parenting, and negative perception of SD.

4. The NA should consider cases of personnel who have over-stayed in the location to prevent some of the aforesaid challenges.
5. Basic amenities like constant electricity so that it will reduce thinking; distract the wives from negative thoughts and keep their minds busy in the absence of their spouses. It will also allow APW to be updated on information/news about their spouses. Therefore, these steps will stabilise their minds, and negative perception of SD.

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WORK-PLACE BEHAVIOUR

Role of Internalization of Societal Appearance Ideals, Appearance Pressures and Appearance Comparison in Self-Concept Clarity among Secondary School Students in Ibadan

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Abstract

Previous studies have found that a lack of self-concept clarity predicts various mental health challenges, including depression, social anxiety, and symptoms of psychosis. Yet, few studies have examined factors that can foster self-concept clarity (SCC), especially among adolescents at the stage of identity formation, where self-concept is developed or becomes problematic. Thus, this study examines the role of internalization of societal appearance ideals, appearance pressures, and appearance comparison in the self-concept clarity of some adolescents in secondary schools in Ibadan, Nigeria. Data were obtained from 250 (143 females, 57.2%; 107 males, 42.8%) adolescents in a cross-sectional survey that utilized psychometrically sound measures. Multiple regression and t-tests statistical analyses were used to test the study hypotheses. Results indicated that internalization of societal appearance ideals significantly predicted SCC ($R = .38$, $R^2 = .14$, $F(2,247) = 20.47$, $p < .001$). Both thin ($\beta = .20$, $t = 2.78$, $p < .01$) and muscular ($\beta = .23$, $t = 3.32$, $p < .001$) appearance internalization significantly influenced SCC. Appearance pressures had a significant effect on SCC ($R = .36$, $R^2 = .13$, $F(3,246) = 12.18$, $p < .001$), especially as it relates to pressures from family ($\beta = .23$, $t = 2.32$, $p < .05$) and peers ($\beta = .21$, $t = 2.12$, $p < .05$). In contrast, media pressures were not significant ($\beta = -.06$, $t = -.65$, $p > .05$). No significant difference in SCC was found between adolescents with low and high levels of appearance comparison ($t(248) = 1.81$, $p > .05$). Results showed a significant joint influence of internalization, appearance pressures, and comparison on SCC ($R = .42$, $R^2 = .18$, $F(3,246) = 17.89$, $p < .001$). There was no significant joint influence of all the demographic variables but age ($\beta = -.26$, $t = -2.77$, $p < .01$) and class ($\beta = .23$, $t = 2.45$, $p < .05$) were significant independent factors. The practical implications of findings, recommendations for policy intervention as well as future research directions are discussed.

Keywords: Self-concept clarity, internalization of societal appearance ideals, appearance pressures, appearance comparison, adolescents

Introduction

Adolescence is a phase of an individual's existence that represents a crucial period of identity development, during which adolescents undergo significant psychological, social, and emotional changes (Bogaerts et al., 2021). Crone et al. (2021) identified the development of a stable self-concept as a key developmental task during adolescence. Self-concept involves understanding oneself across various domains, such as personality traits, values, and physical characteristics. Self-concept also refers to how individuals perceive themselves, including their traits, abilities, and worth. Self-concept development processes change extensively throughout childhood and adolescence (Pfeifer & Peake, 2012). Developing a generally stable and positive self-concept is beneficial for several developmental milestones, such as educational and work commitments, social and academic identity formation, and overall well-being (Crone et al. 2022).

Self-concept has been described as a socio-cognitive construct, shaped by both cognitive advancements and social interaction (Crone & Drunen, 2024). The main factors that drive self-concept development include cognitive advancements, perspective taking, and social comparison (Pfeifer & Peake, 2012; Rapee et al., 2019). Perspective taking allows us to merge the (perceived) views of other people about the self with our personal views about the self across time and domains. Social comparison, i.e., comparing oneself with others, may lead to more intensified social-affective responses to self-evaluations (Rapee et al. 2019, Somerville et al. 2010). These developmental processes influencing adolescent self-concept, i.e., perspective taking and social comparison, have separate trajectories and develop in interaction with each other. That is, increasing perspective-taking abilities and high susceptibility to the views of others about them may increase the ability and likelihood of adolescents to think about the opinions of others about them (Pfeifer & Peake, 2012) and compare themselves to others (Burtzer & Kuiper, 2006). Adolescents may discover that they have a broad audience that can observe and evaluate them, which can lead to the feeling of being constantly watched and judged by others which is known as **the imaginary audience** (Harter 2012, Schwartz et al. 2008). This could make them more self-conscious.

Self-concept can be classified into two main constructs: self-concept clarity and self-concept appraisal (Crone et al. 2021). Self-concept clarity is the degree to which knowledge and beliefs about the self are clearly and confidently defined, internally consistent, and temporally stable (Campbell et al. 1996). Self-concept clarity entails both the stability of self-concept across time and the lack of conflict about one's character and traits. Self-concept clarity was initially discovered to increase linearly between the ages of 12 and 21 (Wu et al. 2010), but other studies have reported nonlinear changes between the ages of 13 to 18 and ages 17 to 23 (Crocetti et al. 2016a,b). Possibly, changes in self-concept clarity are more clearly described by within-subject change than by general age patterns (Branje et al. 2021). Self-concept appraisal has been defined as encompassing the non-observable, estimated qualities of the self (Bailey, 2003; Harter, 2012). It consists of what we do and how we appear and is based on subjective descriptions of our traits (e.g., "I am brilliant") rather than objective facts (e.g., "I am good with mathematics"). Self-appraisal is often studied by asking participants to evaluate whether or to what extent positive and negative traits fit the self (Rapee et al., 2019).

This study, however, focuses on one of the two main constructs of self-concept, which is **self-concept clarity**. Self-concept clarity (SCC) refers to the extent to which individuals have a clear, coherent, and stable understanding of who they are (Binsale, 2017). It involves how consistent and stable an individual's self-knowledge is across different situations and over time. In adolescents, self-concept clarity is particularly important due to the developmental transitions that occur during this period, which include physical, cognitive, emotional, and social changes (Crone et al. 2022). Changes that occur during adolescence often impact how adolescents perceive themselves and how they integrate various aspects of their identity, e.g., values, roles, goals, and relationships (Zhang 2023).

As adolescents' cognitive abilities develop, they begin to think more abstractly and critically about themselves (Tyler et al. 2020). This leads to a deeper questioning of their identity and values (Lehalle 2020). According to Alasker and Kroger 2020, peer relationships, family dynamics, and societal expectations significantly determine how stable and consistent an adolescent's self-concept will be. Social comparison, media exposure, and cultural norms play important roles in the development of self-concept (Carter & Vartanian, 2022). Erik Erikson's theory of psychosocial development identifies adolescence as the stage of "identity versus role confusion." Successfully navigating this stage involves developing a clear and stable sense of self. At the same time, failure to do so can lead to confusion and uncertainty about one's place in the world (Youvan 2024).

Adolescents are generally highly susceptible to external influences. For many adolescents, the process of self-concept development is fraught with challenges, especially as they begin to internalize societal expectations, including those related to physical appearance (Shinaberry, 2016; Smith, 2010). The internalization of these appearance ideals, the extent to which adolescents accept these standards as their own, has been shown to influence diverse aspects of psychological well-being, including self-esteem, body image, and self-concept clarity (Jarman et al., 2021).

The internalization of societal appearance ideals refers to the process by which individuals adopt external beauty standards as their personal goals or values (Vandenbosch & Eggermont, 2012). When adolescents internalize societal appearance ideals, they begin to view these ideals as their own goals or standards to meet. Adolescents may internalize these ideals to varying degrees, with some seeing them as essential to their sense of self-worth, while others may be less influenced by them. Internalization occurs through several channels: media exposure, peer influences, family expectations, and even personal experiences with body image (Shen et al., 2022). When adolescents internalize these ideals, they often become preoccupied with their appearance, engaging in behaviors aimed at achieving or maintaining the idealized body type, such as dieting, exercising excessively, or using cosmetic products. Fardouly et al. (2015) found that social media exposure, particularly platforms like Instagram and Facebook, has amplified the pressure to conform to unrealistic body standards, contributing to body image concerns among adolescents. The degree to which adolescents internalize these societal ideals varies and can be influenced by several factors, including gender, cultural background, and personal experiences (Lawler & Nixon,

2011). There are notable gender differences in the internalization of appearance ideals. Girls tend to internalize the thin ideal, while boys are increasingly internalizing muscularity ideals. (Grabe et al., 2008)

The lack of self-concept clarity can be compounded by societal pressure to conform to societal appearance ideals, which can be a major measure of their self-worth. Appearance pressures refer to the external forces that encourage or demand adolescents to meet certain societal appearance ideals (Dittmar, 2007). These pressures can be explicit (such as direct comments or encouragement from peers or family), for example, peer pressure plays a major role in how adolescents view their appearance, as adolescents often compare themselves to their friends or classmates. Peer pressure can manifest in both overt ways (e.g., bullying or teasing) and more subtle ways (e.g., subtle comparisons or exclusion based on appearance). The pressure could also be implicit (such as societal norms conveyed through media or social media platforms). Social media, in particular, has amplified these pressures in recent years, as platforms like Instagram, TikTok, and Facebook highlight and often idealize specific body types, styles, and beauty trends. Adolescents are exposed to constant images of “perfect” bodies, leading to the desire to conform to these often-unattainable standards. Peers also play a significant role in shaping appearance pressures. These appearance pressures are linked to increased self-consciousness about body image and can negatively impact adolescents' self-concept, especially when they feel they do not meet these standards

Appearance comparison is a cognitive process in which individuals evaluate their physical appearance with others. Adolescents who engage in frequent appearance comparisons tend to experience greater self-doubt and uncertainty about their self-concept. These comparisons often focus on physical traits, such as body shape, weight, or attractiveness, which can influence the development of a clear, stable self-concept. Studies have shown that when adolescents compare themselves to idealized images in the media or peers, they are more likely to have lower self-concept clarity (Dittmar, 2009). Body dissatisfaction, often driven by appearance comparisons, leads to a fragmented sense of self, which is less cohesive and more vulnerable to external evaluations. This instability in self-concept can persist into adulthood, affecting long-term mental health and identity. Swami et al. (2010) found that adolescents with body dissatisfaction were more likely to experience identity confusion, leading to negative emotional outcomes such as depression and anxiety

For adolescents who are exposed to internalized societal appearance ideals, appearance pressures, and appearance comparisons, the clarity of their self-concept may become clouded. They may struggle with fluctuating perceptions of themselves, causing confusion or insecurity in their self-concept.

This study was conducted to contribute to knowledge by investigating the following research questions:

1. How does the internalization of societal appearance ideals influence adolescents' self-concept clarity?
2. What is the relationship between appearance pressures and self-concept clarity among adolescents?
3. How do different levels of appearance comparison affect the stability of self-concept among adolescents?
4. Are there gender differences in self-concept clarity?
5. Will demographic variables such as age, body mass index, religion, ethnicity, class, birth order, and whether or not the students live influence self-concept clarity?

Methods

Design

This study employs a cross-sectional survey design. This study seeks to examine the relationships among independent variables (internalization of societal appearance ideals, appearance pressures, and appearance comparison) and the dependent variables (self-concept clarity). In a cross-sectional survey design, the researcher can measure the independent variables and the dependent variables in adolescents at the same time. For this study, independent and dependent variables were all measured among various participants from different secondary schools in Ibadan. This was done using copies of a questionnaire, thereby making it a survey.

Participants

This study focused on secondary school students in Ibadan, and data were obtained from four (4) conveniently selected secondary schools in Ibadan due to logistics issues. The study involved the use of a weighing scale and a stadiometer, which had to be moved from one school to another. The secondary schools consist of two (2) private schools, which are International School Ibadan and Maverick College, and two (2) public schools, which include Immanuel College High School and Immanuel Grammar School. The questionnaire was administered to one hundred and fifty (150) private secondary school students, which is 60% of the total population, and one hundred (100) public school students, which is 40% of the total population.

Regarding class, 1.2% of the total population of the participants were in JSS1, 7.6% of the participants were in JSS2, 6.4% of the participants were in JSS3, 19.6% of the participants were in SSS1, 31.2% of the participants were in SSS2 and 34% of the participants were in SSS3. Also, 60% of the participants were from private schools, while 40% of the participants were from public schools. There were 107 males and 143 females. 212 adolescents identified themselves as belonging to the Yoruba tribe. 28 participants identified themselves as belonging to the Igbo tribe. 4 of the participants identified as Hausa tribe. 6 participants identified themselves as belonging to other tribes. Also, 183 participants identified themselves as Christians, while 66 respondents identified themselves as Muslims, and 1 participant indicated having other religion. 38.8% of the participants were underweight, i.e, (BMI < 18.5), 52% of them had normal weight, 5.6% of the participants were overweight (BMI 18.5 - 24.9), and obesity in 3.62% of them (BMI $\geq$ 30.00). The participants were between the ages of 12 and 19. The mean age is 14.60 with a standard deviation of 1.467.

Instruments

A structured questionnaire consisting of four (4) sections was used in the study.

The first section consists of demographic variables, including age, weight, height, BMI, sex, class, ethnicity, religion, birth order and whether or not the participants live with their parents.

The second section measured Self-concept clarity. The tool used here is Self-Concept Clarity Scale (SCCS). The Self-Concept Clarity Scale (SCCS; Campbell et al., 1996) is a 12-item measure assessing the degree to which participants' beliefs about themselves are clear and stable (e.g., "In general, I have a clear sense of who I am and what I am"). Each item is scored on a 5-point scale (1 = Strongly agree, 5 = Strongly disagree). Items marked as reverse-worded were reverse scored. The scores are interpreted as higher mean scores indicate greater self-concept clarity. Good construct and criterion validity have been demonstrated for this measure (Campbell et al., 1996), and the measure has previously been used with adolescent samples. In the study, the Cronbach's alpha was 0.86. In this current study, the Cronbach's alpha was 0.845.

The third section measured Internalization of societal appearance ideals and Appearance pressures.

The Sociocultural Attitudes Towards Appearance Questionnaire-4 (SATAQ-4; Schaefer et al. 2014). The SATAQ-4 is a 22-item questionnaire with the following five subscales to assess the effects of sociocultural factors: Internalization: Thin/Low Body Fat (five items), Internalization: Muscular/Athletic (five items), Pressures: Family (four items), Pressures: Peers (four items), and Pressures: Media (four items). Responses are scored on a 5-point Likert scale ranging from 1 (definitely disagree) to 5 (definitely agree). The interpretation of the scores shows that higher scores indicate higher levels of internalization of appearance ideals and appearance pressures respondents feel or experience. This scale has been found to have good internal reliability and convergent validity in samples of women in the United States, Italy, England, and Australia (Schaefer et al., 2014). SATAQ-4 subscales demonstrated good to excellent internal consistency with Cronbach's alpha values as 0.78 (Internalization: Thin/Low Body Fat), 0.82 (Internalization: Muscular/Athletic), 0.91 (Pressures: Family), 0.95 (Pressures: Peers) and 0.96 (Pressures: Media). In the current study, the Cronbach's alpha values as 0.749 (Internalization: Thin/Low Body Fat), 0.838 (Internalization: Muscular/Athletic), 0.822 (Pressures: Family), 0.845 (Pressures: Peers) and 0.865 (Pressures: Media).

The last section measured Appearance comparison. The Physical Appearance Comparisons Scale (PACS-R; Schaefer & Thompson, 2014) was used to assess the degree to which participants compare their

own appearance to the appearance of others (e.g., “When I’m with a group of friends, I compare my body size to the body size of others”). The scale consists of 11 items, each of which is scored on a 5-point scale (0 = Never, 4 = Always). The scores are interpreted as higher mean scores indicate a greater tendency to make appearance comparisons. The measure has demonstrated good reliability and validity (Schaefer & Thompson, 2014), and has been used with adolescent samples previously (e.g., Palmeroni et al., 2021). Internal consistency was excellent ($\alpha=0.96$). In this current study, the Cronbach’s alpha of PACS-R was 0.904.

Procedure

The study involved 250 secondary school students from four schools in Ibadan, selected to represent diverse religious, ethnic, and socioeconomic backgrounds. The researcher visited three private schools to seek permission; two (International School Ibadan and Maverick College) approved the study after its purpose was explained. At International School Ibadan, questionnaires were administered to accessible students. At Maverick College, assistance from the school counselor facilitated data collection. After obtaining 150 responses from these private schools, the researcher approached two nearby public schools, secured permission, and collected the remaining 100 responses over two visits.

Informed consent was obtained from all participants, with assurances of confidentiality and anonymity. Participants began with Section A of the questionnaire, which collected demographic data including sex, age, religion, ethnicity, class, birth order, weight, and height, used to calculate BMI via SPSS. They then completed Section B (Self-Concept Clarity Scale), Section C (Sociocultural Attitudes Towards Appearance Questionnaire-4), and Section D (Physical Appearance Comparisons Scale). All questionnaires were retrieved for statistical analysis.

Results

Hypothesis One: It stated that internalization of societal appearance ideals will significantly influence self-concept clarity among secondary school students in Ibadan. This was tested using multiple regression analysis, with the dimensions of internalization of societal appearance ideals (internalization of thin appearance ideals and internalization of muscular appearance ideals) serving as the factors and self-concept clarity serving as the outcome. The results of this analysis are presented in Table 1.

Table 1: Multiple Regression Analysis Summary Showing the Influence of Internalization of Societal Appearance Ideals (Thin Appearance and Muscular Appearance) on Self-Concept Clarity among Secondary School Students in Ibadan

Internalization of Societal Appearance Ideals	B	T	P	R	R ²	F	p
Thin Appearance Ideals	.20	2.78	<.01	.38	.14	20.47	<.001
Muscular Appearance Ideals	.23	3.32	<.001				

Dependent Variable: Self-concept Clarity

Table 1 reveals that there is a significant influence of internalization of societal appearance ideals on self-concept clarity among secondary school students in Ibadan ($R=.38$; $R^2=.14$; $F_{(2,247)}=20.47$; $p<.001$). Further, the results show that 14 percent of the variance in self-concept clarity is accounted for by the variance in internalization of societal appearance ideals. The results also indicate that self-concept clarity is significantly influenced by internalization of thin appearance ideals ($\beta=.20$; $t=2.78$; $p<.01$) and internalization of muscular appearance ideals ($\beta=.23$; $t=3.32$; $p<.001$). This shows that higher internalization of thin appearance ideals influences an increase in self-concept clarity. Similarly, higher internalization of muscular appearance ideals influences an increase in self-concept clarity. Internalization

of muscular appearance ideals has a greater influence on self-concept clarity than internalization of thin appearance ideals. The stated alternate hypothesis is therefore accepted.

Hypothesis Two: It stated that appearance pressures will significantly influence self-concept clarity among secondary school students in Ibadan. This hypothesis was tested using multiple regression analysis, with the dimensions of appearance pressures (pressures from Family, peers, and media) serving as the factors and self-concept clarity serving as the outcome. The results of this analysis are presented in Table 2.

Table 2: Multiple Regression Analysis Summary Showing the Influence of Appearance Pressures (from Family, Peers, and Media) on Self-Concept Clarity among Secondary School Students in Ibadan

Appearance Pressures	B	t	P	R	R ²	F	p
Appearance Pressure from Family	.23	2.32	<.05				
Appearance Pressure from Peers	.21	2.12	<.05	.36	.13	12.18	<.001
Appearance Pressure from Media	-.06	-.65	>.05				

Dependent Variable: Self-concept Clarity

The results in Table 2 indicate that there is a significant influence of appearance pressures on self-concept clarity among secondary school students in Ibadan ($R=.36$; $R^2=.13$; $F_{(3,246)}=12.18$; $p<.001$). Further, the results show that 13 percent of the variance in self-concept clarity is accounted for by variance in appearance pressures. The results also indicate that self-concept clarity is significantly influenced by appearance pressures from family ($\beta=.23$; $t=2.32$; $p<.05$) and appearance pressures from peers ($\beta=.21$; $t=2.12$; $p<.05$). Therefore, an increase in appearance pressures from family members influences an increase in self-concept clarity. Similarly, an increase in appearance pressures from peers influences an increase in self-concept clarity. However, only appearance pressures from the media do not significantly influence self-concept clarity among secondary school students in Ibadan ($\beta=-.06$; $t=-.65$; $p>.05$). The stated alternate hypothesis is therefore accepted.

Hypothesis Three: It stated that students with high appearance comparison will have lower self-concept clarity. This was tested using the independent samples t-test, with high and low serving as categories of appearance comparison. The results of this analysis are presented in Table 3.

Table 3: Independent Samples t-test Summary Showing the Influence of Appearance Comparison on Self-Concept Clarity among Secondary School Students in Ibadan

Appearance Comparison	N	Mean	SD	df	t	P
Low	134	30.01	9.10			
High	116	28.03	8.05	248	1.81	>.05

The results in Table 3 indicate that there is no significant difference in self-concept clarity between secondary school students with low levels of appearance comparison and their counterparts with high levels of appearance comparison ($t_{(248)}=1.81$; $p>.05$). This means that even though secondary school students with low levels of appearance comparison returned a higher mean score on self-concept clarity (Mean=30.01; SD=9.10), they do not have a significantly different score on self-concept clarity from secondary school students with high appearance comparison (Mean=28.03; SD=8.05). The stated alternate hypothesis is therefore rejected.

Hypothesis Four: It stated that internalization of societal appearance ideals, appearance pressures, and appearance comparison will significantly have a joint influence on self-concept clarity among secondary school students in Ibadan. This was tested using multiple regression analysis, with results presented in Table 4.

Table 4: Multiple Regression Analysis Summary Showing the Influence of Internalization of Societal Appearance Ideals, Appearance Pressures, and Appearance Comparison on Self-Concept Clarity among Secondary School Students in Ibadan

Factors	B	t	P	R	R ²	F	p
Internalization of Societal Appearance Ideals	.26	3.48	<.001				
Appearance Pressures	.16	2.07	<.05	.42	.18	17.89	<.001
Physical Appearance Comparison	-.14	-2.48	<.05				

Dependent Variable: Self-concept Clarity

Table 4 shows that there is a significant influence of internalization of societal appearance ideals, appearance pressures, and appearance comparison on self-concept clarity among secondary school students in Ibadan ($R=.42$; $R^2=.18$; $F_{(3,246)}=17.89$; $p<.001$). The results also show that 18 percent of the variance observed in self-concept clarity is accounted for by variance in internalization of societal appearance ideals, appearance pressures, and appearance comparison. Further, self-concept clarity was significantly influenced by internalization of appearance ideals ($\beta=.26$; $t=3.48$; $p<.001$), appearance pressures ($\beta=.16$; $t=2.07$; $p<.05$) and physical appearance comparison ($\beta=-.14$; $t=-2.48$; $p<.05$). The results further indicate that increase in total internalization of appearance ideals influence an increase in self-concept clarity among secondary school students. Similarly, an increase in aggregate appearance pressures influence an increase in self-concept clarity. However, an increase in physical appearance comparison influences a decrease in self-concept clarity. Internalization of societal appearance ideals emerged with the strongest influence on self-concept clarity. The stated alternate hypothesis is therefore accepted.

Hypothesis Five: It stated that female students will have significantly higher levels of Self-concept clarity compared to male students. This hypothesis was tested using the independent samples t-test, with results presented in Table 5.

Table 5: Independent Samples t-test Summary Showing the Influence of Appearance Comparison on Self-Concept Clarity among Secondary School Students in Ibadan

Gender	N	Mean	SD	df	t	P
Female	143	28.06	8.90	248	-2.20	<.05
Male	107	30.47	8.16			

Table 5 indicates that there is a significant difference in self-concept clarity between male and female secondary school students ($t_{(248)}=-2.20$; $p<.05$). Male students therefore score significantly higher (Mean=30.47; SD=8.16) on self-concept clarity than their female counterparts (Mean=28.06; SD=8.90). The stated alternate hypothesis is hence rejected.

Hypothesis Six: It stated that demographic variables (Age, Body Mass Index, Religion, Ethnicity, Class, Birth Order, and whether or not the students live with their parents) will have a significant independent and joint influence on self-concept clarity among secondary school students in Ibadan. This hypothesis was tested using multiple regression analysis, with results in Table 6.

Table 6: Multiple Regression Analysis Summary Showing the Influence of Internalization of Societal Appearance Ideals, Appearance Pressures, and Appearance Comparison on Self-Concept Clarity among Secondary School Students in Ibadan

Demographic Factors	β	t	P	R	R ²	F	p
Age	-.26	-2.77	<.01				
Body Mass Index	.07	1.06	>.05				
Religion	.01	.07	>.05				
Ethnicity	.05	.80	>.05	.21	.04	1.54	>.05
Class	.23	2.45	<.05				
Birth Order	-.00	-.03	>.05				
Living Status	.05	.76	>.05				

Dependent Variable: Self-concept Clarity

Table 6 shows that there is no significant joint influence of demographic variables (Age, Body Mass Index, Religion, Ethnicity, Class, Birth Order and whether or not the students live with their parents) on self-concept clarity among secondary school students ($R=.21$; $R^2=.04$; $F_{(7,242)}=1.54$; $p>.05$). However, on an independent basis, age of respondents and class of respondents exhibited a significant influence on self-concept clarity. An increase in the age of respondents influenced a decrease in self-concept clarity ($\beta=-.26$; $t=-2.77$; $p<.01$), indicating that younger students have lower self-concept clarity than older students. Higher classes of respondents influenced higher self-concept clarity values ($\beta=.23$; $t=2.45$; $p<.05$). Therefore, participants in higher classes reported significantly higher self-concept clarity.

However, self-concept clarity among secondary school students was not significantly influenced by Body Mass Index ($\beta=.07$; $t=1.06$; $p>.05$), Religion ($\beta=.01$; $t=.07$; $p>.05$), Ethnicity ($\beta=.05$; $t=.80$; $p>.05$), Birth Order ($\beta=-.00$; $t=-.03$; $p>.05$), and Living Status ($\beta=.05$; $t=.76$; $p>.05$). The stated alternate hypothesis is therefore rejected.

Discussion

The first hypothesis proposed that internalization of societal appearance ideals would significantly influence self-concept clarity among secondary school students in Ibadan. Multiple regression analysis confirmed this, showing that both thin and muscular appearance ideals significantly predicted self-concept clarity. Notably, muscular appearance ideals had a stronger influence than thin ideals. These findings support Vankerckhoven et al. (2024) in identifying a significant relationship, yet contradict their conclusion that greater internalization is associated with lower self-concept clarity. The discrepancy may be attributed to Ibadan's collectivist culture, where societal norms are deeply integrated into individual identity. The results also align with James Marcia's identity status theory, particularly identity foreclosure, suggesting that adolescents may adopt societal appearance ideals without personal exploration. Though their self-concept clarity appears high, it may be based on externally imposed values rather than authentic self-definition. Additionally, adolescents from lower socio-economic backgrounds may internalize societal ideals as a means of aspiring toward social mobility or overcoming poverty-related identity constraints.

The second hypothesis proposed that appearance pressures significantly influence self-concept clarity (SCC) among secondary school students in Ibadan. Multiple regression analysis confirmed this, aligning with the Tripartite Influence Model, which identifies media, peers, and family as key sources of appearance-related pressure that shape self-concept. The study found that appearance pressures from family and peers significantly influenced SCC. In Ibadan's Yoruba culture, where family honor is emphasized, adolescents may internalize appearance standards to maintain family reputation. Additionally, cultural norms of respecting elders may reinforce these ideals without critical evaluation. Similarly, peer pressure was shown to influence SCC, likely because physical appearance is linked to social status and acceptance in secondary

schools, prompting adolescents to define themselves based on peer-driven ideals. However, media pressure did not significantly influence SCC, contradicting Grabe, Ward, & Hyde (2008), who found that media consumption negatively affects body image and SCC. This difference may be due to Ibadan adolescents' strong cultural identity, which provides a sense of belonging and self-worth less dependent on media portrayals.

The third hypothesis stated that appearance comparison will significantly influence self-concept clarity among secondary school students in Ibadan. This was tested using the independent samples t-test. The result indicated that there is no significant difference in self-concept clarity between secondary school students with low levels of appearance comparison and their counterparts with high levels of appearance comparison. This means that even though secondary school students with low levels of appearance comparison returned a higher mean score on self-concept clarity, they do not have a significantly different score on self-concept clarity from secondary school students with high appearance comparison. This means that appearance comparison does not influence self-concept clarity. This is against the discovery of Vankerckhoven et. al., 2024, and the evidence of Tiggemann and Slater's (2014) meta-analysis, which revealed that lower self-concept clarity was associated with greater appearance comparisons. This could be a result of resilience and coping mechanisms that have been developed by adolescents to deal with appearance comparison, such as ignoring or critiquing unrealistic appearance ideals.

The fourth hypothesis proposed that internalization of societal appearance ideals, appearance pressures, and appearance comparison would jointly influence self-concept clarity (SCC) among secondary school students in Ibadan. Multiple regression analysis confirmed this, revealing a significant combined effect of these three variables on SCC. This finding suggests a dynamic interaction where adolescents who internalize societal appearance ideals are more likely to conform to appearance pressures from media, family, and peers, making them more prone to appearance comparisons, all of which shape how they define themselves. This is consistent with prior research emphasizing the vulnerability of adolescents to external influences during identity development (Shinaberry, 2016; Smith, 2010).

The fifth hypothesis stated that female students will have significantly higher levels of Self-concept clarity compared to male students. This hypothesis was tested using the independent samples t-test. The result indicated that there is a significant difference in self-concept clarity between male and female secondary school students. This is in line with research that females experience lower self-concept clarity than males, which could be due to social and cultural pressures placed on females, which might lead to greater self-uncertainty instead of clarity (Carter and Vartanian, 2022).

The last hypothesis stated that demographic variables (Age, Body Mass Index, Religion, Ethnicity, Class, Birth Order, and whether or not the students live with their parents) will have a significant independent and joint influence on self-concept clarity among secondary school students in Ibadan. This hypothesis was tested using multiple regression analysis. The results showed that there is no significant joint influence of demographic variables (Age, Body Mass Index, Religion, Ethnicity, Class, Birth Order, and whether or not the students live with their parents) on self-concept clarity among secondary school students. This indicates that these factors, when considered collectively, may not be potent predictors of self-concept clarity among secondary school students in Ibadan. However, on an independent basis, the age of respondents and class of respondents exhibited a significant influence on self-concept clarity. This discovery supports the findings that self-concept clarity will increase linearly between the ages of 12 and 21 (Luo & Liu, 2020).

Recommendations

For adolescents to have a healthy level of internalization of societal appearance ideals, schools and parents should teach adolescents to question and analyze appearance ideals communicated in society. They should also guide them to follow educational content on how the media distorts appearance ideals. They should also encourage adolescents to compare historical appearance ideals to recognize how these ideals change over time. All of these would help adolescents in engaging with appearance ideals messages rather than blindly accepting them.

The media should promote more content on self-compassion and self-acceptance. This includes avoiding promoting messages that promote all-or-nothing thinking about appearance and sell the idea that fluctuations in appearance are normal. This reduces the pressure to conform to appearance ideals and promotes body satisfaction.

Parents and guardians should foster open discussions about self-concept and appearance. They should socialize adolescents to know that their self-concept encompasses personality, abilities, and relationships. Parents should model healthy attitudes towards body image by avoiding excessive focus on weight, beauty, or societal appearance ideals. Supporting identity explorations can prevent adolescents from excessively seeking external validation.

Limitations

The following are the limitations this research encountered:

This study adapted a cross-sectional approach, which could only show correlation and not causality. A longitudinal study would have helped to establish the causality and long-term effects of these relationships as adolescents grow into adulthood. Additionally, a limitation encountered in this study was the use of only questionnaires, where participants couldn't express their thoughts well enough contrast to the use of oral interviews, where better and more accurate results would have been obtained from the participants, due to deeper expression.

The study focuses on appearance-related factors; however, self-concept clarity is shaped by multiple influences like parental support and relationships, personal achievements and failures, and so on.

Also, the existing literature did not adequately explain the direct relationship between the variables examined in this study.

Suggestions for Future Research

Future research should compare the influence of appearance-related factors with other developmental influences on self-concept clarity.

To provide deeper insights on self-concept clarity amongst adolescents in Nigeria, Future studies could examine **mediators** (e.g., self-esteem, body dissatisfaction) and **moderators** (e.g., resilience, parental support, media literacy) that influence the relationship between appearance ideals/pressures and self-concept clarity.

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Crossed Crafts: Togolese Artisan influx Displacing Indigenous Vocational Labour in Lagos, Nigeria

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Abstract

Togolese artisan infiltration into Nigeria in general is on the increase and is rendering indigenous artisans alienated in Lagos. Positioned within a complex and evolving informal economy, this paper investigates crossed crafts, where transnational vocational mobility intersects with the vulnerabilities of local livelihoods. The study anchored in Dual Labour Market Theory, World System Theory, and Social Displacement Theory, reveals the socio-economic challenges encountered by indigenous artisans as Togolese entrants exhibit greater collaborative efficiency, competitive pricing, and quicker client service. Its design uses interpretive and exploratory qualitative approaches which include in-depth interviews together with focus group discussions and key informant interviews that took place in Mushin, Ikeja and Lagos Island. The study depicts that indigenous craftsmanship has diminished while opportunities for apprenticeship have decreased and native artisans feel less dedicated to their vocations. Earnings of indigenous craftsmen have decreased alongside reduced clientele, and they feel vocationally alienated. The better organizational structure of Togolese artisans leads to changes in power dynamics within Lagos's informal craft industry despite their frequent informal operations. Various stakeholders demand intercultural cooperation through training partnerships and integrated institutions that contribute to shared crafts improvement. This investigation reveals all aspects influencing the current transformation of Nigeria's urban craft markets. Togolese artisans entering the workforce have taken the place of indigenous craftsmen thus causing cultural dilution, occupational changes and occupational adaptations of the remaining artisans. The government must implement policies that protect indigenous crafts by establishing training programmes together with modernization initiatives and financial backing which includes international alliances and proper regulatory mechanisms and intercultural partnerships.

Keywords: Togolese artisan infiltration, indigenous artisans, transnational vocational mobility, occupational changes, Lagos

Introduction

The persistent influx of Togolese artisans into Lagos, Nigeria, signals an emerging vocational renaissance that is subtly transforming the local craft economy. These transnational craftsmen, armed with centuries-old techniques and strong kinship networks, do more than merely engage in the market; they actively shape it (Mensah, 2022, p. 117). Their exceptional skills and cultural creativity have elevated informal craftsmanship to a significant economic force, displacing native vocational labour and redefining the landscape of artisanal dominance in cosmopolitan Nigeria (Okoye & Lawal, 2023, p. 144). This shift in occupational structure, fueled by cross-border migration and superior craftsmanship, underscores the inadequacies of local apprenticeship systems and highlights the policy gaps that permit unchecked labour substitution (Adebiyi, 2023, p. 213). These dynamics call for a nuanced exploration of cross-cultural vocational influence and necessitate a reevaluation of local economic policies to safeguard indigenous labour identities.

The increasing presence of Togolese artisans in Lagos, Nigeria's commercial center, is gradually displacing local vocational labour and reshaping traditional economic and socio-cultural dynamics. Indigenous trades such as carpentry, tailoring, metalwork, and masonry are becoming saturated with foreign practitioners. These newcomers benefit from a competitive edge rooted in communal solidarity, lower labour costs, and transnational apprenticeship systems, which overshadow the contributions of local artisans (Adeleke, 2023, p. 191). This displacement not only undermines the livelihoods of local workers but also fosters socio-cultural alienation and economic insecurity, as they face diminished patronage and struggles in passing down their skills to the next generation (Okon & Adediran, 2022, p. 78). The resultant decline

in vocational opportunities exacerbates youth unemployment, increases marginalization in the informal sector, and jeopardizes traditional occupational identities in urban Nigeria (Chukwuemeka, 2024, p. 212).

Although Nigeria's National Employment Policy promotes local empowerment and skill preservation, the unregulated influx of foreign artisans disrupts the equilibrium of urban labour markets (Bello, 2024, p. 134; Adeniyi & Omolawal, 2024, p. 3; The Nation, 2016). This challenge is not merely economic but deeply structural, underscoring the need for a reexamination of policies related to economic inclusion, transnational labour regulation, and the protection of cultural industries. The absence of effective frameworks leaves Lagos vulnerable to a homogenization of artisan work that threatens the survival of indigenous skills, hampers socio-economic autonomy, and weakens the resilience of Nigeria's urban informal economy (Yakubu & Ibrahim, 2023, p. 165). Addressing this ongoing vocational displacement necessitates urgent, innovative, and context-sensitive policy reimagining.

Existing literature provides a thorough examination of transnational labour mobility and artisanal migration across West Africa, with a particular emphasis on the socio-economic networks of itinerant craftsmen (Adeyemi, 2023, p. 317; Kouassi, 2022, p. 411). Togolese artisans are recognized as highly mobile, skilled, and resilient individuals who significantly influence urban informal economies (Ogundele & Yao, 2024, p. 229). However, current scholarship seldom explores their impact on indigenous vocational ecosystems in host cities such as Lagos. While Osei-Tutu (2023, p. 144) highlights the economic advantages of intra-African migration, there remains a notable deficiency in empirical analysis regarding the subtle labour displacements and cultural tensions that arise from the influx of these artisans. This gap underscores the pressing need to investigate the nuanced effects of the expansion of Togolese artisans on the native vocational labour market in Lagos, particularly within the rapidly changing informal sector. Such inquiry is crucial for formulating fair and context-sensitive urban labour policies.

In view of this research gap, the primary objective of this study is to examine the concept of "Crossed Crafts," with a specific focus on the displacement of indigenous vocational labour by the influx of Togolese artisans in Lagos, Nigeria. To achieve this, the paper aims to: (i) analyze the implications of Togolese artisans' arrival on the sustainability of indigenous craftsmanship; (ii) explore the socio-economic realities faced by displaced indigenous vocational labour within Lagos' evolving craft landscape; and (iii) propose inclusive and actionable policies to alleviate artisan displacement while fostering intercultural vocational collaboration.

Related Literature Review

The influx of Togolese artisans into Lagos, Nigeria, has ignited substantial intellectual discourse about its impact on local vocational labour. This paper critically reviews recent scholarly works to illuminate the dynamics of this migration, its implications for local labour markets, and the broader socio-economic context.

Cross-Border Migration and Labour Dynamics

Cross-border migration within West Africa, particularly among ECOWAS member states, has been supported by policies that promote free movement. Uzomah (2024, pp. 211) conducted an in-depth study analyzing the socioeconomic profiles of ECOWAS migrants in Nigeria, revealing that a large proportion are young, 89.83% are 30 years old or younger, and predominantly male. Many of these migrants find employment in the informal sector, including artisanal trades, contributing to the Nigerian economy while encountering challenges related to legal status and social integration (Uzomah, 2024, pp. 212).

Informal Cross-Border Trade and Artisanal Activities

Informal cross-border trade (ICBT) is a widespread phenomenon in West Africa, frequently involving small-scale traders and artisans. Byiers et al. (2021) argue that ICBT is not simply a deviation from formal trade; rather, it is a system deeply embedded in the socio-economic fabric of the region. This system allows artisans to navigate complex trade environments and often addresses gaps left by formal economic structures (Byiers et al., 2021). The influx of migrant artisans has raised concerns regarding the potential

displacement of indigenous vocational labour. Obidiaju (2023) examined the relationships between migrant artisans and host communities in Agulu, Anambra State, highlighting the tensions that arise from competition over limited resources. Nevertheless, the study also notes that migrant artisans contribute to the socio-economic vibrancy of these host communities, indicating a complex interplay between competition and cooperation (Obidiaju, 2023).

Traditional Apprenticeship Systems

The Igbo apprenticeship system, known as "Igba-Odibo," has long been a cornerstone of vocational training in Nigeria. This system facilitates the transfer of skills and entrepreneurial knowledge, thereby promoting economic growth within communities (Agozino & Anyanike, 2007). The arrival of migrant artisans presents both challenges and opportunities for traditional apprenticeship systems, potentially leading to the evolution of these models to address new dynamics.

Policy and Institutional Frameworks

The Industrial Training Fund (ITF) was established to tackle skill gaps and promote vocational training in Nigeria. Recent initiatives by the ITF aim to enhance the skills of millions of Nigerian artisans each year, improving their competitiveness in the labour market (Emejo, 2024). However, the effectiveness of these programs in light of the increasing presence of migrant artisans remains an area in need of further investigation.

Legal and Regulatory Challenges

The reliance on foreign artisans presents significant challenges for Nigeria's engineering and construction sectors. A study conducted by RSIS International (2024) outlines the disadvantages of this dependency, which include increased costs and limited knowledge transfer to the local workforce. The study advocates for policy reforms designed to retain skilled local labour and diminish the country's reliance on foreign expertise (RSIS International, 2024). In addition, the literature suggests that the influx of Togolese artisans into Lagos represents a complex issue encompassing economic, social, and policy dimensions. While these migrant artisans contribute positively to the economy, their presence also disrupts existing vocational structures and labour markets. To address these challenges effectively, nuanced policy interventions are necessary to balance the advantages of migration with the imperative to protect and promote indigenous vocational labour.

Theoretical Framework

In Nigeria's most vibrant metropolis, Lagos, where cultures converge and economies intertwine, a quiet competition is unfolding on construction sites, within artisan workshops, and among roadside trades. This study seeks to examine this phenomenon through the dual lenses of Nigeria's socio-economic landscape and relevant labour migration theories, specifically Dual Labour Market Theory and Social Displacement Theory. As a beacon of economic opportunity in West Africa, Lagos attracts not only Nigerians from different states but also transnational labour migrants, particularly from neighboring countries such as Togo. These Togolese artisans are highly regarded for their precision, reliability, and craftsmanship in trades such as tiling, carpentry, and plaster of Paris (POP) ceiling installations. However, their increasing presence has sparked discontent among local artisans, many of whom feel marginalized and sidelined in their own communities and national labour markets.

In this context, the paper explores the intricate and unsettling reality of labour displacement among indigenous Nigerian vocational workers, a displacement that extends beyond economic ramifications to encompass cultural, social, and psychological dimensions. This investigation is anchored in Dual Labour Market Theory and examines how the segmentation of Lagos' informal labour market inadvertently advantages migrant artisans. This theory posits that migrants typically occupy secondary labour market positions characterized by instability, low wages, and minimal protections, which are often roles that local workers may reject. However, in the context of Lagos, this dynamic is reversed. Togolese artisans, due to

their communal cohesion, specialized transmission of skills, and cross-border networks, have established dominance in more stable and in-demand vocational sectors. This finding challenges the prevailing assumption that migrants only fill low-tier positions.

Simultaneously, Social Displacement Theory offers a nuanced understanding of the cultural and psychological ramifications of this influx. Displacement, in this context, transcends mere economic statistics; it encompasses the erosion of local pride, the diminishing transfer of traditional crafts from fathers to sons, and the perceived alienation of local identities from their traditional artisanal spaces. While the influx of migrant artisans enriches the vocational diversity of Lagos, it also poses a significant threat to the community-based economic inheritance systems that historically supported local Nigerian artisans. In accordance with World System Theory, this paper interrogates the southward flow of Togolese artisans into Lagos, Nigeria, viewing it as a microcosm of global labour realignment. The displacement of indigenous vocational labour by these migrating craft networks reflects core-periphery dynamics in which regional hegemonies perpetuate dependency and transform informal economies. This study critiques the asymmetric integration of West African artisanal labour markets, identifying Lagos as a semi-peripheral node that absorbs peripheral skillsets under the pressures of neo-colonial capitalism.

Far and beyond that, this examination depicts how local vocational identities are undergoing significant reconfiguration due to transnational mobility, thereby providing a comprehensive perspective on cultural erosion, economic dislocation, and the redefinition of indigenous craft autonomy. This paper thus contributes original insights into craft economies as contested spaces within the stratified global order. Ultimately, this study transcends mere academic inquiry; it serves as a clarion call for policy reform, empathy, and structured integration. It urges Nigerian stakeholders to reflect on the complexities of regional migration, economic competition, and social cohesion to ensure that in an increasingly globalized economy, no indigenous worker remains idle, nor any culture is diminished by the forces of globalization.

Research Methods

This study aims to explore the socio-economic complexities arising from the influx of foreign artisans in Lagos, specifically focusing on Togolese artisans and their impact on local vocational labour. To achieve this objective, we adopted a qualitative, exploratory approach that facilitates a comprehensive and systematic analysis of the interactions between Togolese artisans and the displacement of indigenous workers. Grounded in interpretivist principles, this methodology seeks to combine empirical depth, contextual richness, and insights that inform policy and promote actionable reforms.

Study Design

A qualitative, exploratory research design was employed to investigate the dynamics surrounding the influx of Togolese artisans and its effects on the local labour market in Lagos, Nigeria. Given the multifaceted socio-cultural and economic factors involved, this approach was deemed appropriate for capturing the richness of participants' experiences and perceptions. This design aligns with the interpretivist framework discussed by Hole (2024, p. 372), which emphasizes the importance of understanding the meanings individuals attribute to social phenomena.

Study Location

The research was conducted in Lagos State, Nigeria's commercial hub, known for its blend of diverse cultures and economic activities. The study focused specifically on areas with high concentrations of artisanal activities and a notable presence of Togolese artisans, including Mushin, Ikeja, and Lagos Island. These locations were selected due to their vibrant informal sectors and the prevalence of vocational trades such as carpentry, tailoring, and bricklaying.

Methods of Data Collection

Data were collected using a variety of qualitative methods to ensure triangulation and enhance the study's credibility:

1. In-depth Interviews (IDIs): Semi-structured interviews were conducted with both Togolese artisans and indigenous Nigerian vocational workers. These interviews sought to explore participants' experiences, challenges, and perceptions of the vocational landscape in Lagos.
2. Focus Group Discussions (FGDs): Separate FGDs were held with groups of indigenous artisans and Togolese artisans to encourage discussions on community dynamics, competition, and collaboration. Each FGD comprised 6-8 participants and lasted approximately 90 minutes.
3. Key Informant Interviews (KIIs): Interviews were conducted with policymakers, leaders of artisan associations, and officials from vocational training institutions to gain insights into the policy frameworks and institutional responses to the influx of foreign artisans.

Instruments of Data Collection

The primary tools utilized for data collection included semi-structured interview guides and FGD protocols. These instruments were developed based on existing literature and refined through a pilot study conducted in a similar urban setting. The guides addressed themes such as skill acquisition pathways, economic impacts, cultural integration, and policy awareness.

Study Population

The study population consisted of two primary groups:

- (i) Togolese Artisans: These individuals, of Togolese origin, are engaged in vocational trades within Lagos. Participants were selected based on their active involvement in trades such as carpentry, tailoring, and bricklaying.
- (ii) Indigenous Nigerian Artisans: This group comprises Nigerian nationals practicing similar vocational trades in the same areas. Participants were chosen to reflect a diverse range of experiences, including those who have encountered displacement or competition from foreign artisans.

Sampling Techniques

A purposive sampling technique was employed to select participants with relevant experiences and insights. Equally, snowball sampling was utilized, particularly for identifying Togolese artisans who may be part of informal networks. This method facilitated access to individuals who might otherwise be challenging to reach due to the informal nature of their work (Perera, 2023, p. 1335).

Methods of Data Analysis

Data analysis was conducted using thematic analysis, following the six-phase framework outlined by Braun and Clarke:

- (i) Familiarization with the data (ii) Generating initial codes (iii) Searching for themes
- (iv) Reviewing themes (v) Defining and naming themes (vi) Producing the report

Interviews and focus group discussion (FGD) transcripts were coded manually, and themes were identified to capture patterns within the data. NVivo software was employed to manage and systematically organize the findings.

Limitations of the Study

Several limitations were identified:

- (i) Access to Participants: Some Togolese artisans expressed hesitance to participate out of concerns over potential legal repercussions or xenophobia.
- (ii) Language Barriers: Language differences created challenges during interviews, necessitating the use of interpreters, which may have affected the subtleties of participant responses.
- (iii) Generalizability: The findings are specific to Lagos and may not be generalizable to other regions.

Validity and Reliability

To ensure the validity of the study, data triangulation was utilized, employing multiple data sources and methods. Member checking was performed by sharing the findings with participants to confirm their accuracy. Reliability was further strengthened through the use of standardized interview guides and consistent data collection procedures.

Ethical Considerations

Ethical approval was obtained from the Lagos State University Ethics Committee. Informed consent was secured from all participants, who were assured of confidentiality and the voluntary nature of their involvement. Data were anonymized to protect the identities of participants.

Findings and Discussion

This discussion provides a critical analysis of the systemic effects associated with the influx of Togolese artisans on indigenous craftsmanship in Lagos, uncovering the intricate socio-economic realities that influence local vocational resilience. Grounded in the study's objectives, it emphasizes the subtle displacement of native labour and proposes inclusive, policy-driven strategies to encourage synergy among different artisan groups. Furthermore, it presents a distinctive framework for fostering sustainable coexistence among artisans and revitalizing indigenous vocational skills.

Systemic Implications of the Influx of Togolese Artisans on Indigenous Craftsmanship

In relation to this topic, a participant expressed his concerns that go thus:

"Togolese bricklayers have inundated our job sites. Their speed and teamwork far exceed ours. As a result, clients now favor them, leaving us with fewer job opportunities. Our traditional methods are diminishing, and the number of apprentices is declining. If this trend persists, our craft may disappear." (*IDI/Male/45 Years/Indigenous Bricklayer/Mushin, Lagos/Monday, January 6, 2025*)

A group of six indigenous carpenters shared their perspectives on the impact of Togolese artisans. They observed a significant reduction in job opportunities and apprenticeships, stressing the necessity of government intervention to safeguard indigenous carpentry skills. They recommended the implementation of certification programs to enhance their professional credibility. (*FGD/Indigenous Carpenters in Mushin/Mushin, Lagos/Tuesday, January 14, 2025*)

"The influx of foreign artisans emphasizes the urgent need to enhance the skills of our local workforce. We are introducing training programs designed to boost competitiveness. Additionally, partnering with international organizations can offer our artisans valuable global exposure." (*KII/Male/55 Years/Ministry of Wealth Creation and Employment/Alausa, Lagos/Wednesday, January 22, 2025*)

Findings indicate that the arrival of Togolese artisans in Lagos has significantly disrupted local vocational labour, particularly in trades such as bricklaying and carpentry. Traditional methods are declining, and the number of apprentices is diminishing. This situation effectively illustrates the systemic challenges that foreign competition poses to local craftsmanship. Empirical studies reinforce these observations, revealing a broader trend of waning interest among Nigerian youth in traditional trades. Odedokun (2024) attributes this trend to factors such as the "get-rich-quick syndrome" and the "japa syndrome," which lead many to prefer migration over pursuing apprenticeships. In response to these challenges, the Lagos State

government's Master Craftsman Project aims to fill this gap by providing training and resources to local artisans (Sanwo-Olu, 2023). To further address these issues, effective policy interventions are essential. Establishing certification programs can robustly bolster the credibility of indigenous artisans, while collaborations with international organizations can likewise provide them with global exposure and market access (Lagos State Government. (2025). These initiatives are crucial for preserving Nigeria's rich vocational heritage amid the pressures of globalization.

Socio-Economic Realities of Indigenous Vocational Labour amidst Craft Displacement

A participant shared insights on the challenges faced by local tailors which go thus:

"Since the arrival of Togolese tailors, my customer base has diminished. They provide lower prices and quicker delivery. I find it difficult to pay rent and support my family. Many local tailors are either closing their shops or switching to different trades." (*IDI/Female/51 Years/Indigenous Tailor/Ikeja, Lagos/Friday, February 14, 2025*)

Eight tailors expressed similar concerns about the decline in patronage due to competition from Togolese artisans. They highlighted difficulties in keeping up with new fashion trends and the financial burden of updating their equipment. The group emphasized the need for subsidized training and access to affordable sewing machines. (*FGD/Displaced Indigenous Tailors in Ikeja/Ikeja, Lagos/Thursday, February 20, 2025*)

"Our members are facing significant competition from foreign artisans. We advocate for policies that support local trades people, including access to funding, modern tools, and ongoing training to meet current market demands." (*KII/Male/53 Years/Lagos State Council of Tradesmen and Artisans/Ikeja, Lagos/Monday, February 10, 2025*)

The findings reveal that the influx of Togolese artisans into Lagos has significantly disrupted the local vocational labour market, particularly in the area of tailoring. Research indicates that foreign competition often results in reduced patronage for local artisans, who find it challenging to compete with the lower prices and faster service offered by their foreign counterparts (Akinwale, 2012, p. 317). This issue is further exacerbated by indigenous workers' limited access to modern tools and training, which hinders their ability to adapt to evolving market demands (Emmanuel, 2020, p. 176). Beyond this, the informal sector, which many local artisans rely on, faces systemic obstacles such as insufficient funding, poor infrastructure, and limited market access, making it increasingly difficult for these businesses to thrive amidst foreign competition (Yusuf et al., 2022, p. 13). To address these challenges, targeted policy interventions are essential. Recommendations include the establishment of subsidized training programs, improved access to affordable equipment, and the implementation of protective measures to ensure fair competition between local and foreign artisans (Olujimi, 2024, p. 2142).

Inclusive Policies for Mitigating Displacement and Fostering Intercultural Vocational Synergy

In line with this discussion, a participant remarked thus:

"We need policies that integrate foreign artisans into our training systems. Joint workshops can facilitate knowledge exchange. The government should support local artisans with tools and grants to help them remain competitive." (*IDI/Male/52 Years/Vocational Trainer/Lagos Island/Wednesday, March 12, 2025*)

“A diverse group of artisans convened to explore the possibilities of collaboration. Although tensions were present, both sides recognized the benefits of exchanging knowledge. The discussions led to several suggestions, including intercultural workshops and joint ventures. Participants unanimously agreed that mutual respect and understanding are vital for fostering coexistence.” *(FGD/Mixed Group of Indigenous and Togolese Artisans on Lagos Island/Lagos Island/Friday, March 21, 2025)*

In a separate interview, the following remarks were made that go thus:

“A representative from the Lagos State Technical and Vocational Education Board articulated, “Incorporating foreign artisans into our vocational training programs can facilitate mutual growth. We are actively exploring strategies that promote knowledge exchange while preserving indigenous techniques. Our objective is to cultivate a cohesive and skilled workforce.” *(KII/Female/54 Years/Lagos State Technical and Vocational Education Board/Ikotun, Lagos/Tuesday, March 18, 2025)*

The finding from the foregoing revealed that the increasing presence of Togolese artisans in Lagos has brought to light the necessity for inclusive policies that effectively integrate foreign artisans into Nigeria's vocational training systems. Research indicates that such integration is essential for fostering mutual growth and preserving indigenous techniques (Chukwu et al., 2024, p. 5). Collaborative workshops and intercultural partnerships can promote knowledge exchange, thereby enhancing the skills of both foreign and local artisans (Odedokun, 2024, p. 31). Likewise, it is imperative to support local artisans with tools and grants to ensure they remain competitive amid the influx of foreign counterparts (Olaoyenikan, 2024, p. 12). Government initiatives, such as the training programs provided by Lagos State, have proven effective in addressing skill shortages and advancing sustainable housing projects (Lagos State Government, 2025). Nonetheless, a well-structured regulatory framework is crucial to ensure accountability and efficiency within the artisan sector (Alaje, 2025). In a final analysis, establishing inclusive policies that encourage intercultural vocational synergy, support local artisans, and create regulatory frameworks is essential for alleviating displacement and fostering a cohesive, skilled workforce in Lagos.

Theoretical Discussion of Findings

The findings of this study closely align with the fundamental concepts of the Dual Labour Market Theory, World System Theory, and Social Displacement Theory, shedding light on a significant socio-economic issue developing in Lagos. The influx of skilled, cohesive, and adaptable Togolese artisans has resulted in a clear division within the local vocational landscape, highlighting the structural differences between the formal and informal labour markets. Within this dual framework, local craftsmen are increasingly relegated to the margins, facing declining apprenticeship opportunities, reduced patronage, and falling incomes. As expressed by an indigenous bricklayer, the traditional craft ecosystem is on the verge of obsolescence, a concerning indication of market stratification and the marginalization of native vocational workers.

From the perspective of World System Theory, the arrival of Togolese artisans also illustrates broader global inequalities, demonstrating how labour from neighboring countries penetrates semi-peripheral economies like Nigeria in search of improved opportunities. Although this labour influx may appear to be organic, it exemplifies the cyclical movement of labour within regional capitalist systems. This regional mobility, driven by economic necessities and unregulated migration, places local artisans in Lagos at a significant competitive disadvantage, reflecting the dynamics of global capitalism, where surplus labour from less advantaged regions disrupts fragile local economies. Viewed through the lens of Social Displacement Theory, the experiences of indigenous tailors now facing economic displacement due to low-

cost Togo-based competitors highlight a clear case of economic disruption. The decline in clientele, closure of local shops, and shifts in vocational roles reveal not only occupational displacement but also a profound cultural and identity crisis. This craft, once a source of communal pride and intergenerational continuity, now teeters on the brink of extinction as a result of structural inequalities and inadequate policy protections.

These challenges present a compelling call for innovative policy interventions. The collective voices of vocational leaders and state officials emphasize the urgent need for inclusive frameworks that integrate local and migrant skills through intercultural workshops, joint ventures, and cohesive certification systems. A distinctive model of vocational collaboration, grounded in mutual respect, subsidized resources, and knowledge exchange, is essential, rather than adopting adversarial stances. Finally, these findings illuminate a significant insight: the artisanal displacement in Lagos transcends mere labour issues; it represents a microcosm of broader transnational labour reconfigurations. Addressing this situation requires a transformative policy shift that harmonizes local preservation with global integration, fostering a future where indigenous labour is not merely sustained but empowered within a more equitable vocational ecosystem.

Conclusion

The intricate relationship between indigenous vocational labour and the influx of Togolese artisans in Lagos highlights a significant transformation with profound socio-economic and cultural implications. This study reveals a nuanced reality in which indigenous craftsmanship, once a symbol of community identity, faces challenges from competitive displacement. Insights from the field point to a concerning erosion of traditional vocations, a decline in apprenticeships, and economic disenfranchisement. Nevertheless, beneath these challenges lies a burgeoning call for vocational reinvention. This situation reflects not just a narrative of loss, but a compelling story of transformation where intercultural interaction fosters new opportunities. As indigenous artisans contend with marginalization, this paradoxically opens a unique frontier for intercultural synergy and vocational innovation. Ultimately, this paper captures a pivotal moment in Lagos's artisanal history, illustrating that displacement does not merely indicate decline, but signifies a complex reconfiguration of craft, identity, and resilience in the face of global vocational currents.

To address these challenges, it is essential for the government to urgently implement structured vocational preservation policies. These should prioritize the revitalization of indigenous craftsmanship through subsidized training, modernization grants, and certification initiatives that enhance the credibility of local artisans. In addition, a robust framework promoting intercultural vocational synergy should be established, facilitating the integration of Togolese artisans into Nigerian vocational ecosystems while preserving the uniqueness of indigenous methods. Besides, access to affordable tools, upgraded machinery, and flexible funding mechanisms must be tailored for indigenous tradesmen to strengthen their market competitiveness. Strategic partnerships with international development organizations should be cultivated to globalize the skills of indigenous artisans without compromising cultural authenticity. Continuous upskilling, digital literacy, and adaptation to fashion trends must also be institutionalized to address evolving consumer demands. Finally, an intercultural vocational code of conduct should be developed, enacted, and rigorously enforced to promote mutual respect, competitive fairness, and sustainable collaboration between indigenous and foreign artisans.

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Enhancing Human Capital Development through Industrial and Organizational Psychology: Implications for National Development in Nigeria

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Abstract

Human capital development remains a cornerstone for achieving sustainable national development, particularly in emerging economies like Nigeria. Despite its large and youthful population, Nigeria continues to face challenges related to low productivity, high unemployment, and weak institutional performance—challenges that are closely linked to inadequate development and utilization of its human capital. This study critically examines the role of Industrial and Organizational (I/O) Psychology in enhancing human capital development and its broader implications for national development in Nigeria. Drawing upon a qualitative methodology, the study relies on secondary data sources, including peer-reviewed journal articles, government publications, books, and global development reports. The study identifies key areas where I/O psychology can significantly influence human capital development, such as employee selection, performance management, training and development, motivation, and organizational leadership. Empirical and theoretical literature indicates that the strategic application of I/O psychology can lead to improved workforce productivity, innovation, and institutional efficiency. However, findings also reveal that the discipline remains underutilized in Nigeria's development agenda due to poor awareness, policy neglect, and limited integration into organizational practices. The study concludes that integrating I/O psychology into human capital development strategies is imperative for Nigeria to achieve its development goals, including those outlined in the National Development Plan (2025–2030) and the African Union Agenda 2063. The study recommends increased investment in I/O psychological research, policy formulation, and institutional adoption to fully harness its potential for national transformation.

Keywords: Human capital development, industrial and organizational psychology, national development, Nigeria

Introduction

Human capital is widely recognized as one of the most critical determinants of economic performance and national development of any nation (Becker, 1993; Schultz, 1961). Human capital development encompasses the processes of acquiring, nurturing, and optimizing the skills, knowledge, competencies, and attributes of the workforce to improve productivity and national prosperity. Countries that have invested consistently in their human capital—such as through education, health, and labor force training—tend to experience higher rates of innovation, productivity, and competitiveness. However, Nigeria's Human Capital Index (HCI) remains one of the lowest globally, ranked 152 out of 157 countries in 2023 by the World Bank, with a score of 0.36, indicating that a Nigerian child born today will be only 36% as productive as he or she could be under optimal conditions (World Bank, 2023). Industrial and Organizational Psychology (I/O Psychology), a specialized branch of psychology concerned with the behavior of individuals in workplace settings, offers evidence-based approaches to workforce planning, training, motivation, and leadership—critical ingredients in human capital advancement. The field draws upon psychological principles to improve recruitment practices, staff training, leadership development, organizational culture, employee motivation, and job satisfaction (Robbins & Judge, 2019). For instance, research has shown that psychological interventions—such as job redesign, employee engagement strategies, and leadership training—are positively correlated with increased productivity and organizational effectiveness (Aguinis, 2019; Salas et al., 2020).

Despite, Nigeria's national development has been persistently undermined by the inadequate development of its human capital base. While substantial investments have been made in education and skills acquisition, the outcomes in terms of employability, productivity, and innovation remain weak. The 2023 NBS report revealed that over 40% of Nigerian graduates are either unemployed or underemployed, indicating a mismatch between human capital development and labor market demands. Furthermore, many organizations continue to experience low productivity, poor employee engagement, and ineffective

leadership—all of which are critical issues that fall within the purview of industrial and organizational psychology.

Although I/O psychology has proven successful in enhancing workplace performance and employee well-being globally, its application in Nigeria remains minimal. Empirical studies have shown that organizations that implement psychologically-informed HR practices report better organizational outcomes (Salas et al., 2020; Bakker & Demerouti, 2017). However, in Nigeria, the discipline is often overlooked in favor of administrative approaches that lack empirical rigor. This creates a critical gap between policy intent and practical implementation, limiting the effectiveness of human capital development strategies.

Therefore, the problem lies in the underutilization of industrial and organizational psychology as a strategic tool for human capital development in Nigeria. If Nigeria is to achieve its national development goals—including those outlined in the national development plan 2021–2025 and the African Union Agenda 2063—there is an urgent need to integrate psychological principles into national and organizational planning processes. In the light of the above, this study explores the role of I/O psychology in strengthening human capital development and the implications this has for national development in Nigeria.

Methodology

Research Design

This study adopted a qualitative research design to explore how Industrial and Organizational (I/O) Psychology can enhance human capital development and its implications for national development in Nigeria. The qualitative approach was chosen for its strength in providing in-depth understanding, contextual interpretation, and theoretical insight into complex socio-organizational phenomena. The data for this study were gathered through secondary sources. The materials reviewed include: Academic books and textbooks in industrial and organizational psychology, peer-reviewed journal articles (from databases such as JSTOR, Google Scholar, ResearchGate, ScienceDirect, and Scopus), reports and publications from reputable institutions such as the International Labour Organization (ILO), World Bank, and Nigerian Bureau of Statistics (NBS), government policy documents and white papers on human capital development and employment strategies in Nigeria, and proceedings and reports from the Nigerian Psychological Association (NPA) and relevant labor/HR conferences.

Conceptual Clarifications

This section clarifies the key concepts underpinning the study: Human Capital Development, Industrial and Organizational Psychology, and National Development, as well as the interlinkages among them.

Human Capital Development

Human capital refers to the stock of competencies, knowledge, social and personality attributes, including creativity, embodied in the ability to perform labor so as to produce economic value (Becker, 1993). Human capital development, therefore, encompasses the processes of education, skill acquisition, health improvement, and continuous workforce training aimed at enhancing individual and organizational productivity. **Olaniyan and Okemakinde (2008)** define human capital development as *"the process of acquiring and increasing the number of persons who have the skills, education, and experience that are critical for the economic growth and development of a country."* They emphasize that it includes both formal education and informal skills acquisition that empower individuals to contribute meaningfully to economic production. While, **Yesufu (2000)** describes human capital development as *"the acquisition of competencies, knowledge, skills and abilities which are crucial for increasing the productivity and efficiency of labor, thereby enhancing national development."* He underscores that investing in human capital is vital to improving economic competitiveness and reducing poverty. **Okojie (2009)** adds that human capital development is *"a conscious effort by the government, private sector and civil society to invest in people through education, training, healthcare, and the creation of enabling environments to improve productivity and innovation."*

According to the World Bank (2023), countries with higher human capital indices tend to perform better in productivity and economic growth. However, Nigeria's Human Capital Index (HCI) remains relatively low at 0.36, which implies that a Nigerian child born today will be only 36% as productive as he or she could be if provided with full education and health services (World Bank, 2023). This low index reflects the country's significant underinvestment in education, health, and workforce development.

In the Nigerian context, Okoye and Raymond (2019) emphasize that human capital development is not only a driver of economic growth but also a prerequisite for political stability and social cohesion. Investments in human capital directly influence national output, employment, innovation, and social progress.

Table 1: Nigeria's Human Capital Development Indicators (2020–2025)

Year	Human Capital Index (HCI)	Human Development Index (HDI)	Life Expectancy (Years)	Literacy Rate (%)	Youth Unemployment Rate (%)	Education Budget (% of Total)	Health Budget (% of Total)
2020	0.36	0.539	54.0	62.0	34.5	5.0	4.5
2021	0.36	0.541	54.5	63.0	35.7	5.2	4.6
2022	0.36	0.544	55.0	64.0	39.7	5.3	4.6
2023	0.36	0.548	55.5	65.0	46.4	5.3	4.6
2024	0.37*	0.550*	56.0	66.0	51.3	5.5	4.8
2025	0.38*	0.553*	56.5	67.0	50.0	5.7	5.0

Sources: The Cable, NBS, & UNDP

***Note:** Values for 2024 and 2025 are projections based on current trends and policy targets

Above table illustrating Nigeria's Human Capital Development (HCD) statistics from 2020 to 2025. The data encompasses key indicators such as the Human Capital Index (HCI), Human Development Index (HDI), life expectancy, literacy rate, youth unemployment rate, and government budget allocations to education and health. These metrics are pivotal in assessing the nation's progress in human capital development.

Key Insights:

- **Human Capital Index (HCI):** Nigeria's HCI remained at 0.36 from 2020 to 2023, indicating that a child born in Nigeria is expected to achieve only 36% of their potential productivity by age 18, considering the current state of health and education. The government aims to improve this score to 0.6 by 2030.
- **Human Development Index (HDI):** The HDI showed a gradual increase from 0.539 in 2020 to 0.548 in 2023, reflecting modest improvements in life expectancy, education, and income.
- **Life Expectancy:** There has been a steady rise in life expectancy, from 54.0 years in 2020 to 55.5 years in 2023, indicating progress in healthcare outcomes.
- **Literacy Rate:** The literacy rate improved from 62.0% in 2020 to 65.0% in 2023, suggesting advancements in educational access and quality.
- **Youth Unemployment Rate:** Youth unemployment increased significantly, reaching 46.4% in 2023, highlighting challenges in job creation and skills mismatch.
- **Government Budget Allocations:** Allocations to education and health sectors have remained below recommended levels, with education receiving around 5.3% and health 4.6% of the total budget in 2023, which is below the UNESCO and WHO recommendations of 15–20%.

National Development

National development is a multifaceted and dynamic process involving the sustained elevation of a country's standard of living, economic performance, political stability, social equity, environmental sustainability, and institutional growth. It encompasses not only economic growth but also improvements in the quality of life of citizens, including access to education, healthcare, infrastructure, and participation in democratic governance (Todaro & Smith, 2020).

National development refers to the comprehensive and multidimensional progress of a nation in social, economic, political, cultural, environmental, and technological aspects. It entails the transformation of the standard of living, quality of governance, infrastructure, health, education, and industrial advancement of a country (Akindele, Olaopa, & Obiyan, 2021).

National development therefore can also be described as the overall development or a collective socio-economic, political as well as religious advancement of a country or nation. This is best achieved through development planning, which can be described as the country's collection of strategies mapped out by the government.

Additionally, national development refers to the comprehensive improvement in the economic, political, and social well-being of a country's citizens. It encompasses sustainable economic growth, reduction in poverty and inequality, improved healthcare and education, and enhanced infrastructure and governance. Reported by Todaro and Smith (2015), national development is not only about increasing GDP but also improving the quality of life and expanding human freedoms. Todaro's three objectives of national development includes: 1. Raising peoples' living levels, i.e. incomes and consumption, levels of food, medical services, education through relevant growth processes dignity and respect services. 2. Creating conditions conducive to the growth of peoples' self-esteem through the establishment of social, political and economic systems and institutions which promote human. 3. Increasing peoples' freedom to choose by enlarging the range of their choice variables, e.g. varieties of goods and services. In Nigeria, the National Development Plan (2021–2025) identifies human capital development as a core pillar for achieving long-term economic transformation and social inclusion.

Aside, Chrisman (1984) views national development as a process of societal advancement, where improvement in the well being of people are generated through strong partnerships between all sectors, corporate bodies and other groups in the society. It is reasonable to know that development is not only an economic exercise, but also involves both socio-economic and political issues and pervades all aspects of societal life. However, Nigeria's development progress has been hindered by issues such as policy inconsistency, corruption, weak institutions, and low labor productivity. The International Labour Organization (ILO, 2022) reported that Nigeria's labor productivity index remains one of the lowest in Sub-Saharan Africa, contributing to underdevelopment and economic stagnation.

Key Indicators of National Development

Several quantitative and qualitative indicators are used to measure national development:

- Gross Domestic Product (GDP) per capita: A primary indicator of economic growth (World Bank, 2023).
- Human Development Index (HDI): Measures life expectancy, education, and income (UNDP, 2023).
- Gini Coefficient: Measures income inequality.
- Poverty Rate: Proportion of population living below the poverty line.
- Access to Basic Services: Education, health care, clean water, and sanitation.
- Political Stability Index: Assesses the quality of governance and rule of law (World Governance Indicators, 2022).
- Environmental Sustainability Index: Assesses long-term environmental health (OECD, 2021).

National development remains a central objective for nations striving to improve the well-being of their citizens. It is not merely about economic growth, but also about ensuring equity, justice, sustainability, and freedom. For countries like Nigeria, a holistic approach encompassing institutional reform, human capital development, and inclusive governance is essential for sustainable national development.

Table 2: Key Measurable Indicators of National Development in Nigeria

Indicator	Description	Recent Data (2023)	Source	Relevance to Development
GDP per capita	Total economic output divided by population	\$2,162.36 USD	World Bank (2023)	Measures standard of living and economic productivity
Human Development Index (HDI)	Composite index of life expectancy, education, and income	0.548 (Low Human Development Category)	UNDP (2023)	Assesses quality of life and human capabilities
Poverty Rate	Percentage of population living below national poverty line	63% (~133 million people)	NBS (2023)	Indicates economic inequality and need for social intervention
Unemployment Rate	Percentage of the labor force that is unemployed	33.3% (Q4 2022 data)	NBS (2023)	Reflects job market health and economic inclusion
Literacy Rate	Percentage of literate population aged 15 and above	62.02%	UNESCO (2022)	Measures educational achievement and human capital development
Access to Electricity	Proportion of population with access to electricity	55.4%	World Bank (2023)	Critical for industrialization and living standards
Infant Mortality Rate	Deaths of infants under one year per 1,000 live births	56.2 per 1,000	UNICEF (2023)	Reflects healthcare quality and maternal-child well-being
Life Expectancy at Birth	Average years a newborn is expected to live	53.9 years	WHO (2023)	Indicates healthcare system and overall living conditions
Gross Enrolment Ratio (Primary)	Enrollment in primary school as a percentage of eligible children	84%	UNESCO (2022)	Education access and early-stage human capital development
Gini Coefficient	Measure of income inequality (0 = perfect equality, 1 = total inequality)	0.35	World Bank (2023)	Indicates income distribution and social equity
Public Infrastructure Index	Composite score of roads, transport, water, and power infrastructure	Low to Moderate (No national average score)	Olaniyan et al. (2023)	Determines productivity and ease of doing business
Corruption Perceptions Index	Ranks countries by perceived public sector corruption (0 = highly corrupt)	Score: 24/100 (Rank: 150/180)	Transparency Int'l (2023)	Reflects governance and institutional integrity
Political Stability Index	Measures likelihood of political instability and violence	-1.75 (scale: -2.5 = weak to +2.5 = strong)	World Governance Indicators (2022)	Important for investment and policy continuity
Environmental Sustainability Index	Assesses long-term environmental health and ecosystem protection	Nigeria ranked low in air/water quality, emissions	OECD (2021)	Crucial for sustainable development and public health

Sources: NBS (2023), UNESCO (2022), World Bank (2023)

Industrial and Organizational Psychology

Industrial and Organizational (I/O) Psychology is a specialized field within psychology that focuses on the scientific study of human behavior in organizations and the workplace. It aims to apply psychological theories and principles to understand, predict, and manage human behavior in professional settings to enhance both organizational effectiveness and employee well-being. I/O psychology integrates both industrial psychology (concerned with job analysis, selection, training, and performance appraisal) and organizational psychology (focused on motivation, job satisfaction, leadership, organizational development, and workplace culture) (Spector, 1976). The origins of I/O psychology date back to the early 20th century during the industrial revolution, when organizations sought to improve worker productivity and efficiency:

- Hugo Munsterberg (1913) is often credited as one of the founding fathers of I/O Psychology. His work, *Psychology and Industrial Efficiency*, laid the groundwork for applying psychology to personnel selection and efficiency.
- Walter Dill Scott, a contemporary of Munsterberg, introduced psychological principles into advertising and employee selection.
- During World War I and II, psychologists were employed to develop aptitude tests, most notably the Army Alpha and Beta tests, to place soldiers in suitable roles—laying the foundation for psychological testing to place military recruits in suitable roles (Koppes, 2007).
- In the 1950s–1970s, the field expanded to include organizational behavior, job satisfaction, motivation, leadership, and organizational development—thus the dual name "Industrial and Organizational Psychology" (Muchinsky & Howes, 2020).

Muchinsky (2012) defines I/O Psychology as “the application of psychological principles, theory, and research to the work setting.” Spector (1976) describes it as “a branch of psychology that studies behavior in work settings and the application of psychology principles to change work behavior and improve organizational functioning.” APA (2020), “Industrial and Organizational Psychology is the scientific study of human behavior in organizations and the workplace.”

In sum, industrial and organizational psychology is an indispensable field that bridges psychological science with practical workplace applications. As organizations grapple with complexities in human behavior, productivity, and change management, I/O psychology remains a vital discipline for building resilient, healthy, and productive work environments—particularly in emerging economies like Nigeria.

Table 3: Major Domains of I/O Psychology

Domain	Description
Personnel Psychology	Recruitment, selection, training, performance appraisal
Organizational Psychology	Leadership, job satisfaction, motivation, organizational culture
Human Factors/Ergonomics	Design of systems and equipment for optimal human use
Occupational Health Psychology	Employee well-being, stress, burnout, work-life balance

Theoretical Framework

Human development and organizational effectiveness are grounded in several foundational psychological and economic theories, notably Human Capital Theory (HCT), and Maslow’s Hierarchy of Needs Theory. These theories provide a multidimensional understanding of how human capacities can be developed, managed, and optimized for both individual and institutional growth.

Human Capital Theory (HCT) originated in the field of economics in the mid-20th century, primarily advanced by Theodore W. Schultz and Gary S. Becker. Theodore Schultz (1961) introduced the idea in his presidential address to the American Economic Association, arguing that investment in education and health enhances the productivity of individuals. Gary Becker (1964), a student of Schultz, expanded the

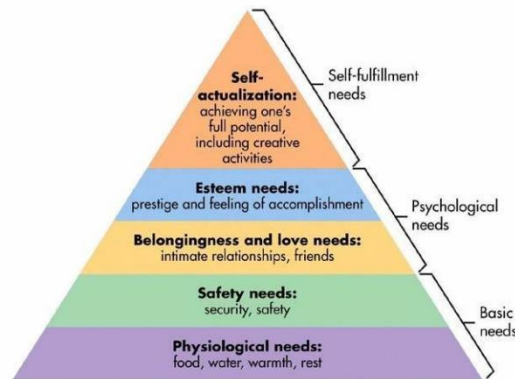
theory in his seminal work “Human Capital: A Theoretical and Empirical Analysis”, arguing that skills, knowledge, and abilities (SKAs) are forms of capital that can yield returns over time, similar to physical assets. Human Capital Theory (HCT) posits that individuals' skills, knowledge, competencies, and attributes are a form of capital that can be invested in, similar to physical capital, to enhance productivity and economic outcomes (Becker, 1964). The theory has been instrumental in explaining the link between education/training and economic performance, both at individual and organizational levels. In the context of human capital development, HCT explains the rationale behind investing in individuals through: Improving cognitive and technical skills to enhance employability and productivity; ensuring mental and physical fitness, which in turn increases functional capacity and longevity in the workforce; and continuous skills enhancement to remain relevant in dynamic labor markets. Empirical evidence supports this application. For instance, a World Bank report (2020) showed that countries investing more in human capital have higher levels of productivity and GDP growth. Similarly, UNESCO (2022) emphasized that each additional year of schooling can increase individual earnings by 10% globally. Likewise, OECD (2022) reports show a 10–15% wage premium for individuals with tertiary education in member countries, supporting the HCT claim on returns to education.

Using the same indicator, Akinyemi and Abiodun (2021) examined the link between human capital investment and employee productivity in Nigerian SMEs and found a significant positive correlation ($r = 0.68$, $p < .05$). Salas et al. (2015) emphasized that targeted training interventions improve workforce competencies and job performance, aligning with human capital tenets in organizational psychology. Obisi (2020) found that firms with structured development programs had 35% higher retention rates and 20% more productivity compared to those without. Olaniyan and Okemakinde (2008) explored education as a driver of economic development through human capital, concluding that education enhances labor quality and innovation potential in developing nations. While, Tung (2022) found that firms with higher investments in employee training recorded a 25% increase in innovation outputs, validating the ROI in human capital. While HCT is influential, and provide a multidimensional understanding of how human capacities can be developed, managed, and optimized for both individual and institutional growth, it has been criticized on several fronts. For instance, critics argue that HCT reduces education to mere economic benefits, ignoring its social and civic roles (Marginson, 2019); Bourdieu (1986) who argue that HCT fails to account for social capital and the structural inequalities that limit access to education/training.

Maslow’s Hierarchy of Needs Theory: Maslow’s Hierarchy of Needs was proposed by Abraham Harold Maslow, an American psychologist, in his seminal paper titled “*A Theory of Human Motivation*” published in 1943 in the journal *Psychological Review*. Maslow later elaborated on this model in his book *Motivation and Personality* (1954). As a key figure in humanistic psychology, Maslow challenged the deterministic perspectives of psychoanalysis and behaviorism by focusing on the positive potential of individuals. Maslow proposed that human needs are arranged in a hierarchical order of five levels, from the most basic to the more complex. He argued that lower-level needs must be met before individuals can attend to higher-level psychological and self-fulfillment needs.

The Five Levels of Needs:

Fig 1: Maslow's Hierarchy of Needs Theory



Source: Anderson (2014)

- **Physiological Needs:** These include basic life necessities such as food, water, shelter, and sleep.
- **Safety Needs:** Protection from physical and emotional harm, job security, health, and financial stability.
- **Love and Belongingness Needs:** Social connections, friendships, intimacy, and acceptance in groups.
- **Esteem Needs:** Self-respect, recognition, achievement, and confidence.
- **Self-Actualization Needs:** The desire to become the most one can be—realizing one's potential, creativity, and personal growth.

In application, human capital development involves enhancing individuals' knowledge, skills, and competencies for optimal performance and national development. Maslow's theory aligns well with this, emphasizing that only when basic human needs are fulfilled individuals can fully commit to learning, growth, and productivity. Several empirical studies support Maslow's theory in organizational contexts. A study by World Bank (2020) shows that countries with high human development indexes prioritize basic human needs, follow by strategic investment in education and psychological wellbeing. In Nigeria, for instance, the National Human Capital Development Strategy (2021) emphasizes safety, education, and empowerment as key drivers of productivity. Neher (1991) found that individuals pursuing self-actualization exhibit higher productivity and psychological resilience. Benson and Dundis (2003) used Maslow's hierarchy to analyze employee motivation in non-profit organizations and found that fulfilling higher-order needs leads to increased job satisfaction and retention. According to Gallup (2023), employees who report that their workplace meets their psychological needs are 27% more likely to perform well and 32% less likely to leave their jobs. Maslow's Hierarchy of Needs continues to be a relevant and influential theory in both human capital development and Industrial/Organizational Psychology. It provides a foundational framework for understanding the motivational drivers that influence human performance, learning, and well-being. While influential, Maslow's theory has been criticized for: **Lack of Empirical Rigor:** The hierarchy's strict order has been challenged; needs often overlap or are pursued simultaneously. **Cultural Bias:** Western individualistic assumptions may not apply universally, especially in collectivist cultures. **Oversimplification:** Human needs are dynamic and may not follow a linear progression.

Role of Industrial and Organizational Psychology in Human Capital Development

Human capital development refers to the processes of enhancing the knowledge, skills, capabilities, and overall well-being of individuals to improve organizational productivity and economic growth. In today's knowledge-based economy, employees are no longer viewed as mere tools of production but as strategic assets. Industrial and Organizational (I/O) Psychology, a scientific discipline focused on the behavior of individuals in the workplace, plays a pivotal role in developing this human capital by applying psychological principles to enhance employee performance, satisfaction, motivation, and well-being. From

recruitment to retirement, I/O psychologists guide the nurturing of talent, workplace optimization, and leadership development. As globalization and technological changes continue to reshape work environments, understanding and investing in human capital through the lens of I/O Psychology becomes increasingly critical. The following are the core roles of I&O in human capital development:

1. **Recruitment and Talent Selection:** I/O psychologists develop and validate psychometric tools and structured interviews to ensure the selection of competent and culturally-fit individuals. This enhances the quality of human capital from the outset. Schmidt & Hunter (1998) found that structured interviews and cognitive ability tests have the highest predictive validity for job performance ($r = 0.51$ and $r = 0.65$, respectively).
2. **Training and Development:** I/O psychologists design and evaluate training programs to ensure skill acquisition and knowledge transfer. They apply learning theories to tailor content to adult learners' needs. Organizations that implement scientifically designed training programs experience 24% higher profit margins and 218% higher income per employee (Association for Talent Development, 2021). In addition, Ng and Feldman (2010), found that employee training and development are significantly associated with organizational commitment and productivity. Human capital investment through training led to improved employee retention and job performance.
3. **Performance Management:** By developing fair and objective appraisal systems, I/O psychologists help organizations identify strengths and gaps in employee performance, fostering development plans and career progression. Aguinis (2009) highlights that effective performance management systems improve employee engagement and organizational outcomes.
4. **Motivation and Job Satisfaction:** Drawing from theories such as Maslow's Hierarchy of Needs, Herzberg's Two-Factor Theory, and Self-Determination Theory, I/O psychologists help craft motivational strategies that lead to increased job satisfaction and productivity. For example, Deci & Ryan (2000) found that workplaces fostering autonomy and competence significantly boost intrinsic motivation.
5. **Leadership Development:** I/O psychology contributes to identifying and grooming leadership talent through coaching, mentoring, and executive assessments. A meta-analysis by Judge et al. (2004) shows transformational leadership is positively correlated with employee performance and satisfaction ($r = 0.58$).
6. **Organizational Development and Culture:** Organizational psychologists help cultivate adaptive cultures that support innovation, inclusion, and continuous learning—all critical components of human capital development. Cameron & Quinn (2011) argue that organizational culture interventions improve workforce agility and resilience.
7. **Work-Life Balance and Psychological Well-being:** I/O psychologists promote employee well-being by identifying and mitigating stressors and burnout, thus preserving and enhancing human capital. The WHO (2022) reports that depression and anxiety cost the global economy over \$1 trillion annually in lost productivity. Psychologically supportive work environments significantly reduce this burden.

Contributions of Industrial and Organizational Psychology to National Development

National development refers to the overall growth in a country's social, economic, political, and human capital sectors. It involves improvements in health, education, employment, governance, industrial capacity, and citizen well-being. One often underappreciated contributor to this progress is Industrial and Organizational (I/O) Psychology—a specialized field within psychology that applies psychological principles and scientific methods to improve work performance, organizational effectiveness, and employee well-being. By enhancing human capital, work productivity, leadership effectiveness, occupational health, and organizational systems, I/O psychology serves as a strategic tool in driving sustainable national development, especially in economies undergoing industrialization, economic reform, or labor market expansion.

Workforce quality is a critical determinant of national productivity. I/O psychologists improve employee selection, training, motivation, and performance appraisal systems. For example, validated psychometric assessments improve job-person fit, reducing turnover and improving efficiency. According to the World Bank (2020), countries with strategic investment in human capital development report higher GDP per capita. For instance, a 1% increase in labor productivity can lead to a 1.2% increase in economic output. Akinboye (2003) highlighted the contributions of I/O psychologists in training and consulting for Nigerian banks and oil industries, leading to increased efficiency, employee retention, and profit margins.

More importantly, effective leadership is central to governance, public policy, and national development. I/O psychologists contribute by: Developing competency-based leadership frameworks; coaching and assessing public and private sector leaders; training on ethical decision-making and crisis management. Empirical support by Judge et al. (2004) found that transformational leadership has a significant positive impact on organizational and economic performance ($r = 0.58$).

Strengthen organizational effectiveness and national institutions. Institutions are the building blocks of national development. I/O psychologists facilitate institutional reform, organizational development, and change management in sectors such as: education, healthcare, civil service, NGOs and the private sector. A reform project in Kenya's Public Sector (Muriithi, 2016) involving I/O consultants led to improved accountability, productivity, and service delivery in over 200 public agencies. Ugwoke et al. (2019) in Nigeria found that I/O psychology practices improved productivity in Nigerian federal ministries through better employee engagement and job satisfaction strategies.

I/O psychology contributes to employment policy formulation, workforce planning, and labor-market interventions by: Supporting evidence-based job creation strategies; designing fair and inclusive hiring practices; addressing unemployment; and underemployment through vocational profiling. Statistical data by ILO (2022) reports that structured HR practices informed by psychological assessments reduced youth unemployment by 15% in pilot programs across Sub-Saharan Africa.

Occupational stress and mental health issues undermine productivity and increase public health costs. I/O psychologists design interventions to reduce work-related stress, burnout, and absenteeism. The WHO (2022) estimates that depression and anxiety result in \$1 trillion in lost productivity annually. Interventions like resilience training and employee assistance programs reduce this burden. Peaceful labor relations are vital for national stability and development. I/O psychologists serve as mediators, negotiators, and policy advisers in labor conflicts. In Nigeria, I/O psychologists have been engaged in addressing persistent university union strikes through conflict resolution training and negotiations (Adebayo & Bakare, 2021).

Through research, training, and consultancy, I/O psychologists shape national capacity in: Human resources for health and education, public sector productivity, gender equity and inclusive workplace practices, and they also provide empirical data and models to inform evidence-based policy decisions. Luthans, Avolio, and Youssef (2007), developed the concept of psychological capital—hope, efficacy, resilience, and optimism—which was linked to improved employee performance and national economic resilience during downturns.

In summary, Industrial and Organizational Psychology plays a crucial role in national development by bridging the gap between individual potential and institutional capacity. From improving worker productivity to fostering ethical leadership and enhancing mental well-being, I/O psychology offers scientifically grounded solutions to many development challenges. Its strategic integration into national planning and policy can accelerate sustainable economic, social, and human development, particularly in developing nations.

Major Barriers to the Application of I/O Psychology in Nigeria

Industrial/Organizational (I/O) Psychology is a branch of psychology focused on understanding human behavior in organizational settings to improve workplace productivity, employee well-being, and organizational development. Despite its relevance in modern organizations globally, the application of I/O

psychology in Nigeria faces numerous barriers ranging from socio-cultural, educational, institutional, and economic challenges (Ojedokun, 2010). In Nigeria, the awareness and integration of I/O psychology into public and private sector operations remain limited, with many organizations still reliant on traditional managerial and HR practices. As a result of these, below are the major barriers to the application of industrial and organizational psychology in Nigeria:

- i. **Low Awareness and Recognition:** One of the most significant barriers is the lack of awareness about the relevance and functions of I/O psychologists. Many Nigerian employers, particularly in the public sector, are unfamiliar with how I/O psychologists contribute to employee selection, job design, training, performance evaluation, and organizational change (Iwuagwu et al., 2021). A survey by Adebayo & Olasupo (2021) revealed that only 23% of HR departments in Nigerian firms had ever consulted or employed an I/O psychologist. This low awareness contributes to underutilization, especially in SMEs and government institutions.
- ii. **Inadequate Training and Academic Exposure:** I/O psychology is underrepresented in many Nigerian universities. Only a few institutions offer comprehensive postgraduate programs in I/O psychology. The shortage of specialized faculty and lack of practical training opportunities further limits skill development (Ojedokun, 2010). According to Nigerian University Commission (NUC) reports (2024), less than 15% of accredited psychology programs offer a concentration in I/O psychology at postgraduate levels. This leads to a skill gap and shortage of qualified professionals.
- iii. **Weak Institutional Support and Policy Frameworks:** Government ministries and private organizations lack clear policies for integrating psychological principles into HR and organizational strategy. The Nigerian Psychological Association (NPA) has limited regulatory power to influence the implementation of I/O psychological practices across sectors. Study by Eze et al. (2022) found that over 75% of public sector organizations in Nigeria had no psychological services or consultancy units embedded in their HR or administration departments.
- iv. **Economic and Financial Constraints:** Economic instability and poor funding for psychological services hinder the application of I/O psychology. Employers often prioritize financial performance over employee psychological well-being, and psychological assessments are seen as non-essential costs (Onyekwere & Obikwelu, 2012). A report by the National Bureau of Statistics (2019) shows that only 5.2% of organizational budgets in SMEs are allocated to employee development and wellness programs—indicating a low priority for psychological interventions.
- v. **Cultural and Societal Misconceptions:** In Nigeria, psychological services are often associated with mental illness or spiritual concerns, leading to mistrust or stigmatization of psychological assessments in the workplace (Ogunyemi & Salami, 2023). This cultural perception affects the acceptance and credibility of I/O psychologists. A qualitative study by Ogunyemi et al., (2023) indicated that employees across three states in Nigeria perceived psychological evaluation as “judgmental” or “invasive.”
- vi. **Overlapping Roles with HR Professionals:** There is a blurred boundary between I/O psychologists and HR practitioners. Many organizations assume that HR managers can perform all the roles of an I/O psychologist, including recruitment, training, and performance appraisal, thus sidelining the latter (Azeez & Adeoye, 2021). In many Nigerian organizations, job advertisements for HR roles do not mention psychology qualifications or competencies as prerequisites.

Conclusion

Industrial and Organizational (I/O) Psychology holds transformative potential for enhancing human capital development in Nigeria. As the country grapples with workforce inefficiencies, brain drain, poor productivity, and organizational dysfunction, the strategic application of I/O psychology becomes increasingly essential. By focusing on evidence-based approaches to employee selection, training, motivation, leadership development, organizational behavior, and workplace well-being, I/O psychology can serve as a vital tool for optimizing individual and institutional performance. However, the discipline remains underutilized in Nigeria due to low awareness, limited institutional support, and socio-cultural

misconceptions. For Nigeria to build a resilient, innovative, and productive workforce that drives national progress, the integration of I/O psychological principles into public and private sector practices is not just desirable—it is imperative.

Implications for National Development

The current study has many implications. For instance, by embracing industrial and organizational psychology as a strategic tool for human capital development, Nigeria stands to unlock the full potential of its workforce, drive innovation, and achieve sustainable national development. More so, by enhancing employee motivation, job satisfaction, and performance, I/O psychology contributes directly to a more efficient and competitive labor force—an essential driver of economic growth and development. A psychologically healthy work environment created through I/O interventions can reduce job dissatisfaction and migration of skilled labor abroad, retaining talent for national development. Applying psychological principles in workplace relations can reduce labor disputes and industrial actions, fostering a stable business environment conducive to investment and development. Organizational psychology principles can also reform dysfunctional institutions by improving structure, culture, and processes, leading to more responsive and accountable governance systems. Lastly, I/O psychology aids in identifying and nurturing transformational leaders through psychological assessments and leadership development programs, which are crucial for effective governance and policy implementation.

Recommendations

In the light of the study findings, the following are proffered:

1. **Mainstream I/O Psychology in National Human Resource Policies:** The Federal Ministry of Labour and Productivity and related agencies should adopt I/O psychology frameworks in recruitment, employee development, and performance management across all MDAs and public institutions.
2. **Integrate I/O Psychology into Higher Education Curricula:** The Nigerian University Commission (NUC) should ensure that all psychology departments offer robust undergraduate and postgraduate programs in I/O psychology, with a focus on both theoretical and practical training.
3. **Public Sector Utilization of I/O Psychologists:** Government agencies should mandate the recruitment or consultancy services of licensed I/O psychologists, particularly in areas such as organizational restructuring, employee wellness, conflict resolution, and leadership development.
4. **Private Sector Engagement and incentivization:** Private organizations should be encouraged through tax incentives to invest in psychological services aimed at workforce productivity, employee engagement, and talent retention.
5. **Awareness and Advocacy Campaigns:** The Nigerian Psychological Association (NPA) should collaborate with the media, labor unions, and HR bodies to educate stakeholders on the benefits of I/O psychology in achieving organizational and national goals.
6. **Research and Evidence-Based Policy Making:** Promote and fund empirical research on work behavior, organizational dynamics, and psychological interventions in Nigerian workplaces to inform national development planning.

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An Assessment of Workplace Behaviour and its Impact on Employee Productivity among Academic Staff of Public Tertiary Institutions in Oyo State, Nigeria

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Abstract

This study investigated the influence of workplace behaviour—comprising ethics, management styles, organisational culture, and psychological factors—on employee productivity within public tertiary institutions in Ibadan, Oyo State. Recognising gaps in existing literature, particularly the limited exploration of these variables in an integrated framework, the study adopted a descriptive survey design and collected data from 108 staff members selected through simple random sampling across three major institutions. A structured questionnaire, based on validated instruments, was administered to capture the variables of interest. The study used descriptive and inferential statistics, such as multiple regression analysis, for data interpretation. Findings revealed a statistically significant composite relationship between workplace behaviour and employee productivity ($F = 3.563$, $p = 0.009$), with the model explaining 12.2% of the variance in productivity. In the study, workplace ethics appeared as the only significant predictor. Although management style, organisational culture, and psychological factors showed positive associations with productivity, they were not statistically significant. The study concludes that while a combination of behavioural factors contributes to productivity, ethics is the most influential. Thus, what exists as an ethical code in the organization is far from the reality on the ground. As such, promoting transformational leadership style, a culture of flexibility in decision making, and employee well-being priority is recommended. Theoretically, the study affirms Kantian ethics as a valuable lens for understanding workplace behaviour. Overall, the research contributes to organisational behaviour literature and provides actionable insights for improving productivity in Nigeria's public education sector.

Keywords: Workplace behaviour, employee productivity, workplace ethics, organisational culture, management style, psychological factors, public tertiary institutions, Nigeria

Introduction

Workplace shapes employee productivity in an organization where workplace ethics, management styles, organizational culture, and psychological factors influence performance. Employees are motivated by ethical standards such as integrity, teamwork, and loyalty are essential for motivating employees, fostering job satisfaction, and improving organisational productivity. Egbara and Ofodu (2024) posit that employees' disengagement is mostly a byproduct of unethical behavior in the workplace. Additionally, it was argued that poor working conditions and low pay often foster unethical practices, creating a cycle of low morale and reduced productivity (Salau et al., 2021).

Leadership styles are also integral to productivity. While transformational leadership fosters motivation, engagement, and productivity (Musaibah et al., 2023), transactional and laissez-faire leadership styles orchestrate lower job satisfaction and diminished performance due to insufficient support and direction (Moses, 2023; Christopher et al., 2022). Shinde and Giri (2025) opined that high performance is sustained by leadership style and organizational culture that aligns with work demands. A culture of shared values and goals encourages collaboration and innovation, boosting motivation and overall performance (Sumarjo et al., 2025). The culture of ethical standards demonstrates commitment and high performance. As such, culture, leadership, and ethics are specific determinants of a productive work environment.

Psychological factors, particularly motivation and emotional well-being, also influence workplace behavior and productivity. Intrinsic motivation, driven by autonomy, competence, and relatedness, is crucial for performance (Oyelami et al., 2025). According to Ahmed et. al. (2025), transformational leadership styles inspire productivity while stress and burnout erode emotional well-being and reduce productivity. Addressing psychological needs is essential for maintaining high performance. In summary, the interaction of ethics, management styles, culture, and psychological factors establishes a fluid structure that directly influences employee productivity.

Statement of Problem

In spite of the increasing acknowledgement of the influence of workplace behaviour on employee productivity, a substantial gap exists in comprehending how workplace ethics, management styles, organisational culture, and emotional factors affect productivity, especially in public tertiary institutions in Ibadan, Oyo State. Although current research has investigated these elements individually, limited studies have thoroughly analysed their interactions and influence on employee performance inside educational environments. The majority of studies emphasise individual characteristics, such as ethics or leadership styles, while neglecting their interrelatedness. For instance, the significance of ethical conduct in improving productivity has been established (Egbara & Ofodu, 2024), although the interplay between ethics and management styles or organisational culture was not examined. Research on leadership styles frequently neglects the intersection of these styles with organisational culture and emotional variables in fostering a supportive environment (Shinde & Giri, 2025).

Moreover, while organisational culture is recognised as vital for employee behaviour (Okogbe & Okogbe, 2025), there is a paucity of research examining the impact of cultural norms in public tertiary institutions on productivity. Research conducted by Sumarjo et al. (2025) indicates that a favourable organisational culture enhances production; nevertheless, this phenomenon is little examined within the realm of higher education in Ibadan. Emotional issues, including stress and burnout, continue to be insufficiently addressed in the educational context, despite their acknowledged influence on productivity (Ahmad et al., 2025). This study seeks to address these deficiencies by analysing the cumulative influence of workplace ethics, management styles, culture, and emotional aspects on employee productivity in public tertiary institutions in Ibadan.

Hypotheses

H0₁: There is no composite relationship between workplace behavior (Workplace Ethics, Management Styles, Organisational Culture, and Emotional Factors) and employee productivity

H0₁: There is no relative relationship between workplace behaviour (Workplace Ethics, Management Styles, Organisational Culture, and Emotional Factors) and employee productivity.

Conceptual Review

Workplace Ethics

Workplace ethics consist of the moral principles that govern behaviour inside a business, impacting employee performance and organisational success (Egbara & Ofodu, 2024). Fundamental ethical principles encompass integrity, loyalty, collaboration, and self-discipline. Enhancing productivity and job satisfaction is inspired by teamwork that is an essential ethical principle, also promoting collaboration, the exchange of ideas, and problem-solving mechanisms (Badmus & Ogunlana, 2022). Ethical conduct fosters a culture of respect and accountability, hence improving employee engagement and performance (Egbara & Ofodu, 2024).

Work ethics include values such as perseverance and determination, which promote responsibility and improve job success (Jahanian et al., 2021). Employees exhibiting a robust work ethic display increased accountability and productivity, hence enhancing organisational success (Jahanian et al., 2021). Organisational learning, the capacity to assimilate and utilise knowledge for enhancement, further augments performance by fostering ongoing development and innovation (Jahanian et al., 2021). The correlation between work ethics and performance is extensively documented, with ethical behaviours, including transparency and mutual respect, fostering a more productive environment. The study conducted by Joshi et al. (2024) revealed that work ethics are instrumental to workplace satisfaction as positive work ethics promote teamwork. Collaboration and organisational performance. Institutions that prioritise work ethics are more likely to achieve greater output, but bad work ethics compromise organisational objectives (Ibe et al., 2025).

Management Styles and Employee Productivity

The relationship between leadership styles and staff productivity is a central emphasis in management studies. Transformational leadership motivates people to prioritise the organization's interests over personal ones, cultivating a sense of ownership among employees. Conversely, authoritarian leadership may prove successful during crises but frequently results in diminished morale and long-term productivity (Shinde & Giri, 2025). The efficacy of leadership styles hinges on organisational culture, the nature of the task, and workforce preparedness for change.

Research in Uganda indicates that, while authoritarian leadership is prevalent in numerous African firms, transformational leadership exerts a more substantial influence on employee performance (Julius, 2024). Nonetheless, socio-economic and cultural constraints hinder the implementation of transformational leadership style in some regions (Muhamad et al., 2023). Colonial governance's hierarchical systems in Africa impede the shift towards more dynamic leadership models (Isaac et al., 2023). Job satisfaction is shaped by leadership styles that influence performance; satisfied employees exhibit superior organisational results. Liu, Ali, Pan, & Xiao (2024) revealed that transformative leadership has a positive influence on job satisfaction in an environment of trust and innovation. Therefore, understanding leadership dynamics is an essential component of employee well-being and organisational performance.

Organizational Culture and Employee Productivity

Organisational culture encompasses the practices, beliefs, and behaviours that characterise the work environment inside an organisation. It profoundly influences employee conduct by establishing explicit protocols for work performance and interpersonal relations. Alharbi and Alyahya (2020) assert that corporate culture is essential in directing suitable behaviour, which directly influences the attainment of organisational goals. The congruence of individual and organisational values promotes employee performance, as shared values promote collaboration and job execution, as seen by Dorkenoo et al. (2021).

The conceptual framework of organisational culture encompasses both formal and informal standards that affect employee conduct and determine organisational operations. Melletus and Meruo (2020) assert that these norms can either facilitate or obstruct employee involvement, hence influencing performance outcomes. A robust organisational culture unifies people and fosters a collaborative work environment that promotes high performance (Mohammed, 2019). The influence of ideas on employee behaviour is crucial, as these beliefs affect employees' perceptions of their positions and direct their actions (Alharbi & Alyahya, 2020). Organisational culture cultivates a workplace where individuals' aspirations and organisational goals are synchronised (Sumarjo et al., 2025).

Psychological Factors and Employee Productivity

Workplace stress is associated with several health problems, including anxiety, depression, and cardiovascular illnesses (Gilek, 2023). Burnout, a protracted result of stress, adversely affects performance and collaboration. The leadership style and organisational culture significantly influence the moderation of stress and burnout. Transformational leadership, by cultivating a supportive atmosphere, can alleviate stress, whereas toxic cultures characterised by micromanagement intensify stress. The equity theory posits that personnel motivated by equitable salary and treatment exhibit increased productivity. Furthermore, organisational commitment, especially affective commitment, is significantly associated with increased motivation and performance (Oyelami, Onayemi, & Agbo, 2025).

Emotional intelligence (EI) also augments productivity. Job performance is contingent upon good stress management, conflict resolution mechanisms, and the maintenance of positive relationships, all of which are characteristics of emotional intelligence (Puri & Mehta, 2020). Enhanced employee well-being fosters heightened productivity. Majumdar (2022) asserts that prioritising mental health and well-being activities, such as stress management, can improve employee performance. Burnout diminishes motivation and productivity, particularly when stemming from emotional tiredness and diminished personal achievement (Gómez-Polo et al., 2022). The Job Demands-Resources paradigm posits that demands contribute to burnout, while the provision of resources such as autonomy and support can alleviate these consequences.

Mitigating burnout by efficient stress management and support systems is essential for sustaining productivity (Oyelami, Onayemi, & Agbo, 2025).

Theoretical Framework

Workplace Ethics and Employee Productivity

This study's theoretical foundation is based on Ethical Theory, namely the concepts articulated by Immanuel Kant. Kant's philosophy asserts that benevolence is the sole intrinsic good, and activities are deemed moral only if they conform to an obligation to the moral law (Ezedike, 2020). The notion of the categorical imperative Actions possess moral value solely when they conform to an obligation to the moral law (Ezedike, 2020). Actions possess moral value solely when they conform to a duty dictated by the moral law (Ezedike, 2020). Teleology is fundamental to Kant's framework, indicating that one ought to act according to principles that can be universally applicable. This idea posits that workplace ethics, encompassing integrity, loyalty, and collaboration, need to be motivated by obligation rather than individual inclination (Ezedike, 2020).

Kant's categorical imperative comprises three elements: goodwill, reason, and obligation. Goodwill underpins moral conduct, whereas reason enables individuals to regulate personal desires and fulfil their obligations. This approach underscores that ethical conduct is crucial for enhancing employee performance and organisational productivity within the workplace context. Kant posits that ethical conduct—anchored on integrity, loyalty, and collaboration—augments individual proficiency and organisational achievement (Ezedike, 2020).

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Empirical Review

Numerous studies underscore the substantial influence of workplace ethics on employee performance across diverse sectors. Egbara and Ofodu (2024) discovered that integrity, loyalty, and teamwork positively influence productivity within the Enugu State Civil Service, enhancing client satisfaction, workload management, and overall competence. Jahanian et al. (2021) demonstrated that work ethics and organisational learning account for 45% of the variance in employee productivity within the Social Security Organisation of Qazvin Province. Joshi et al. (2024) identified a positive association between ethical standards, such as transparency and accountability, and employee performance in the educational sector. Ahmed et al. (2021) indicated that unethical behaviour adversely impacts employee performance and happiness, especially in Nigeria's public sector. Ibe et al. (2025) underscored that compliance with ethical standards and favourable dispositions improves institutional performance, including proficient graduates and high-quality research.

Leadership styles significantly influence staff productivity. Shinde & Giri (2025) discovered that transformational and participative leadership styles correlate positively with employee performance, while autocratic leadership may have adverse long-term effects. Okee and Namuyonga (2024) established that transformational and transactional leadership styles favourably impacted performance in Uganda's manufacturing sector. Biloa (2023) affirmed that democratic and laissez-faire leadership promotes

motivation and development, in contrast to autocratic leadership, which results in frustration and suboptimal performance. Liu et al. (2024) demonstrated that transformative leadership improves job satisfaction and performance within Ethiopian sports groups.

Studies indicate that company culture profoundly influences employee conduct and performance. Okogbe and Okogbe (2025) discovered that fundamental values, conventions, and beliefs within banks in Delta State impacted staff productivity. Sumarjo et al. (2025) showed that organisational commitment mediates the relationship between culture and performance, with a positive culture enhancing both aspects. Likewise, Egwu & Nwosu (2025) emphasised that favourable corporate cultures—prioritizing collaboration and safety—enhance productivity. Anekwe and Igwe (2025) discovered that recruitment culture and staff engagement are crucial for enhancing efficiency in UK banks.

Psychological factors, such as emotional intelligence, job satisfaction, and workplace stress, are essential to productivity. Ahmad et al. (2025) established that workplace stress and burnout adversely impact employee well-being and productivity, with leadership style and organisational culture affecting stress levels. Oyelami et al. (2025) observed that emotional intelligence and leadership styles substantially influence performance. Sharma (2025) examined a hybrid workplace culture, highlighting the significance of work-life balance and leadership in shaping productivity and job happiness. Yan et al. (2020) showed that psychological climate and self-efficacy significantly influence employee performance, with well-being serving as a mediator in these connections. Xue et al. (2022) showed that enhancing job satisfaction can alleviate work-related stress and diminish turnover intentions, underscoring the significance of psychological aspects in employee retention.

Methodology

A descriptive survey study was performed to assess workplace behaviour and its impact on employee productivity among the personnel of public tertiary institutions in Ibadan, Oyo State. The population consisted of personnel from the University of Ibadan, the Federal School of Statistics, and the Polytechnic, Ibadan. The study population comprises academic staff from the University of Ibadan (1,472), the Federal School of Statistics (43), and the Polytechnic of Ibadan (600), resulting in a total of 2,115 staff members. The University of Ibadan accounts for 69.6%, the Polytechnic of Ibadan for 28.4%, and the Federal School of Statistics for 2.0%. The distribution of 107 respondents includes 75 from the University of Ibadan, 30 from the Polytechnic of Ibadan, and 2 from the Federal School of Statistics, preserving the proportional breakdown. This guarantees that the sample accurately reflects the population proportions among the three institutions.

The sample of the study was obtained by simple random sampling, guaranteeing each participant an equal opportunity for inclusion, thereby minimising selection bias and enhancing the sample's representativeness. Data were gathered directly from respondents in their natural work settings with a standardised questionnaire to improve authenticity and relevance. The questionnaire comprised measures derived from recognised instruments: organisational culture items were sourced from Van der Post, de Coning, and Smit (1997), workplace ethics items from Rusoke (2021), management styles from the Multifactor Leadership Questionnaire by Bass and Avolio, and psychological factors from the Nordic Questionnaire for Psychological and Social Factors at Work (QPS Nordic). Employee productivity metrics were extracted from the literature. The data analysis utilised both descriptive and inferential statistics. Multiple regression models were employed to examine hypotheses on the correlation between workplace ethics and employee productivity.

Findings

H0₁: There is no composite relationship between workplace behaviour (Workplace Ethics, Management Styles, Organizational Culture, and Emotional Factors) and employee productivity

H0₁: There is no relative relationship between workplace behavior (Workplace Ethics, Management Styles, Organisational Culture, and Emotional Factors) and employee productivity.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.349a	.122	.087	1.462	.122	3.563	4	103	.009

a. Predictors: (Constant), Psychological Factors, Workplace Ethics, Organization Culture, Management Style

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	30.479	4	7.620	3.563	.009b
	Residual	220.289	103	2.139		
	Total	250.769	107			

a. Dependent Variable: Employee Productivity; b. Predictors: (Constant), Psychological Factors, Work Place Ethics, Organisation Culture, Management Style

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.891	4.869		2.648	.009
	Workplace Ethics	-.411	.190	-.205	-2.167	.033
	Management Style	.212	.117	.179	1.821	.072
	Organization Culture	-.047	.103	-.045	-.458	.648
	Psychological Factors	.147	.088	.170	1.678	.096

a. Dependent Variable: Employee Productivity

The research investigated the correlation between workplace behaviors—namely workplace ethics, managerial styles, organisational culture, and psychological factors—and employee productivity among the personnel of public tertiary institutions in Ibadan, Oyo State. The comprehensive model summary reveals that these workplace behaviour factors account for approximately 12.2% of the variance in employee productivity, with an adjusted R-squared value of 8.7%. This indicates that, although the model is statistically significant, a substantial portion of productivity variability remains unexplained by these factors alone. The F-test for the model indicates a significant result ($F = 3.563$, $p = 0.009$), signifying that the collective impact of the predictors on production is statistically significant. This results in the dismissal of the initial null hypothesis (H0₁), which asserted the absence of a composite link between workplace conduct and employee productivity.

Analysing the contributions of distinct components yields a more intricate understanding. Workplace ethics is the sole statistically significant predictor among the variables, exhibiting a negative unstandardised coefficient ($B = -0.411$) and a p-value of 0.033. This indicates that diminished perceptions or practices of workplace ethics correlate with reduced employee productivity. The adverse correlation highlights the essential need for ethical standards and equitable procedures in cultivating a thriving workplace. The management style exhibits a positive correlation with production; however, this link is not statistically significant at the traditional 5% threshold ($p = 0.072$), suggesting a potential yet ambiguous beneficial effect. Psychological or emotional elements exhibit a positive yet non-significant influence ($p = 0.096$). Organisational culture exhibits a negligible and statistically insignificant negative correlation with productivity ($p = 0.648$), suggesting no substantial evidence that the culture assessed in this study influences employee productivity within these institutions. Consequently, the second null hypothesis (H0₂), asserting no correlation between specific workplace behaviour characteristics and employee productivity, is only

partially rejected. Only workplace ethics demonstrates a substantial relative influence, whilst the other components do not show statistically significant individual impacts.

Discussion of Findings

The regression analysis and reviewed empirical literature yield significant insights into the relationship between workplace factors and employee productivity. The regression model demonstrated statistical significance ($p = 0.009$), suggesting that the predictors—workplace ethics, management style, organisational culture, and psychological factors—jointly affect employee productivity. The model accounted for only 12.2% of the variance in productivity, indicating that, although these variables are relevant, other unmeasured factors may also significantly influence the outcomes. Workplace ethics were identified as a statistically significant predictor ($p = 0.033$) with a negative coefficient, indicating that lapses or deficiencies in workplace ethics result in reduced employee productivity. This finding is consistent with the empirical literature. Ahmed et al. (2021) found that unethical behaviour negatively affects performance and satisfaction within Nigeria's public sector. Ibe et al. (2025) confirmed that ethical norms enhance institutional efficiency. The negative coefficient in the regression likely indicates an inverse relationship between ethical violations and productivity, aligning with existing literature that emphasises the importance of ethics in performance (Egbara & Ofodu, 2024; Joshi et al., 2024).

The management style exhibited a positive yet marginally significant correlation with productivity ($p = 0.072$), indicating that specific leadership approaches may contribute to improved employee performance. This aligns with the findings of Shinde & Giri (2025) and Okee & Namuyonga (2024), which indicate that transformational and participative leadership styles significantly enhance performance.

Liu et al. (2024) demonstrated that effective leadership enhances job satisfaction and productivity, particularly in sectors where employee motivation is crucial. Conversely, organisational culture did not serve as a significant predictor of productivity ($p = 0.648$). This contradicts multiple studies, including Sumarjo et al. (2025) and Okogbe & Okogbe (2025), which emphasise the significant impact of positive organisational culture on employee performance. A possible explanation for this discrepancy may involve measurement limitations within the context of this study or insufficient cultural cohesion among the sampled institutions. Psychological factors exhibited a marginally significant effect ($p = 0.096$), indicating a potential positive influence on employee productivity. This is consistent with the findings of Ahmad et al. (2025) and Oyelami et al. (2025), which indicate that emotional intelligence and mental well-being have a direct impact on performance. Sharma (2025) and Yan et al. (2020) highlighted the significance of self-efficacy and job satisfaction in reducing stress and improving productivity.

Conclusion

This study aims to evaluate the influence of workplace behaviour, encompassing ethics, management styles, organisational culture, and psychological factors, on employee productivity in public tertiary institutions located in Ibadan, Oyo State. The study utilised primary quantitative data from 108 respondents, demonstrating that the analysed variables collectively establish a statistically significant relationship with employee productivity, indicated by an R-square value of 0.122 and a significance level of 0.009. Among the independent variables, workplace ethics was identified as the sole statistically significant predictor of productivity ($p = 0.033$), exhibiting a negative association, which may suggest a conflict between formal ethical standards and actual practices. Other variables, such as management style, organisational culture, and psychological factors, while positively correlated, did not achieve statistical significance at the 0.05 level.

The findings highlight the complex nature of workplace behaviour, demonstrating that ethical codes, leadership, culture, and psychological wellness are crucial, yet their effects are influenced by the socio-organizational contexts of public institutions. Employees indicated strong compliance with ethical standards and respect for authority; however, they also noted concerns regarding the misuse of office resources and absenteeism. Leadership practices that align with transformational traits received positive evaluations. The organisational culture was characterised by excessive centralisation and rigidity,

potentially constraining staff autonomy and hindering innovation. Psychological factors, including emotional demand, autonomy, and work-life balance, significantly impacted staff perceptions of productivity. This study empirically validates the composite influence of workplace behaviour on productivity in the Nigerian public sector, thereby contributing to the existing literature. This indicates that administrators of public tertiary institutions should adopt a comprehensive strategy to enhance productivity. Although ethical compliance is essential, an excessive focus on strict codes that neglect leadership empathy, institutional adaptability, and employee psychological health may lead to adverse outcomes. The observed negative relationship between workplace ethics and productivity indicates a potential misalignment between established norms and employee experiences, necessitating a reevaluation of ethical enforcement approaches.

Recommendations

Institutions ought to reassess the formulation and implementation of workplace ethics. Ethical policies ought to be participatory and context-sensitive rather than rigid and top-down, ensuring alignment with institutional objectives and employee experiences.

Leadership training must prioritise the development of department heads' abilities to inspire, mentor, and creatively challenge their staff. This is likely to enhance employee motivation and commitment.

Management should decentralise decision-making processes and promote diverse perspectives. This can empower employees, boost morale, and increase productivity by fostering greater inclusion.

Implement programs to monitor and manage job stress, emotional burnout, and work-life balance to enhance employee well-being. This encompasses mental health support services and policies that advocate for flexible work practices.

Incorporate psychological support within human resources policies. In addition to productivity metrics, it is essential to prioritise employee well-being as a strategic focus. Institutions ought to formulate customised wellness strategies informed by insights from psychological audits.

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Unpacking the Role of Organizational Politics Subscales and Burnout as Predictors of Turnover Intention among Healthcare Workers in Ibadan, Nigeria

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Abstract

Nigeria's healthcare system faces severe strain, as evidenced by a critical doctor-patient ratio and inclusion on the World Health Organization's Health Workforce Support and Safeguard List 2023. Existing research has primarily explored individual-level factors concerning turnover intention among healthcare workers, such as job satisfaction and job embeddedness. However, this study bridges a significant knowledge gap by investigating the complex interplay between burnout and perceived organizational politics, specifically examining the distinct contributions of organizational politics subscales on turnover intention among healthcare workers in Ibadan, Nigeria. The Organizational Justice Theory, Social Exchange Theory, and Job Demands-Resources Model provided the framework, while a cross-sectional survey design was employed to sample 379 healthcare workers who completed a structured questionnaire assessing burnout, perception of organizational politics, and turnover intention. Data were analyzed using multiple regression and independent sample t-tests. Burnout ($\beta = 0.15$, $t = 2.96$, $p < 0.01$), general political behavior ($\beta = 0.14$, $t = 2.37$, $p < 0.05$), and pay and promotion policies ($\beta = -0.12$, $t = -2.26$, $p < 0.05$) significantly predict turnover intention. The overall model was significant ($F(7,370) = 3.83$, $p < 0.001$). Additionally, perceived organizational politics had a statistically significant influence on turnover intention ($t(37) = -4.97$, $p < 0.001$), with participants with high perceived organizational politics ($M = 19.39$, $SD = 4.89$) reporting higher turnover intention than those with low perceived organizational politics ($M = 17.21$, $SD = 3.95$). Addressing burnout and organizational politics can help mitigate turnover intention among healthcare workers. Therefore, the Ministry of Health should implement transparent policies that will address workplace expectations to reduce burnout and turnover intention.

Keywords: Healthcare workers, turnover intention, burnout, organizational politics

Introduction

The Healthcare Sector in Ibadan, Oyo State, Nigeria, like many others globally, is faced with the persistent search for better opportunities among healthcare workers, which has led many to neglect their current workplaces, seeking greener pastures elsewhere. This trend is particularly pronounced as the University College Hospital (UCH), Ibadan, one of Nigeria's foremost healthcare institutions, has seen a significant exodus of healthcare workers, with at least 15 nurses, doctors, and pharmacists resigning weekly (Otegbayo, 2022). This high attrition is not isolated to UCH; other healthcare facilities in Ibadan also grapple with high turnover rates, further straining the region's healthcare system. Such high turnover disrupts productivity, increases recruitment and training costs, and reduces the quality of healthcare services.

Turnover intention, defined as the deliberate and conscious plan to leave an organization (Emiroglu, Pinar, & Yildirim, 2015), has become a critical issue in the healthcare industry. It encompasses thoughts of quitting, the intention to search for another job, and the intention to quit (Carmeli & Weisberg, 2006). These stages reflect a psychological progression from dissatisfaction to active job-seeking and, eventually, resignation. While existing research has explored individual factors like job satisfaction and job embeddedness, there is limited understanding of the collective influence of burnout and perceived organizational politics on turnover intention. This study seeks to address this gap by examining burnout and the perceived organizational politics factors among healthcare workers in Ibadan, providing insights that can inform targeted interventions to improve retention and service quality.

Burnout is Central to this investigation, an occupational phenomenon resulting from chronic workplace stress that has not been successfully managed, manifesting as feelings of energy depletion, increased mental distance from one's job, and reduced professional efficacy. While not formally recognized as a medical condition by the WHO, burnout is widely attributed to a mismatch between work demands and personal resources (World Health Organization, 2019). Research consistently links burnout to turnover intention, with higher levels of burnout correlating with increased likelihood of leaving (Scanlan & Still, 2019; Ahmad, Maon, Rahman & Alkhathami, 2021; Hidayat & Agustina, 2020). Burnout is conceptualized as a

syndrome characterized by emotional exhaustion, depersonalization, and diminished personal accomplishment (Maslach & Jackson, 1986). Emotional exhaustion, the most common and well-researched component, involves a loss of energy and pervasive feelings of being overwhelmed and unable to cope with job demands (Maslach, 2018; Sarisik, Sari & Horzum, 2019). Depersonalization, or cynicism, reflects a state of detachment from work and colleagues, marked by a lack of empathy and motivation (De Clercq, Bouckennooghe, Raja & Matsyborska, 2020; Bocheliuk, Maznichenko & Shestopalyuk, 2020).

Diminished personal accomplishment, the third component, manifests as feelings of ineffectiveness and lack of achievement (Corbin, Allen & Jinks, 2019). Burnout often stems from a combination of job demands (e.g., work overload, role conflicts) and a lack of job resources (e.g., social support, feedback, participation in decision-making) (Crawford, LePine & Rich, 2010; Gómez Garcia et al., 2019). Importantly, burnout can be "contagious," impacting colleagues through increased conflict and disrupted tasks (Bakker, Demerouti & Verbeke, 2005; González-Morales, Peiró, Rodríguez & Bliese, 2012). Furthermore, healthcare worker turnover due to burnout leads to understaffing, placing additional stress on remaining employees, which can negatively impact organizational performance and employee well-being.

In addition to burnout, organizational politics significantly shape employee attitudes and intentions, including turnover. Olufayo and Akinbo (2022) found that the presence of internal politics within organizations can increase the likelihood of turnover intention, particularly among young and male employees. Organizational politics are informal, unofficial, and sometimes behind-the-scenes efforts to sell ideas, influence an organization, increase power, or achieve other targeted objectives (Brandon & Seldman, 2004; Hochwarter, Witt, & Kacmar, 2000). It is difficult to find a politically free environment, and this is because employees always scramble for valued resources, positions, and power in the organization. This can include actions like forming alliances, using information selectively, creating coalitions, and engaging in power struggles. However, it becomes very important to distinguish between positive and negative political behavior within the organization.

Positive politics involves ethical tactics that perfectly align with the organization's goals, such as showcasing accomplishments and building positive relationships. This can increase efficiency, boost interpersonal relationships, expedite change, and benefit both the organization and its members. Conversely, Negative politics, characterized by self-serving behaviors like spreading rumors, perceived favoritism due to race or ethnicity, and withholding important information, can erode trust, lead to decreased employee morale, reduced productivity, and increased turnover. It therefore becomes crucial to manage organizational politics to create a conducive political landscape (Aamodt, 2015; Larsen, 2012).

Additionally, Kacmar and Ferris (1991) identified three primary factors that contribute to employees' perceptions of organizational politics. General political behavior refers to employees' perceptions of the overall political environment within the organization. This includes beliefs about the prevalence of political activity, the effectiveness of political strategies, and the extent to which politics influences decision-making. Go along to get ahead behavior, which focuses on employees' beliefs about the necessity of engaging in political behavior to advance their careers or achieve their goals.

It includes perceptions of the importance of networking, building alliances, and engaging in other political activities, and finally, Pay and Promotion Policies, which examine employees' perceptions of how political considerations influence pay and promotion decisions within the organization. It includes beliefs about the fairness and transparency of these processes. When employees perceive a high level of political activity, feel pressured to engage in political behavior, or believe that pay and promotion decisions are unfair, they may experience increased stress and job dissatisfaction, leading to higher turnover intention.

To establish a theoretical framework for this study, three key theories are applied: Organizational Justice Theory, Social Exchange Theory, and the Job Demands-Resources (JD-R) Model.

Organizational Justice Theory (Greenberg, 1987) posits that perceptions of fairness in organizational procedures, interactions, and outcomes significantly influence employee attitudes and behaviors, including turnover intention. In the healthcare setting, burnout can distort these perceptions. Emotional exhaustion may be seen as distributive injustice (feeling overworked without adequate rewards), resource constraints as procedural injustice, and lack of support as interactional injustice. These experiences foster feelings of

unfairness and push healthcare workers to seek more equitable employment. Additionally, perceived organizational politics, such as favoritism in pay or promotions, may further exacerbate these injustices. For instance, a strong sense of "General Political Behavior" or beliefs like "Go Along to Get Ahead" can signal to employees that merit is less valued than political maneuvering, thereby undermining procedural and distributive justice.

Social Exchange Theory (Blau, 1964) suggests that employees weigh the costs and benefits of their relationship with the organization. In high-stress environments like healthcare, workers expect adequate compensation, recognition, and support in return for their emotional and physical investment. However, politically charged environments can increase perceived costs (e.g., stress, unfairness) and reduce perceived benefits, ultimately driving turnover intention when the exchange is perceived as inequitable (Shore & Wayne, 1993).

The Job Demands-Resources Model (Demerouti et al., 2001) further explains that occupational stress and burnout arise when job demands outweigh available resources. In healthcare, demands include workload, long hours, and emotional strain, while resources include autonomy, support, and development opportunities. A politicized work environment can diminish these resources, intensifying burnout and increasing the likelihood of turnover.

Empirical studies have consistently found a strong link between burnout and turnover intention. Emotional exhaustion, in particular, has been identified as a key driver (Kim & Stoner, 2015; Bayer et al., 2021). In Nigeria, Egwurugwu (2019) and Labrague et al. (2020) reported that burnout significantly predicts turnover among nurses. Similarly, Sasso et al. (2019) and Zhang & Feng (2011) confirmed that all three components of burnout emotional exhaustion, depersonalization, and reduced personal accomplishment are positively associated with turnover intention.

Research has also shown that perceived organizational politics significantly contributes to turnover intention. Olorunleke (2015) and Kaya et al. (2016) found that favoritism and resource-based self-interest increased perceived injustice and intention to leave. Other studies (Ali et al., 2021; Mohammed & Nmadu, 2024) reported that unfair treatment and lack of transparency in politically charged environments led to job dissatisfaction and turnover.

Additionally, demographic variables such as age, gender, education, and marital status influence retention. For example, Marufu et al. (2021) and Abubakar et al. (2014) found that younger healthcare workers and those with less job satisfaction were more likely to leave. Mustajab (2020) and Alli (2023) further reported that women and single employees with low organizational support or satisfaction had higher turnover rates.

Despite the extensive literature, there is limited research examining the combined and distinct effects of burnout, organizational politics (especially its sub-dimensions), and demographic factors on turnover intention among healthcare workers in Nigeria. This study addresses this gap by exploring their unique and interactive influences within the context of healthcare workers in Ibadan.

Purpose of the Study

The primary purpose of this study is to examine the influence of burnout and perceived organizational politics subscales on turnover intention among healthcare workers in Ibadan, Oyo State. Guided by the Job Demands-Resources Model and Social Exchange Theory, the study aims to:

1. Assess the joint and independent influence of burnout, perceived organizational politics subscales, and demographic factors on turnover intention.
2. Investigate the extent to which employees' scores on perceived organizational politics predict turnover intention.
3. Suggest practical recommendations for policymakers and healthcare managers to address turnover and improve retention

Hypotheses

Based on the literature review, the following hypotheses are tested in the research.

Hypothesis 1: Burnout, General political behavior, Go Along to Get Along, Pay and Promotion Policies, age, marital status, and gender will have a significant joint and independent influence on turnover intention among healthcare workers in Ibadan.

Hypothesis 2: Participants who score high on perceived organizational politics will significantly report higher turnover intention than those with low scores.

Methods

Design

The study adopted a cross-sectional survey design, utilizing a structured questionnaire to collect data from healthcare workers in Ibadan. This design was chosen because it allows for the efficient collection of data from a large sample at a single point in time, making it suitable for examining the relationships between the independent variables, perceived organizational politics, and the dependent variable (turnover intention).

Setting

Ibadan, the capital of Oyo State, is Nigeria's third-largest city by population and a major healthcare hub in southwestern Nigeria. The study focused on healthcare workers at the University College Hospital (UCH), a tertiary healthcare centre, and three secondary healthcare centres: General Hospital Moniya (Akinyele), Ring Road State Hospital (Ibadan South-West), and Adeoyo Maternity Teaching Hospital (Ibadan North). These facilities were selected to represent both urban and peri-urban settings, ensuring a diverse sample.

Population

The study population included doctors, nurses, pharmacists, and other clinical and non-clinical staff directly involved in patient care at the selected healthcare facilities. A sample size of 379 was calculated using the Krejcie and Morgan (1970) formula, with a 95% confidence level and a 5% margin of error. To account for potential non-response, a 10% adjustment was made, resulting in a target sample size of 417. Eventually, 388 questionnaires were returned, with 379 deemed usable for analysis.

Inclusion Criteria:

The participant must have been employed for at least six months, with direct involvement in patient care or administrative roles related to healthcare delivery, and be willing to participate and provide informed consent.

Sampling technique

A combination of purposive and systematic random sampling techniques was used. Purposive sampling was employed to select the University College Hospital (UCH), a major provider of specialized healthcare in the region. Additionally, three secondary healthcare centres, strategically chosen for their diverse locations (urban and peri-urban) and varying patient volumes, were selected to ensure representation across different healthcare settings in Ibadan.

Subsequently, systematic random sampling was used to recruit participants. Every third eligible healthcare worker was approached for participation.

Instruments

SECTION A: Contains 7 items that tap information on the socio-demographic characteristics of the respondents. This includes age, gender, marital status, ethnicity, religion, and area of specialization.

SECTION B: Burnout was assessed using the 9-item Abbreviated Maslach Burnout Inventory (MBI). This instrument measures three dimensions of burnout: emotional exhaustion (e.g., 'I feel emotionally drained

from my work', 'Working with people all day is a strain for me', 'I feel like I'm at the end of my rope'), depersonalization/cynicism (e.g., 'I doubt the significance of my work', [add another example]), and reduced personal accomplishment (e.g., 'I feel I am effective at my job', etc).

Maslach and Jackson (1986) reported Cronbach's alpha values ranging from .71 to .90 for the full MBI scale. Participants responded to each item using a 7-point Likert scale, ranging from 0 ('never') to 6 ('every day'). Higher scores on the emotional exhaustion and depersonalization subscales indicate higher levels of burnout, while lower scores on the reduced personal accomplishment subscale indicate higher levels of burnout. The scoring of the subscales will be used to determine the level of burnout experienced by participants. The Cronbach's alpha for this scale in the current study was 0.67.

SECTION C: Perceived organizational politics was measured using the Perceptions of Organizational Politics Scale (POPS), developed by Kacmar and Ferris (1991). This scale assesses employee perceptions of the extent to which their job setting is political, including general political behavior, 'getting ahead' tactics, and ambiguity in pay and promotion policies. The scale consists of 12 items. Participants responded using a 5-point Likert-type scale, ranging from 1 ('strongly disagree') to 5 ('strongly agree'). Kacmar and Ferris (1991) reported a Cronbach's alpha of .87 for the total scale. In this study, the Cronbach's alpha was .76.

SECTION D: Turnover intention was measured using the 6-item Turnover Intention Scale (TIS-6) developed by Bothma and Roodt (2013). This scale assesses respondents' intentions to leave their current job, including thoughts of quitting and intentions to search for new employment. A sample item is, 'How often have you considered leaving your job?'

Participants responded using a 5-point Likert-type scale, ranging from 1 ('Never') to 5 ('Always'). Higher scores indicate higher turnover intention.

Bothma and Roodt (2013) reported a Cronbach's alpha of 0.80. In this study, the Cronbach's alpha was 0.66.

Procedure

Before data collection, approval was obtained from the relevant authorities at each of the selected healthcare facilities.

Participants were recruited using systematic random sampling. A random starting point was selected, and every third eligible healthcare worker was approached.

Participants were approached in person during their breaks or at designated times within the facilities, ensuring minimal disruption to their work. The purpose of the study was explained, and informed consent was obtained verbally. Participants were assured of confidentiality, and questionnaires were administered in person. Completed forms were collected immediately, and only fully completed questionnaires were included in the analysis.

During data collection, several challenges were encountered. Some participants were hesitant to participate due to concerns about anonymity and potential repercussions. To address this, assurances of confidentiality and anonymity were emphasized, and participants were informed that their responses would be used for research purposes only. Additionally, high patient volumes at some facilities occasionally delay data collection. To moderate this, data collection was conducted during less busy periods or by scheduling appointments with participants.

Analysis of Data

Data were analyzed using SPSS. Descriptive statistics (means, standard deviations, frequencies, percentages) summarized the demographic characteristics. Inferential statistics tested the hypotheses:

Hypothesis 1: Multiple regression analyzed the joint and independent influence of the predictors on turnover intention.

Hypothesis 2: Independent samples t-tests compared turnover intention between high and low scorers on perceived organizational politics.

Results

This section offers information on the results of the data analysis from a sample of three hundred and seventy-nine (129 males, 250 females) participants. The study explored the influence of burnout and perceived organizational politics subscales on turnover intention among healthcare workers in Ibadan, Nigeria. Below is a description of the participants in the study.

Hypothesis 1

Burnout, General political behavior, Go Along to Get Along, and Pay and Promotion Policies will have a significant joint and independent influence on turnover intention among healthcare workers in Ibadan. Age, marital status, and gender were included in the analysis as control variables. This hypothesis was tested using Multiple Regression Analysis and the result presented in Table 3.1.

Table 3.1: Summary of Multiple Regression Analysis Showing the Influence of Burnout, General political behavior, Go Along to Get Along, Pay and Promotion Policies, Age, Marital status, and Gender on Turnover Intention

Predictors	β	t	P	R	R^2	F	P
Age	-.10	-1.39	>.05				
Gender	.06	1.10	>.05				
Marital status	.17	2.36	<.05				
General political behavior	.14	2.37	<.05	.26	.07	3.83	<.001
Go Along to Get Along	.03	.50	>.05				
Pay and Promotion Policies	-.12	-2.26	<.05				
Burnout	.15	2.96	<.01				

The multiple regression analysis examined the joint and independent influence of burnout, general political behavior, go along to get along, and pay and promotion policies on turnover intention among healthcare workers in Ibadan, with age, marital status, and gender serving as control variables.

Results presented in Table 3.1 reveal a significant joint influence of the predictors on turnover intention among Healthcare Workers in Ibadan. The analysis yielded an R^2 value of .07, with an F-statistic of 3.83 for the model ($F(7,370) = 3.83, p < .001$). This suggests that the combined influence of these predictors explains approximately 7% of the variance in the self-reported turnover intention among the study participants.

Although the overall model is significant, examination of the individual predictors reveals that Burnout ($\beta = 0.15, t = 2.96, p < 0.01$), general political behavior ($\beta = 0.14, t = 2.37, p < 0.05$), pay and promotion policies ($\beta = -0.12, t = -2.26, p < 0.05$), and marital status ($\beta = .17, t = 2.36, p < .05$) show significant independent contributions to turnover intention. Specifically, burnout, general political behavior, pay and promotion, and marital status as *measured by the scales used were associated with* greater turnover intention. In contrast, go along to get along, age, and gender *did not emerge as significant predictors* of turnover intention in this model. Given these findings, the initial hypothesis stating that burnout, general political behavior, go along to get along, and pay and promotion policies will have a significant joint and independent influence on turnover intention among healthcare workers in Ibadan. is partially accepted.

Hypothesis Two

Hypothesis two states that participants who score high on the perceived organizational politics scale will significantly report higher turnover intention than those with lower scores. This hypothesis was tested using the t-test for an independent sample, and the result is presented in Table 3.2.

Table 3.2: t-test summary table showing perceived organizational politics on turnover intention

Organizational politics	N	$\bar{X}$	Std	df	t	P
Low	218	17.21	3.95	37	-4.97	<.001
High	156	19.39	4.89			

The results presented in Table 3.2 show the significant influence of perceived organizational politics on turnover intention. The analysis indicates that perceived organizational politics had a statistically significant influence on turnover intention, as evidenced by the obtained t-value of -4.97 at $p < .001$.

Furthermore, a comparison of mean scores between respondents with high and low perceived organizational politics supports this finding. Participants who reported high perceived organizational politics had a mean turnover intention score of 19.39 (SD = 4.89) which was significantly greater than the mean turnover intention score of 17.21 (SD = 3.95), among those with low perceived organizational politics. This suggests that individuals with higher perceived organizational politics tend to experience greater turnover intention. Given these findings, the stated hypothesis predicting that perceived organizational politics significantly influences turnover intention is accepted. This result underscores the role of perceived organizational politics as a key psychological factor contributing to turnover.

DISCUSSION, CONCLUSION, AND RECOMMENDATION

Discussion

Hypothesis one, stating that burnout, general political behavior, go along to get along, and pay and promotion policies will have a significant joint and independent influence on turnover intention among healthcare workers in Ibadan, was partially confirmed and accepted. This suggests that the aforementioned factors, when combined, jointly influenced turnover intention significantly among healthcare workers in Ibadan. Further, the result indicates that independently, burnout, general political behavior, and pay and promotion policies significantly influence turnover intention among healthcare workers in Ibadan. Among the demographic variables, only marital status shows a significant independent influence on turnover intention among the participants of the study.

This is understandable, going by the principle of the organizational justice theory. The influence of burnout among the healthcare workers in Ibadan likely reflects experiences of interactional injustice. The demanding workload, long hours, scarcity of resources, and the emotional toll of patient care, when combined with perceived lack of support from coworkers, supervisors, or the healthcare administration, may lead to burnout. Consequently, healthcare workers may seek alternative employment in Ibadan or elsewhere, where they will feel more respected and their well-being prioritized. In addition, the positive correlation between general political behaviors and turnover intention points to issues of procedural injustice. If these professionals perceive the process of resource allocations, task assignments, and even career developments as not being transparent, it undermines their belief in a just system and can lead them to consider leaving for other healthcare organizations in Ibadan or other regions where they anticipate more equitable and transparent operational procedures. Finally, the significant negative influence of pay and promotion policies on turnover intention among healthcare workers in Ibadan underlines the role of both distributive and procedural justice. If healthcare workers in these settings feel inadequately compensated compared to their counterparts in other sectors or regions, or they perceive an unfair or politically motivated pay and promotion policies, the inequity can motivate them to seek better opportunities elsewhere, as this violates the fairness of outcomes (distributive justice) and decision making (procedural injustice).

The result of the finding is consistent with previous findings; Ahmad et al. (2021) & Hidayat & Agustina (2020) found a direct correlation between burnout and turnover intention; higher burnout leads to higher turnover intention, Sasso et al. (2019) found that burnout is a significant "push" factor for nurses' intention

to leave, Demirdağ et al. (2020) found a Moderately positive association between burnout levels and intention to leave in hotel employees, and Egwurugwu (2019) found a Significant relationship between exhaustion and employee turnover; job burnout is significantly correlated with turnover. Olorunleke (2015) found that self-interest driven by resource scarcity fosters a political environment that heightens turnover intentions. Lau, Scully, and Lee (2018) supported this view, noting that self-centered behavior often emerges in resource-scarce settings as individuals seek recognition. Mohammed and Nmadu (2024) found that Organizational politics (favoritism, unfair treatment, lack of transparency) significantly influenced employees' intentions to leave, Agina and Abdelhakim (2021) found that Organizational politics resulted in lower work quality/productivity, heightened turnover intention, and no clear relationship between leave intentions, advancement, and compensation. Chivandire (2017) lists marital status as an influencing factor in academic staff retention. Alli (2023) found that being single was a predictor of employee retention (implying married employees were less likely to leave).

Hypothesis Two, which states that participants who score high on the perceived organizational politics scale will significantly report higher turnover intention than those with low scores on the perceived organizational politics scale, was confirmed and accepted. This validates the stated hypothesis and demonstrates that perceived organizational politics has a statistically significant influence on turnover intention. This implies that participants with higher perceived organizational politics reported greater turnover intention than those with lower perceived organizational politics.

This is quite understandable through the lens of the job demand-resources model. Perception of organizational politics adds a significant weight to the excessive job demands expected from the healthcare workers. For instance, the need to constantly interpret political signals, protect oneself from negative political actions, and engage in political maneuvering to survive and advance on the job consumes energy and contributes to their stress and exhaustion. In addition, a politically charged work environment can deplete available job resources. For example, there may be a lack of trust in leadership, a perceived lack of organizational support, and diminished opportunities for fair advancement if healthcare workers become wary of political alliances. This can make them vulnerable to the negative effects of other job demands, making them more susceptible to burnout and increasing their intention to leave.

The result of the finding is consistent with previous findings; Olufayo and Akinbo (2022) found that in companies with internal politics, young and male employees were more likely to plan to leave. Organizational politics was positively correlated with income and career development, leading to higher turnover intention among talented/educated employees, Ali et al. (2021) found that Organizational politics increased workplace stress, decreased worker efficiency, increased job insecurity, and *increased* turnover intention, Ahmed (2018) in his study in Pakistani universities found that Competition for limited resources, favoritism, and delayed pay/promotions had a detrimental impact on employee turnover rates, also, Olorunleke (2015) & Lau, Scully, and Lee (2018) found that Self-interest driven by resource scarcity fosters a political environment that heightens turnover intentions.

Conclusion

In the study, while investigating the role of organizational politics subscales and burnout as predictors of turnover intention among healthcare workers in Ibadan, Nigeria, it was found that burnout, general political behavior, go along to get along, and pay and promotion policies collectively predicted turnover intention. However, only burnout, general political behavior, and pay and promotion policies independently showed significant predictive power. Specifically, participants with higher perceived organizational politics reported greater turnover intention when compared with those with lower perceived organizational politics.

Human Resources Implications of Finding

The study on the influence of burnout and perceived organizational politics subscales on turnover intention among healthcare workers in Ibadan, Nigeria, has several implications for healthcare organizations, policymakers, and specifically, the management of UCH, State Hospital Ring Road, Adeoyo State Hospital, Moniya General Hospital and other management teams seeking to address turnover intention among healthcare workers. Since it was found that burnout significantly influences turnover intention among healthcare workers in Ibadan, the focus should then be on identifying and mitigating excessive job demands

that contribute to turnover. This could involve workload management by ensuring equitable distribution of tasks, providing an emotional support system like stress management training, ensuring role clarity, and promoting work-life balance. In addition, there is a need to strengthen resources that can buffer the effects of job demands. For example, supervisors should be trained to be supportive, empathetic, and provide regular feedback and recognition. Healthcare workers should also be empowered to have more control over their work where appropriate, and lastly, there should be a fair opportunity for skill enhancement and career growth, as this can bring about feelings of accomplishment.

Furthermore, the perception of organizational politics was equally found to significantly influence turnover intention among the studied sample. Although it is practically impossible to have a complete politically free organization, but active plan must be put in place, such that healthcare workers can see a greater transparency in the organizational processes, especially those related to performance evaluations, resource allocations, and clear communications about how decisions are made to reduce perception of political maneuvering. In addition to these, regular salary benchmarking by comparing compensation packages of healthcare workers with those in other healthcare organizations in Ibadan and other regions can ensure competitiveness and fairness.

Finally, these findings in summary suggest that Human Resources Management, especially those in the healthcare sector in Ibadan, should prioritize employee well-being, fairness, and transparency to improve retention.

Recommendations

Based on the findings, healthcare organizations in Ibadan are advised to develop and implement a comprehensive burnout prevention and intervention program. This will promote work-life balance, assist with reasonable work schedules, rest breaks, and mental health support services to prevent burnout and enhance job retention.

Perception of organizational politics should also be mitigated by developing a consistently enforced code of conduct that prohibits negative political behaviors, such as favoritism, spreading unfounded rumors, withholding information, etc. In addition, supervisors should be trained on how to lead by example, by being transparent and open for feedback and dialogue with both staff and organization, while simultaneously ensuring that all healthcare workers understand the promotion pathway and pay structures. Furthermore, policymakers and regulatory bodies in Oyo State should develop and enforce labor policies that improve working conditions, ensure equitable treatment, and enhance job security for healthcare workers, eventually leading to reduced turnover intention. Finally, it is recommended that they provide funding for more research that will further explore factors influencing turnover among healthcare workers in Oyo State.

Suggestions for Further Studies

To overcome the limitations of the original study, any investigator who wants to replicate this study should endeavor to increase the sample size. This is such that there would be a meaningful comparison among the six geopolitical zones in Nigeria, and not limited to South-western Nigeria. However, the setting of the original study is relatively unique, but to ensure generalization, the pattern of findings shown in this work needs to be replicated in other geopolitical zones in Nigeria. The study should use objective data; this could add value to our findings.

Limitations

First, although systematic random sampling was employed, the study's scope is still geographically bounded to Ibadan, Oyo State, Nigeria. While Ibadan is a large and diverse city, the healthcare system and specific challenges faced by workers there may not be fully representative of other regions in Nigeria. Therefore, caution should be exercised when generalizing these findings to the entire population of Nigerian healthcare workers.

Second, while the study included a broad range of healthcare specializations, it is possible that subtle variations in work experiences and organizational culture within these specializations were not fully captured. Future research could look into these nuances by examining specific professional groups (e.g., general practitioners, and nurses specializing in oncology) separately.

Third, although the refusal rate was low (approximately 16 individuals), it is still possible that those who chose not to participate differed systematically from those who did, potentially introducing some degree of selection bias. While the sample size is relatively large, future research with even larger and more diverse samples could further enhance the generalizability of the findings.

Fourth, the use of a structured questionnaire, while providing quantifiable data, may have limited the depth and richness of the responses. Qualitative methods, such as interviews or focus groups, could provide more nuanced insights into the factors influencing turnover intention.

Finally, like any cross-sectional study, this design cannot definitively establish causal relationships between the variables. Longitudinal studies are needed to understand the temporal dynamics of these relationships and to determine the direction of causality. Despite these limitations, this study provides valuable insights into the factors associated with turnover intention among healthcare workers in Ibadan and serves as a foundation for further research in this crucial area.

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Quality of Family-Personal Life and Work Behaviours in Manufacturing Organizations in North Central Nigeria

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Abstract

Quality of family-personal life and work behaviour have many interconnected parts which influence one another in a great way. As individual strive to excel in their career while nurturing their family relationships, they face a complex web of challenges and opportunities. To this end, this study examines the relationship between quality of family-personal life and work behaviour in selected manufacturing organizations in North Central Nigeria. Using the spill-over theory as its framework, the descriptive cross-sectional study surveyed 414 respondents out of 27,500 populations of the three sampled organisations using the Taro Yamane formula. 403 respondents returned the questionnaire. 10,8,5

participants were selected from the three organisations respectively for key Informant interviews. The research utilizes a mixed-method approach, combining quantitative surveys and qualitative interviews to gather comprehensive data from employees and management staff of the selected manufacturing organisations. Data were analysed using descriptive statistics, such as frequency percentages and distribution tables, while chi-square test was used to test the relationships between dependent and independent variables. The study found that conflicts in family-personal life could lead to stress, and consequently, irrational and negative behaviour in the workplace. The results show that workers from troubled homes are more likely to be absent from work, frequently come late to work, show low job commitment and may eventually exit the organization. The result also shows that good and positive family-personal life quality reduced absenteeism and level of turnover among workers in the organizations. The study concludes that family and personal well-being is not to be seen as a private matter alone but as general responsibility of human resource management in any organisation. It is however, recommended, among others that organisations should provide enough formal platform for interpersonal relationship among workers to address some family and personal issues that could stimulate their behaviour at workplace.

Keywords: Family-personal life, work behaviour, absenteeism, employee turnover, manufacturing organisations, North central Nigeria

Introduction

The quality of an individual's family and personal life have a significant impact on his or her work behaviour and overall performance in a work organization. Work and personal life are interconnected, and a favourable or negative occurrence in one aspect of life often spreads to the other (Greenhaus & Powell, 2006). Workers who experience stability, support and satisfaction in their family and personal lives tend to have greater employment commitment, higher productivity and reduced absence from work (Voydanoff, 2005). On the contrary, stress caused by family responsibilities, financial burdens or personal conflicts can lead to high absenteeism and high rate of employee turnover in the workplace.

The quality of one's family and personal life is indicative of the overall well-being, stability, and satisfaction experienced in personal relationships, home environments, and daily life beyond professional commitments. This encompasses various factors, including emotional support, financial stability, social interactions, mental and physical health, and the balance between work and personal life. A robust family and personal life significantly contribute to an individual's happiness, motivation, and mental health, which subsequently influences their behavior and performance in their workplace.

This paper explores how quality of family and personal life contributes to work behaviour of employee in manufacturing organisations in North central, Nigeria examining factors such as absenteeism and rate employment turnover as work behaviour.

Research Question

This research question guides the study: What is the effect of quality of family/personal life on work behaviours of employees in manufacturing organisations in North central, Nigeria?

Research Hypotheses

As stated in the research question and objective, the study aims to investigate how various socioeconomic factors influence the manner in which North Central Nigerians working in various organisations carry out their duties. Therefore, the following null hypotheses were formulated to be tested during the course of the investigation:

- i. There is no significant relationship between quality of family/personal life and the level of absenteeism among workers;
- ii. There is no significant relationship between quality of family/personal life and the level of employee's turnover among workers;

Conceptual Issues

Quality of Family-personal life

The **quality of family-personal life** refers to the overall well-being, stability, and satisfaction an individual experience in their personal relationships, home environment, and daily life outside of work. It encompasses factors such as emotional support, financial stability, social interactions, mental and physical health, and work-life balance. A high-quality family and personal life contributes to a person's happiness, motivation, and overall mental well-being, which in turn influences their behavior and performance in the workplace.

The quality of an employee's family and personal life significantly influences their work behavior, particularly in manufacturing organizations where job demands are often physically and mentally intensive. Employees who experience a positive balance between work and personal life tend to exhibit higher job satisfaction, increased productivity, and greater adherence to workplace policies (Greenhaus & Powell, 2006). Conversely, work-life conflicts can lead to stress, absenteeism, reduced motivation, and even higher turnover rates (Allen et al., 2017). As the manufacturing industry relies heavily on efficiency, discipline, and teamwork, understanding the relationship between personal well-being and work behavior is crucial for sustaining productivity and organizational success (Smith et al., 2021). The nature of an individual's family and personal circumstances significantly affects their workplace attitude, motivation, and behavior. A stable and satisfying personal life typically results in enhanced job satisfaction, improved focus, and greater productivity. Conversely, personal stressors can contribute to absenteeism, diminished morale, and reduced performance levels. Organizations that acknowledge the significance of work-life balance and prioritize employee well-being often cultivate a more engaged and productive workforce.

Work Behaviour

Work behaviour seen as actions, attitudes, and performance-related activities that workers exhibit in the workplace. It involves several factors, like punctuality, task attainment organisational citizenship cultures, adherence to established workplace policies, and ethical conduct. Work behavior is crucial in determining an organization's efficiency, productivity, and overall attainment of organisations objectives. (Robbins & Judge, 2019). Positive work behaviour is an asset to an organisation as it fosters a productive work environment, while negative behaviors, such as absenteeism, lack of motivation, and workplace conflict, can hinder organizational performance and its overall objectives (Griffin & Moorhead, 2014).

Work behaviour can be seen in various angles; each angle focuses on different aspects of employee actions and attitudes in the workplace. In this study two variables will be used to measure work behaviour (absenteeism and level of employee turnover).

From absenteeism angle, studies revealed that unscheduled absences from work have adverse implications on any organisation due to their unpredictable nature (MacGregor & Cunningham, 2018; Kaiser, 2018; Tarro, Llauredó, Ulldemolins, Hermoso & Solà, 2020). The manager may find it extremely difficult to replace absent workers since it happened suddenly (Karimbil, 2019). Literature indicates that some managers may have to look for contingent workers or make other employees to work overtime (Keramat, Alam, Gow & Biddle, 2020; Hassanein, Al-Qassas, Tir & Abu-Naser, 2020). In addition, there are studies that revealed that younger workers are more likely to be absent from work than older workers (Ali Shah, Uddin, Aziz, Ahmad, Al-Khasawneh & Sharaf, 2020; Groenewold, Burrer, Ahmed, Uzicanin, Free & Luckhaupt, 2020). This is because, perhaps, the older workers are more likely to have higher loyalty to their organisation and a stronger work ethic than younger workers.

From rate of employee's turnover angle, existing studies reported that there is a significant relationship between poor working conditions and high rate of turnover of employees (Manolopoulos, Peitzika, Mamakou & Myloni, 2022; Turkoglu & Dalgic, 2019). Employees are likely to leave an organisation when the conditions of service or working environment are not favourable (Namin, Øgaard & Røislien, 2021). There are also studies that indicate that management may fire employees that are underperforming (Li, Liu & Chen, 2020; Turkoglu & Dalgic, 2019). Turnover may be harmful to the organisation especially when high-performing or highly skilful employees decided to leave. Replacing them may be a herculean to the management particularly when the skills they possess are scarce in the labour market. Literature revealed that those employees who performed poorly are more likely to leave the organisation or being sacked by the management or being encouraged/advised to quit (Paul & Kee, 2020; Rasheed, Iqbal & Mustafa, 2018).

In an organisation where a pay-for-performance system is adopted, underperforming employees are more likely to leave when they discover that they are earning as much as their colleagues due to their failure meet standards. The rate of turnover seems to be higher among the younger employees than among the older employees. This is expected because people who are younger are more likely to have fewer responsibilities compared with those who are older who have larger responsibilities (Çelik, 2018). Also, employees who just joined an organisation may quit faster than those who have been working for the organisation for a long time perhaps due to role conflicts, ambiguities, unclear job descriptions and other stressors they are likely to experience (Rasheed et al., 2018).

Literature Review and Theoretical Framework

Literature Review

Empirical Review on the Relationship Between Family - Personal Life and Work Behaviour

There are some studies that revealed that quality of family and personal life determines work behaviours of employees (Shadare & Olaniyan, 2021; Ogbuabor & Okoronkwo, 2019). It should be stressed that workers have family and personal challenges that may affect their behaviours in their organisations. Existing studies revealed that workers with a troubled background or problematic family life are more likely to behave irrationally at workplace (WiradendiWolor, Solikhah, Fidhyallah & Lestari, 2020; Tamunomiebi&Oyibo, 2020). A study conducted by Mmakwe and Ukoha (2018) on the effects of personal and family life on work behaviour revealed that employees from unstable families are likely to be less efficient and productive in their workplaces. To ensure positive work behaviour among workers, it is essential to consider their personal and family life (Tamunomiebi&Oyibo, 2020). In another study conducted by Thamrin and Riyanto (2020), workers from abusive and violent homes are more likely to be demoralized which may have adverse implications on their job commitments. Abusive and violent homes have strong effects on the work behaviour of workers. The level of commitments, job satisfaction and productivity of workers from troubled families is likely to be lowered (Thamrin&Riyanto, 2020).

Studies showed that workers who experience frequent fights with their spouses over money or any other causes are more likely to display negative work behaviours such as lateness, absenteeism, lack of focus and commitment among others (Ademola, Tsotetsi&Gbemisola, 2021; Fagbenro&Olasupo, 2020). Workers who are not getting enough emotional supports from home are more likely to lose focus and concentration. This may be mitigated if they get emotional supports elsewhere such as peers and organisations they are working for. Based on the review, it is clear that conflicts in family and personal life could lead to stress which could result in irrational and negative behaviours in the workplace. It is argued that employees who have personal and family challenges or from troubled homes (such as abusive home, unstable home, single-parenthood, divorced home among others) are more likely to be absent from work, frequently coming late to work, show low job commitment, and overall reduced job performance. Studies showed that the impact of family and personal life on work behaviour could be mediated by the quality of relationship at work (Ogechi&Nwaeke, 2019; Rasak, Isaac, Festus Femi &Egbide, 2019). For instance, not allowing working to interact with fellow workers could compound the frustration and stress at workplace. Thus, this study proposes that the quality of family and personal life determines work behaviours of workers.

Theoretical Framework

Spill-over Theory: Spill-over Theory, introduced by Staines in 1980, elucidates the influence of experiences in one aspect of life, such as family or personal relationships on experiences in another aspect, like the workplace. This theory posits that emotions, attitudes, and behaviours can transfer between work and family/personal life, resulting in either beneficial or detrimental effects. Positive spill-over is observed when fulfilment and well-being in one area improve experiences in another, whereas negative spill-over arises when stress, exhaustion, or discontent in one area negatively impacts the other (Edwards & Rothbard, 2000).

Application of Spill-over Theory

In organizational contexts, especially within manufacturing environments characterized by physically demanding tasks and structured workflows, the quality of family/personal life significantly influences work behaviour. The relevance of Spill-over Theory in this scenario can be observed in several aspects:

Firstly, employees who benefit from robust family support, stable interpersonal relationships, and overall personal well-being are inclined to adopt a positive attitude in the workplace. This attitude can enhance job satisfaction, boost motivation, and foster improved collaboration among team members (Greenhaus & Powell, 2006). When personal needs like emotional stability, financial security, and social well-being are achieved, employees are more likely to demonstrate proactive work behaviours, show greater punctuality, and comply with workplace regulations (Zhang et al., 2020).

Secondly, Individuals facing personal stressors such as family disputes or financial difficulties may suffer from emotional fatigue, which can result in diminished focus, reduced productivity, and a higher rate of absenteeism (Allen et al., 2017). In manufacturing settings, where both efficiency and accuracy are key, the negative spill-over from family/personal issues can heighten the risk of workplace violations of safety regulations (Ng & Feldman, 2019).

Thirdly, Organizations that adopt work-life balance initiatives, like flexible scheduling and family-oriented benefits can alleviate the impact of negative spill-over (Perry-Jenkins & Wadsworth, 2017). Also, programs focused on employee wellness, counselling options, and personal development initiatives can foster positive spill-over, resulting in improved engagement and performance in the workplace (Ng et al., 2019).

In conclusion, spillover theory offers a valuable lens through which to examine how the quality of family and personal life influences workplace behavior within organizations. Positive spillover can boost motivation, productivity, and job satisfaction, whereas negative spillover may result in stress, absenteeism, and reduced efficiency. It is essential for organizations, especially in the manufacturing industry, to implement policies that promote work-life balance in order to enhance positive spillover effects and mitigate the adverse impacts on employee behavior.

Methodology

Research Design: This study employed a cross-sectional descriptive survey to gather responses from employees of three selected manufacturing organisations in North central, Nigeria. It aimed to understand how family-personal life quality affects worker behaviour in the workplace.

Study Area: The study was conducted in North central Nigeria, focusing on selected manufacturing industries. This region was chosen due to the presence of numerous manufacturing organizations that employ a significant numbers of the workforce.

Population, Sample and Sampling Procedure: The survey was conducted among employees in three manufacturing organisations in North-central, Nigeria, including Obajana Cement Industry, Kogi State; Kam Wire Industry, Kwara State; and OFL Marble and Granite Industry, Nasarawa State with a total population of 27,500 employees. From the total population of 27,500, a sample size of 414 was determined using the Taro Yamane formula of which 403 returned the questionnaire. The sampling procedure was multi-stage. Purposive sampling technique was employed to choose the three selected manufacturing organisations, while quota sampling technique was used to decide how many employees to sample in each organisation. In addition, purposive sampling technique was used to decide the number of respondents to interview as regards qualitative aspect of the study.

Data Collection Method: The study utilized both quantitative and qualitative instruments. Through quantitative, a questionnaire was administered to 414 participants. Qualitatively, In-depth interview was conducted among 16 participants - 8 participants, 5 participants and 3 participants were from Obajana Cement Industry, Kam Wire Industry, and OFL Marble and Granites Industry, respectively. These interviews aimed to gain deeper insights into the impact of family-personal life quality on workers' behaviour in the workplace.

Methods of Data Analysis: The data generated from the administered and returned questionnaire was coded and analysed using descriptive statistics such as tables, frequencies and percentages to demonstrate the response that was obtained from the respondents. Chi-square tests were employed to analyse the relationships between dependent and independent variables to address the research questions for this study, and hypotheses were tested at a 0.05 level of significance.

Data Presentation and Analysis

Respondents' responses on the quality of family and personal life of workers

This subsection presents quantitative results on the quality of family and personal life of workers. From the results, 9.18 per cent (37) of the respondents stated that their quality of family and personal life is very high; 13.64 per cent (55) of the respondents of the respondents stated that their quality of family and personal life is high; 2.48 per cent of the respondents were undecided; 35.98 per cent (145) of the respondents stated that their quality of family and personal life is low; while 38.71 per cent (156) of the respondents stated that their quality of family and personal life is very low.

Table 1: Frequency Distribution of the Respondents on Quality of Family and Personal Life

Response	Frequency N=403	Percentage (%)
Very high	37	9.18
High	55	13.65
Undecided	10	2.48
Low	145	35.98
Very low	156	38.71

Source: Researcher's Field Survey, 2023

From the results, about 70 per cent of the respondents stated that their quality of family and personal life was low and very low. This implies that most of the workers have family and personal challenges that may affect their behaviours in their organisations. Existing studies revealed that workers with a troubled background or problematic family life are more likely to behave irrationally at workplace (Wiradendi Wolor, Solikhah, Fidhyallah & Lestari, 2020; Tamunomiebi & Oyibo, 2020). A study conducted by Mmakwe&Ukoha (2018) on the effects of personal and family life on work behaviour revealed that employees from unstable families are likely to be less efficient and productive in their workplaces. To ensure positive work behaviour among workers, it is essential to consider their personal and family life (Tamunomiebi & Oyibo, 2020). In another study conducted by Thamrin and Riyanto (2020), workers from abusive and violent homes are more likely to be demoralized which may have adverse implications on their job commitments. Abusive and violent homes have strong effects on the work behaviour of workers. The level of commitments, job satisfaction and productivity of workers from troubled families is likely to be lowered (Thamrin & Riyanto, 2020).

In-depth Interview Result

One participant expressed that:

Most of my family and personal problems come from this organisation. I usually have problems with my family members because I am not giving enough due to my meager salaries. If I am earning much, I would be able to give enough to my family members, and there will be no problem. Frequent fights with my wife over money always make me restless and inactive. Whenever I have a fight with my wife, I usually come late to work. I would not even get myself at all. I have been coping with these problems through my friends here. I have many friends who are providing emotional supports for me here. They are being supportive. Each time I have issues with my wife or any of my family members I usually talk, discuss and share my experiences with my friends.

Another participant mentioned that:

Many of their colleagues were stealing from this organisation. Although it is bad behaviour, I can't blame them because the organisation is cheating us. Our salary is too small. Most of us have serious challenges providing for our families, and we don't have any other means. We spend almost every day here working. I have seen my co-workers stealing some of our products, equipment and other stationery homes. If not because I am a born-again, I would have joined them stealing.

From the results, it is clear that conflicts in family and personal life could lead to stress which could result in irrational and negative behaviours in the workplace. The analysis revealed that employees who have personal and family challenges or from troubled homes (such as abusive home, unstable home, single-parenthood, divorced home among others) are more likely to be absent from work, frequently coming late to work, show low job commitment, and overall reduced job performance. Further analysis revealed that the impact of family and personal life on work behaviour could be mediated by the quality of relationship at work. For instance, not allowing working to interact with fellow workers could compound the frustration and stress at workplace.

Responses of the respondents on absenteeism: Absenteeism refers to unscheduled absences from work. Not coming to work constantly without any tangible reason. Quantitative results on absenteeism are provided. For instance, 15.14 per cent (61) of the respondents argued that the level of absenteeism among workers was very low; 19.60 per cent (79) of the respondents argued that the level of absenteeism among workers was low; 28.04 per cent (113) of the respondents argued that the level of absenteeism among workers was average/moderate; 19.85 per cent (80) of the respondents argued that the level of absenteeism among workers was high; 17.37 per cent (70) of the respondents argued that the level of absenteeism among workers was very high.

Table 2: Frequency Distribution of the Respondents on the Level of Absenteeism

Response	Frequency N=403	Percentage (%)
Very Low	61	15.14
Low	79	19.60
Average	113	28.04
High	80	19.85
Very high	70	17.37

Source: Researcher's Field Survey, 2023

From Table 2, about 40 per cent of the respondents argued that the level of absenteeism among workers is high and very high. This implies that the level of absenteeism among workers is relatively high perhaps due to the nature of the job. It is possible that absenteeism is high because of frequent accidents and injuries of workers. Perhaps, those who are absent from work might have sustained some major injuries. Studies revealed that unscheduled absences from work have adverse implications on any organisation due to their unpredictable nature (MacGregor & Cunningham, 2018; Kaiser, 2018; Tarro, Llauradó, Ulldemolins, Hermoso & Solà, 2020). The manager may find it extremely difficult to replace absent workers since it happened suddenly (Karimbil, 2019). Literature indicates that some managers may have to look for contingent workers or make other employees to work overtime (Keramat, Alam, Gow & Biddle, 2020; Hassanein, Al-Qassas, Tir & Abu-Naser, 2020). In addition, there are studies that revealed that younger workers are more likely to be absent from work than older workers (Ali Shah, Uddin, Aziz, Ahmad, Al-Khasawneh & Sharaf, 2020; Groenewold, Burrer, Ahmed, Uzicanin, Free & Luckhaupt, 2020). This is because, perhaps, the older workers are more likely to have higher loyalty to their organisation and a stronger work ethic than younger workers.

In-depth Interview Result

Qualitative analysis revealed almost similar results. For instance, a participant stressed that:

Yes, workers who are absent from the job have reasons for doing so. Most of the workers that are absent are those who have sustained one injury or the other. In other words, absent behaviour here is health-related. We suffer series of ailments here such as lower back pain, migraines, accidents, acute stress among others. Our work here is difficult. If you are not strong, you cannot work here. The organisation can address this problem by initiating and implementing wellness programs and providing immediate treatments for those workers who have suffered some injuries from accidents and other forms of ailments either on the job or off the job.

Another participant expressed that:

Some of our colleagues are absent from work to care for their sick family members. I think the organisation should make work hours more flexible. The management should provide not only 'sick leave' to us, but also leave for social and family obligations. Let me confess to you, some workers are leaving because they are not happy and satisfied with this job. Even if I get another job now, I will leave now. I don't see my future here. My loyalty to this organisation is low; but I am working harder because I don't want to be fired. I have not gotten any other job.

From the above qualitative and quantitative analyses, it is evident that the level of absenteeism among workers is somehow high perhaps due to the nature of their jobs. The analysis suggests that most of those workers who are constantly absent from work are likely to be suffering from injuries sustained while working. Some workers may be suffering from back pain and other ailments. Further analysis revealed that some workers are absent because they are not happy and satisfied with their jobs. In other words, their absenteeism could be explained by the poor working conditions.

Responses of the respondents on turnover: This subsection presents quantitative results on the level of turnover. Turnover refers to an employee's leaving an organisation. From the results, 37.96 per cent (153) of the respondents said that the level at which employees leaves the organisation was very high; 23.16 per cent (93) of the respondents said that the level at which employees leaves the organisation was high; 13.40 per cent (54) of the respondents said that the level at which employees leaves the organisation was

moderate; 16.13 per cent (65) of the respondents said that the level at which employees leaves the organisation was low; while 9.43 per cent (38) of the respondents said that the level at which employees leaves the organisation was very low.

Table 3: Frequency Distribution of the Respondents on the Level of Turnover

Response	Frequency N=403	Percentage (%)
Very high	153	37.96
High	93	23.16
Moderate	54	13.40
Low	65	16.13
Very low	38	9.43

Source: Researcher's Field Survey, 2023

From the results, 60.12 per cent of the respondents noted that the rate at which employees leave their organisations was very high and high. This implies that the level of turnover is high. This buttresses the earlier findings that employees are not happy and satisfied with their jobs. Most of them are just doing it because they do not have any other alternatives. Once they get any opportunities or alternatives, they leave even without notifying the management. Existing studies reported that there is a significant relationship between poor working conditions and high rate of turnover of employees (Manolopoulos, Peitzika, Mamakou & Myloni, 2022; Turkoglu & Dalgic, 2019). Employees are likely to leave an organisation when the conditions of service or working environment are not favourable or conducive (Namin, Øgaard & Røislien, 2021). There are also studies that indicate that management may fire employees that are underperforming (Li, Liu & Chen, 2020; Turkoglu & Dalgic, 2019). Turnover may be harmful to the organisation especially when high-performing or highly skillful employees decided to leave. Replacing them may be a herculean to the management particularly when the skills they possess are scarce in the labour market.

Literature revealed that those employees who performed poorly are more likely to leave the organisation or being sacked by the management or being encouraged/advised to quit (Paul & Kee, 2020; Rasheed, Iqbal & Mustafa, 2018). In an organisation where a pay-for-performance system is adopted, underperforming employees are more likely to leave when they discover that they are earning as much as their colleagues due to their failure meet standards. The rate of turnover seems to be higher among the younger employees than among the older employees. This is expected because people who are younger are more likely to have fewer responsibilities compared with those who are older who have larger responsibilities (Çelik, 2018). Also, employees who just joined an organisation may quit faster than those who have been working for the organisation for a long time perhaps due to role conflicts, ambiguities, unclear job descriptions and other stressors they are likely to experience (Rasheed et al., 2018).

In-depth Interview Result

This finding was corroborated by the results from qualitative analysis. For instance, a participant expressed that:

Many of our colleagues are leaving because they are not happy and satisfied with the situations here. Even me, I am leaving immediately I get a better job. You call this a decent and good job. There is nothing good about this job. I am just managing it because I get no choice. I have to feed my family and take care of myself too. My commitment to this organisation and my job is reducing; but it is not affecting my performance because I don't want to be sacked. Let me get another job first; not only job, but a decent and good

job. Most of the people that left this organisation decided to leave when they got government works.

Also, another participant noted that:

People are leaving this organisation. I may even leave tomorrow if I get a good job today. You know you can leave a job in this country if there is no alternative except if you want to die of hunger. Here, there are limited opportunities for advancement, the pay and other reward are not encouraging and working conditions are not palatable. Everything is wrong in this organisation. In my own case, employability and the condition of job market are holding me back. You know, there is a problem of unemployment. I don't want to join the league of unemployed people again. I will be managing this one until I get a better one. Let me add that the level of stress in this organisation is high. We undergo too much stress. That stress alone is enough justification to quit.

From the results, it is clear that while employees are unhappy and unsatisfied with their working conditions, they decided to stay because they do not have any alternative jobs. Also, most of them find it difficult to leave because of their high responsibilities such as high number of dependents. If they quit, they are likely to face more stressors from their family members. In addition, most of them refuse to leave their organisation because they fear that they return back to the league of unemployed people. The rate of unemployment is high in Nigeria. They feel that it is better to continue managing what they have than not getting anything. The analysis also showed that younger employees are more likely to leave than older employees because older employees are more likely to have higher responsibilities than younger employees. Also, employees that just joined the organisations are more likely to leave than those employees that have been with the organisations for some or many years. New employees may leave when they can cope with high stress and find job descriptions unclear.

Hypothesis One

- i. H_0 : There is no significant relationship between quality of family-personal life and the level of absenteeism among workers.
- ii. H_1 : There is significant relationship between quality of family-personal life and the level of absenteeism among workers.

Test of Relationship between the Quality of Family Life and the level of Absenteeism among Workers

To determine the relationship between quality of family life and the level of absenteeism among workers, the two variables are cross-tabulated. The frequency distributions of the variables are in Tables 1 and 2. From these Tables, a number of descriptive and statistical deductions are derived. The results show that a significant relationship between the quality of family life and the level of absenteeism among workers ($X^2 = 84.38$, $df = 16$, at 0.05). This shows that the calculated Chi-square ($X^2 = 84.38$) is greater than the tabulated (critical value) ($X^2 = 26.296$) at 0.05 level of significance and degree of freedom of 16 (see table 4).

Table 4: Relationship between Quality of Family Life and the Level of Absenteeism

Quality of Family Life	Level of Absenteeism					Total
	Very high	High	Undecided	Low	Very low	

Very high	07	08	11	06	05	37
High	11	13	16	09	06	55
Undecided	02	02	02	03	01	10
Low	23	24	41	38	19	145
Very low	27	33	43	23	30	156
Total	70	80	113	79	61	403

X^2 (calculated value) = 84.38; df = 16; X^2 (critical value) = 26.296; Significance = 0.05; Pearson's R = - 0.68

Results from Pearson's Product Moment Correlation Coefficient showed a negative association (-0.68) between family life satisfaction and absenteeism among the sampled workforce. Worker absenteeism can be reduced if employees have a happy and healthy home life. Tables 1 and 2's descriptive results were further validated by this finding. Employees from troubled homes have been shown to be less invested in their work and less likely to meet deadlines, according to research (Mmakwe&Ukoha, 2018; Tamunomiebi&Oyibo, 2020). Employees' positive behavior on the job depends on accommodating their personal and family responsibilities (Tamunomiebi&Oyibo, 2020). The next study will investigate whether or not there is a correlation between workers' satisfaction with their home lives and their turnover rates.

Hypothesis Two

- Ho: There is no significant relationship between quality of family-personal life and the level of turnover among workers
- H₁: There is significant relationship between quality of family-personal life and the level of turnover among workers

Test of Relationship between the Quality of Family Life and the level of Turnover among Workers

To determine the relationship between quality of family life and the level of turnover among workers, the two variables are cross-tabulated. The frequency distributions of the variables are in Tables 1 and 3. From these Tables, a number of descriptive and statistical deductions are derived. The results show that a significant relationship between the quality of family life and the level of turnover among workers ($X^2 = 41.29$, df = 16, at 0.05). This shows that the calculated Chi-square ($X^2 = 41.29$) is greater than the tabulated (critical value) ($X^2 = 26.296$) at 0.05 level of significance and degree of freedom of 16 (see table 5).

Table 5: Relationship between Quality of Family Life and the Level of Turnover

Quality of Family Life	Level of Turnover					Total
	Very high	High	Undecided	Low	Very low	
Very high	08	04	03	17	05	37
High	12	13	08	18	04	55
Undecided	03	02	00	04	01	10
Low	71	36	21	10	07	145
Very low	59	38	22	16	21	156
Total	153	93	54	65	38	403

X^2 (calculated value) = 41.29; df = 16; X^2 (critical value) = 26.296; Significance = 0.01; Pearson's R = - 0.72

According to the results of Pearson's Product Moment Correlation Coefficient, a -0.72 indicates a negative relationship between family life satisfaction and turnover rate, as reported by the sampled workforce. This suggests that a happy home life has a beneficial effect on employee retention. These findings corroborated the illustrative findings shown in Tables 1 and 3. Pre-existing research has shown that workers who come from violent or abusive homes are more likely to be demoralized, which can have negative effects on their dedication to their jobs and ultimately increase the turnover rate (Mmakwe&Ukoha, 2018; Tamunomiebi&Oyibo, 2020). Employees who come from violent or abusive homes tend to act out more on the job. Employees from troubled homes are less likely to be fully invested in their work, less satisfied with their jobs, and less productive (Thamrin&Riyanto, 2020).

Discussion of Findings

The aim of this study is to examine the relationship between quality of family-personal life and work behaviours among workers in selected organisations in North-central Nigeria.

- The results therefore revealed that conflicts in family and personal life could lead to stress which could result in irrational and negative behaviours in the workplace. The analysis revealed that employees who have personal and family challenges or from troubled homes (such as abusive home, unstable home, single-parenthood, divorced home among others) are more likely to be absent from work, frequently coming late to work, show low job commitment, and overall reduced job performance. Further analysis revealed that the impact of family and personal life on work behaviour could be mediated by the quality of relationship at work. For instance, not allowing worker to interact with fellow workers could compound the frustration and stress at workplace.
- Additionally, workers facing challenges in their personal or family lives showed higher levels of absenteeism and a stronger tendency toward job turnover, either through voluntary resignation or poor performance leading to dismissal. Furthermore, workers with stable and supportive family and personal lives demonstrated better work commitment, punctuality, and high productivity at workplace. These individuals were less likely to be absent or consider leaving their jobs.
- The study also revealed a gap in organizational support systems that address the personal and family-related issues of workers. Most of the manufacturing organizations lacked formal structures or programs aimed at promoting work-life balance.

Conclusion

The findings conclude there is a significant link between family-personal life challenges and negative work behaviors. Workers experiencing conflicts or instability at home, such as living in abusive or unstable environments, single-parent households, or divorced situations, were seen to be more prone to stress, leading to irrational and negative behaviors at the workplace. These behaviors included increased absenteeism and reduced job performance. Additionally, the study also conclude that such challenges also increased the likelihood of job turnover, either through resignation or dismissal due to poor performance.

On the other hand, employees with stable and supportive personal and family lives exhibited more positive work behaviors, including high productivity, punctuality, and commitment to their roles. These workers were also less likely to be absent or consider leaving their jobs. Moreover, the quality of workplace relationships was identified as a mediating factor; workers who were allowed to interact with colleagues were better able to cope with personal challenges, whereas social isolation at work exacerbated stress and frustration.

In conclusion, the study highlights the need for organizational policies that promote employee well-being, including support for workers facing personal challenges and fostering positive interpersonal relationships within the workplace. Implementing such measures could reduce both absenteeism and turnover rates

Recommendations

Based on the findings and conclusions:

1. Organisations should implement formal support systems like counselling services, stress management programs, and family support initiatives to help employees deal with family or personal challenges by periodically assessing the general well-being of staff through unscheduled surveys or feedback sessions to identify issues that can affect workers negatively early and respond swiftly.
2. Organisations should embrace a culture of openness where workers feel safe discussing family or personal challenges without fear of stigma or job insecurity and make it a norm to occasionally organise family-inclusive events or workshops that allow employees to integrate their family and work lives in a supportive setting.
3. Organisations should monitor and assess the success of workplace relations and employee support programs on a regular basis. Employee input should be gathered in order to understand areas that require improvement and make necessary policy adjustments.

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ENVIRONMENT ECONOMIC POLICY

An Assessment of the Role of the State in Promoting the Indigenous People's Rights in Mining Activities in Nigeria

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Abstract

The need to protect the rights of indigenous peoples (host communities) in mining activities has become a major issue in Nigeria as well as in other resource endowed countries. Although the Nigeria Mining and Mineral Act, 2007 (which is the extant law that governs the sector) provides for the rights of the host communities, in reality those rights have been deprived the indigenous peoples to a large extent. The paper aim at assessing the role of the state government in promoting the right of indigenous peoples in mining activities in Nigeria. In order to achieve this aim, the paper used a meta-analysis of previous studies to examine the present mining ecosystem with respect to the protection of the indigenous peoples rights, causes of conflicts, the state role as an arbiter and mediator, the state and the development of sustainable mining communities and the role of the state in promoting the granting of the social license to operate (SLO). In conclusion, the paper emphasized the importance of the state in promoting the rights of indigenous peoples by encouraging information sharing, dialogue and understanding between the interested parties. This is essential in achieving minimal conflict and fostering cooperation between stakeholders. Thus promoting responsible resource governance and management, and the development of sustainable mining communities.

Keywords: Conflict, arbiter, sustainable communities, CDA, Nigeria

Introduction

Indigenous people are distinct communities and societies with unique cultures that usually have strong ties to the land, and includes a sizeable proportion of the world's linguistic and cultural diversity (O' Faircheallaigh, 2023; ICMM, 2024). By an irony of nature, most mineral deposits are found in rural and sometimes remote area usually inhabited by indigenous communities and are mostly affected by mining activities i.e. the consequences of mining activities are mostly felt at local community level by host communities. Often times the indigenous people do not have adequate representation and say in how their mineral endowments are exploited. Thus, the indigenous people are denied of their rights to land ownership, cultural preservation and self –determination. A fall out of this is the persistence of intense conflicts over land belonging to indigenous communities, which has become a pressing issue in Nigeria.

Statement of the Problem

According to Owen et al (2022) 54% of mining projects globally are sited on or near indigenous people's lands. The increasing demand for minerals, triggered by the global decarbonization efforts due to the climate change crisis has resulted in significant increase in mining activities, impacting the environment, societies, economies and the entire world. Unfortunately, these impacts are most severe for the local communities and indigenous peoples who live around the mining sites, exposing them to environmental degradation and social disruption (Rodon et al, 2024). Therefore, it has become imperative to put in place measures, policies, interventions and regulations that will help to protect the indigenous people's rights and promote sustainable extraction of minerals and the overall sustainability of the mining sector.

Aim and objectives of the study

The paper aim at assessing the role of the state government in promoting the right of indigenous people in mining activities in Nigeria. In order to achieve this aim, the following objective have been set:-

1. Examine the present mining ecosystem with respect to the protection of the indigenous peoples' rights.
2. Investigate the causes of conflicts and the role of the state as an arbiter and mediator.
3. Evaluate the contribution of the state and the development of sustainable indigenous mining communities.

4. Assess the role of the state in promoting the granting of social license to operate (SLO)

Methodology

The study was conducted base on the narrative review of previous studies. This was done in order to identify and assess existing literature on the role of states in promoting the indigenous peoples' right in mining in Nigeria. The review was conducted for studies on the subject matter from 2000 to date to ensure that the study is as contemporary as possible. In the course of the review, grey literature were excluded except for studies in Nigeria where this criterion was set aside due to the dearth of relevant literature. Grey literature usually fall short in terms of in-depth peer review (Costa et al, 2019). Three notable and renown databases were consulted – namely ResearchGate, SpringerLink and Academia because of their reliability and scope.

The Present Mining Ecosystem

At this junction, it is necessary to take a cursory look at the constitutional role (1999 constitution) of the different tiers of government and their roles as contained in the Nigerian Minerals and Mining Act, 2007. Although the Nigeria constitution gives the federal government control of all natural resources in Nigeria, however, state where the reserves are domiciled cannot be aloof in ensuring smooth mining operations, safety and guarantee provisions for the host communities. Section 39 of the 1999 constitution put the mining sector under the exclusive list. This implies that only the federal government can grant mining licenses, collect revenue, monitor and regulate operations. Although in several instances we have seen several state governments insisting on mining companies registering with the state government before they can operate. In some other instances, state governments collect revenue in form of taxes from mining operators e.g. Kwara and Osun state, and in some cases place outright ban on mining operations in their territory e.g. Benue and Taraba. Some states in justifying the multiple levies and taxes imposed on mining operators claim to own the land while the federal government own the minerals. This conflicting response is detrimental to the smooth running of mining activities in the various states. The Nigerian Mining and Minerals Acts (NMMA, 2007) is the extant regulation governing mining activities in Nigeria. The Act gives exclusive control over all mining activities to the federal government.

The Nigeria Mining and Minerals Acts, 2007 accorded the indigenous people (host communities) some rights. These include:-

- i. Rights of host indigenous communities to Community Development Agreement (CDA).
- ii. Rights to prohibition of mineral exploration in certain areas.
- iii. Right to owners or occupiers to graze or cultivate on mining land.
- iv. Right of participation in environmental protection and rehabilitation.
- v. Right to compensation and surface rents.
- vi. Right to occupiers owners of land to give consent before issuance of license.

On the international scene, two notable policy and regulatory instruments among others exist which affirms the international recognition of the rights of indigenous people. These are:-

1. The United Nations Declaration on the Rights of indigenous people, 2007.
2. The International Labour Organisation's Convention 169 on Indigenous and Tribal Peoples.

In many instances the rights of the indigenous peoples have not been accorded in the course of mining in various parts of the country. In many instances indigenous peoples have been forcefully displaced from their ancestral land without following the proper way as provided for i.e. a proper Resettlement Action Plan (RAP) as provided for by the Mining Act 2007 e.g. Benue and Taraba States. Presently, there is high level of impurity in the mining terrain with many of these rights been denied the indigenous people and with the mining communities littered with degraded and polluted land.

Causes of Conflict and the State Role as an Arbiter and Mediator

In Nigeria, the indigenous peoples of mining communities are been deprived of many of their rights and suffer untold hardship from mining activities. This travesty of justice usually results in conflict between the indigenous community, the supervisory government agency and the proponents of mining projects. It should be noted that Artisanal and Small-scale Mining (ASM) make up over 80% of the Nigeria mining ecosystem (Akinleye, 2023). Causes of potential conflicts includes environmental degradation, dispute over land, inadequate compensation for land and resources affected, displacement of indigenous people from their present settlements, cultural disruption and unequal access to economic opportunities (Oh et al, 2023). Disputes and conflicts can also occur as a result of non-compliance with community development agreement and other Corporate Social Responsibilities (CSR), and failure of the relevant government agency to consult with host communities before granting mining licenses and permits. This complex interplay and conflict of interest requires an arbiter that can navigate the labyrinth that this situation represents. Thus, state government as the arbiter, monitoring and supervisory authority must maneuver through these complexities by ensuring that the rights of indigenous communities are respected as enshrined in the extant mining regulations and policies.

The Mineral Act provides a platform for effective participation by state governments in mining affairs through the establishment of a Mineral Resources and Environmental Committee (MIREMCO) in each state. MIREMCO is intended to help state government fulfill their human rights obligations to host communities by ensuring that the preconditions to commencement of mining activities within their domain, such as Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) were complied with. Although state government have no direct supervisory rights over mining activities, they may advise the supervising ministries in this regard. In addition, they could further protect host communities by putting in place strong environmental monitoring mechanism housed within their respective ministries of environment which could liaise with the necessary federal agencies empowered for such functions by the Mining and Minerals Act.

Apart from the above, states can according to Mrs Abiodun Baiyewu (Global Rights Executive Director) establish a State Solid Mineral Information Management System (SSMIMS) to collate data on licensed miners, employees of minerals title holders, approved mineral title area, royalties paid, details of CSR initiatives etc (Olatunji, 2020). This could help deal with the menace of illegal mining, ensure transparency in revenue, accountability in the volume of minerals mined, protect the host community and provide overall better governance of the sector. Other roles the state can play includes:-

1. States can contribute to the growth of and effective functioning of the mining sector by partnering with the federal government to ensure occupational safety, adopting security measures and through provision of infrastructure in host communities.
2. States can put in place development plans which are blueprints which contains development aspirations of states in relation to the prospects and challenges of mining activities. Such plans will serve as guide to community development plans to be reached with mining companies.
3. States can help in securing the interest of host communities by ensuring that communities are able to negotiate Community Development Agreements (CDA) by providing the required necessary legal, technical and administrative support and also ensure effective implementation and monitoring of the CDA as required in the Mineral and Mining Act.
4. State governments can also play an important role by systematically sensitizing host communities on mining developments, their rights as provided for in the Minerals and Mining Act, and avenues for community development through proposed projects. In addition, states can assist in provision for infrastructure such as roads and health facilities thereby creating enabling environment to engender development.
5. Local government can also play very important roles because mineral deposits and mineral titles fall within a particular local government i.e. local government are closer to mining host communities, hence they have very important role to play in monitoring activities within their jurisdictions.

Besides, state governments can ensure that local government play active roles and contribute their quota to the growth of the sector. A look at the mining ecosystem in other climes with more developed mining sector that makes greater contribution to their GDPs indicates more roles are being played by state and local authorities in the mining sector. These indicate a nexus between more developed mining sector and devolution of greater roles and authorities to state (provincial) and local government e.g. Ethiopia, Ghana, Tanzania, Botswana and Canada (Dougherty, 2011; UNEP 2012; World Bank, 2016). Hence, there is need to make constitutional provision (changes) for greater involvement of states and local authorities in mining activities in order to facilitate the growth of the sector in Nigeria.

States and the Development of Sustainable Mining Communities

Mineral endowments are finite hence sustainability and sustainable development in the context of mining according to Walser (2000) must shift from the narrow environmental definition to one of “sustainable communities”. These are communities which are able to turn part of the wealth generated by mining into an asset base which not only results in widespread benefits from the operation of the mine, but ensures that the community will have a continued economic future once the mining activity ceased. Consequently, the discourse on politics and economics of mining are shifting to include regional (state), local governments and communities from the initial focus on central government. In order to facilitate the promotion of sustainable mining activities and communities, states need to be strategic in planning about the future of the host communities. This is because the mineral sector produces resources that are by definition non-renewable. Hence bust periods usually accompany boom periods i.e. volatility of the sector. The bust is felt most sharply among the indigenous people who are the host communities. States can invest in infrastructure and ensure equitable distribution of the benefits of the mining activities in order to mitigate the effects of the bust periods.

The key issue is the extent to which investment in the sector and ancillary activities can be redirected towards new activities during bust periods and at the cessation of mining activities. In many cases, the local economic benefits from mining projects are not distributed equitably among the indigenous people. According to study by Loyaza and Rigolini (2016) economic benefits from mining accrued disproportionately to urban centers and bypass host (indigenous) community. A way to promote the sustainability of the indigenous people is to ensure adequate training of local workforce in such a way that the skill set acquired can be transferable to another industry at the cessation of mining activity. States can also be involved in advocacy for local communities during negotiations with mining firms and connect mine development with community development. Policies, laws and regulations should be people centered and should engage proponents of mining projects to learn the rules and regulations dealing with the local communities, their customs, culture, language, mining experiences and local protocol.

The indigenous community is the starting point of economic life, hence mineral extraction must be done with a people oriented and humane developmental approach based on transparency and accountability, which enhances people’s dignity and livelihood development. Policy development around mineral resources should move away from the popular, yet failed approach of trickle down (top-bottom approach) to one that is more holistic, by recognizing that minerals under the ground belong to all and should first and foremost benefit the communities surrounding mining activities as well as contribute to the overall development of the country. Thus, there is need for continuous community engagement and dialogue facilitated by the state to achieve a more sustainable and developmental path that meets the needs of indigenous (host) communities.

State and Social License to Operate (SLO)

According to Remy and McMahon (2001) a legal license is no longer adequate to operate smoothly and unhindered in the extractive industry. State government have very important role to play in the acceptance of mining projects and their proponents. A detail insight into this concept will show clearly the role of states in promoting the granting and maintenance of social license. The term Social License to Operate (SLO) which was coined in the late 1990’s by Canadian mining executive Jim Cooney refers to acceptance within

local communities of both mining companies and their project (Meesters et al, 2021). Social License to Operate (SLO) does not refer to a formal agreement or document but to the real or current credibility, reliability and acceptance of mining companies and their projects by stakeholders that can be affected by the mining projects i.e. local communities/indigenous people and other groups of interests such as local government, NGO's etc. The concept of SLO is based on the extent to which a corporation and its activities meet the expectations of local communities, the wider society and various constituent groups. It is dynamic because stakeholder's perceptions can change over time for different reasons i.e. satisfaction with the fulfillment of promises and obligations, unforeseen environmental damages, success or otherwise of company's CSR programs e.t.c. SLO can be revoked hence should not be taken for granted. Obtaining and maintaining SLO is only possible when indigenous people and local communities feel they are consulted and receive a fair share of benefits from mining projects. To obtain SLO, mining companies must develop good relationship with all stakeholders which is best developed between government, mining companies and local communities. In order to facilitate this, the parties involved must develop a trilateral negotiation from the onset of mining projects. Good relationships are based on mutual respect, open and ongoing communication, inclusion of all stakeholders, honesty, full disclosure of information and transparency of mining exploration and exploitation processes etc. Mining companies must be sensitive to local cultural mechanisms, be consistent and predictable regarding their ethical behaviour but flexible enough to accommodate the needs of the community and start the engagement process as early as possible. Mining companies must keep their promises. It must be noted that SLO is obtained based on consultation, participation and continuous dialogue geared towards giving voice to disgruntled citizens (Remy and McMahon, 2001). In summary SLO is needed to avoid social conflict, loss of machinery and equipment due to vandalism, delay in takeoff of mining operations and possible mine shutdown due to community opposition to the project (The Fraser Institute, 2018; Llaque, 2021).

To achieve these outcomes, it is important to ensure consultation, participation and ongoing dialogue by securing land rights, free, prior and informed consent (FPIC) and the right of first refusal for indigenous communities.

Conclusion

The promotion of the rights of indigenous people can lead to improved environmental protection and sustainable resource management. Therefore, there is need for a shift in the present approach of viewing indigenous people as obstacles to mining to recognizing them as partners in sustainable development and resource management.

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Moderating Effect of Population Growth on Environmental Factors and Crude Death Rate Nexus in Africa

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Abstract

Crude death rate (CDR) remains a pressing global health issue, acutely affecting Sub-Saharan Africa where environmental inadequacies exacerbate mortality challenges. Few studies have explored the moderating role of total fertility rate (TFR) in this disturbing phenomenon. This study investigated moderating effect of TFR on clean fuels and technologies for cooking (ACFTC), access to at least basic drinking water services (PUBDWS), access to at least basic sanitation services (PUBSS) and CDR nexus in Africa. The study was undergirded by Health Production Function and Demographic Transition Theories. A retrospective research design was utilised to study 30 African countries purposively selected. Panel data for these countries were sourced from the World Bank's World Development Indicators for the period 2000–2022. A robust fixed effects regression model was employed to estimate the relationships between variables after pre-estimation and post-estimation tests. Findings indicated that the direct effect of ACFTC on CDR was insignificant and minimal (coef. = 0.0029, $t = 0.46$, $p = 0.649$). After incorporating TFR, the direct effect of ACFTC became negative but remained insignificant (coef. = -0.0656, $t = -1.00$, $p = 0.324$), and no evidence emerged to suggest that TFR moderated the ACFTC–CDR nexus (coef. = 0.0171, $t = 1.19$, $p = 0.243$). In contrast, PUBDWS had a significant positive effect on CDR (coef. = 0.0207, $t = 2.07$, $p = 0.039$), with TFR significantly moderating this relationship (coef. = -0.0554, $t = -4.17$, $p = 0.000$). Greater access to PUBSS was associated with lower CDR (coef. = -0.0726, $t = -9.11$, $p = 0.000$), although its interaction with TFR was statistically insignificant (coef. = 0.0018, $t = 0.10$, $p = 0.919$). Fertility rate was significant across both models, highlighting its role in explaining variation in CDR. While it was suggested that systemic obstacles probably causing counterintuitive effect of PUBDWS on crude death rate be eliminated, it was concluded access to basic water services exerted greater influence on mortality reductions when moderated by lower fertility rate.

Keywords: Crude death rate; total fertility rate, environmental health factors, Sub-Saharan Africa

Introduction

The nexus between environmental determinants and public health outcomes has become a topic of growing concern for researchers and policy-makers. The crude death rate (CDR), deaths per 1,000 population, is an important measure of the general health and wellbeing of a population anywhere in the world. The World Health Organization (WHO, 2021) reported that the worldwide average crude death rate has varied in recent decades as a result of better health care, sanitation, and access to essential services. Variations between high- and low-income countries, nevertheless, continue to exist. In more affluent nations like Europe and North America, the CDR is quite low, usually less than 10 deaths per 1,000 population, which mirrors the excellent health systems and comprehensive public health infrastructure (UNICEF, 2020). On the other hand, regions like Sub-Saharan Africa experience increased crude death rates, usually above 12 to 15 deaths per 1,000 individuals, due in large part to limited access to clean energy, clean water, and proper sanitation facilities (World Bank, 2020).

Access to clean fuels and cooking technologies for cooking (ACFTC) is one of the most significant determinants of public health in the developing world. Worldwide, indoor air pollution from the utilisation of traditional biomass fuels continues to be a leading cause of pollution that has been attributed to a broad spectrum of respiratory illnesses in addition to excess deaths (Smith *et al.*, 2014). In most of Asia and Africa, families still rely on wood, charcoal, and other raw biomass fuels for household cooking, which exposes them to high levels of particulate matter and other dangerous emissions (Bruce *et al.*, 2015). Literature has demonstrated that both increased access to clean fuels like liquefied petroleum gas (LPG) and electricity decrease indoor air pollution and are also associated with lower crude death rates in areas where the technologies are widespread (Rehfuess *et al.*, 2014).

Likewise, access by people using at least basic drinking water services (PUBDWS) is a foundation of public health. Safe drinking water is integral to the control of waterborne diseases, which continue to be a leading cause of morbidity and mortality in most developing nations (Hunter *et al.*, 2010). Over 800 million individuals continue to lack access to safely managed drinking water services worldwide (WHO/UNICEF, 2019). Unstable water systems are directly responsible for a heavy diarrheal disease burden, one of the major causes of crude death rates, especially for children below the age of five years (Cairncross *et al.*, 2010). When water supplies are unstable in an area, inhabitants will turn to unsafe or contaminated water sources, thus continuing cycles of disease, in addition to premature death.

People using at least basic sanitation services (PUBSS) is also a key factor in lowering CDR. Sanitation averts or minimises the transmission of infectious diseases through limiting people's contact with the pathogens contained in human excreta. In the view of WHO (2020), dirty environments are a priority risk factor for a variety of health conditions, such as diarrheal diseases, cholera, and parasites. Notwithstanding international efforts, an estimated 2 billion individuals continue to lack access to basic sanitation (UNICEF/WHO, 2021). Poor sanitation not only increases the threat of disease transmission but also jeopardises socio-economic development as a whole, since societies carrying large disease burdens are unable to achieve sustainable development.

One of the world's highest crude death rates is experienced in Africa and is compounded by the worsening issues of environmental inadequacies and a very fast-growing "unchecked" population. Sub-Saharan Africa is characterised by high total fertility rates (TFR), where a woman is likely to have, on average, more than five children in her lifetime (United Nations, 2021). These high levels of fertility place enormous pressures on already overburdened public health and infrastructure systems. As population growth speeds up, demands for clean energy, safe drinking water, and adequate sanitation rise, which could jeopardise the efficacy of interventions for mortality reduction (Bloom *et al.*, 2011).

The moderating function of population growth as represented by TFR in the interlink between environmental factors and crude death rates has not been as widely assessed in the literature. Whereas some studies have separately assessed the health effect of greater access to clean fuel, drinking water, or sanitation (Smith *et al.*, 2014; Cairncross *et al.*, 2010), there have been few investigations into whether the effect of these services is influenced by underlying demographic processes. The population growth interaction effect potential whereby population growth either enhances or diminishes the health gains obtained from environmental interventions is among the most significant knowledge gaps. Enhancements in water services, for example, can result in considerable mortality reductions; however, if water service improvements are carried out in a situation of high population growth, pressure on water resources can constrict the possible gains (United Nations, 2021).

In particular, the present study analysed the moderating effect of total fertility rate on three key relationships, namely between: access to clean fuels and technologies for cooking (ACFTC) and CDR; people using at least basic drinking water services (PUBDWS) and CDR; and people using at least basic sanitation services (PUBSS) and CDR. In Sub-Saharan Africa, the relationships are especially complicated. High fertility can increase the need for environmental services and resources, thus weakening their impact on mortality reduction. However, where fertility is managed or low, the impacts of improved environmental services may be better felt, resulting in reduced crude death rates.

This study was driven by the pressing necessity for well-informed policy measures that concurrently tackle environmental and demographic challenges. While there have been considerable efforts to expand access to essential water and sanitation services across many regions, these initiatives often fall short by overlooking the influence of demographic dynamics particularly, population growth on their effectiveness. By incorporating demographic variables, specifically the total fertility rate (TFR), into the analytical framework, this study offered a more refined perspective on how environmental interventions can be tailored to better reduce mortality rates. The findings were especially relevant to policy-makers in Sub-Saharan Africa, as they emphasised the importance of adopting integrated approaches that address both infrastructural deficiencies and population pressures simultaneously.

Moreover, this study added to academic knowledge by bridging two foundational theories: the Health Production Function and the Demographic Transition theory. According to the Health Production Function model, health outcomes such as CDR are determined by several inputs, including environmental resources and services (Grossman, 1972). On the other hand, the Demographic Transition theory sheds light on how shifts in population structures influence socio-economic and health-related conditions (Notestein, 1945). By exploring the intersection of these two theoretical frameworks, the study presents a robust approach to understanding how demographic trends, such as high fertility rates, may influence or modify the effectiveness of environmental health interventions.

Specifically, Sub-Saharan Africa presents a particularly complex context, as the region faces persistently high crude death rates coupled with a double burden of disease, both infectious illnesses and an increasing incidence of non-communicable diseases. Environmental factors contribute significantly to this health crisis. For example, the continued use of biomass fuels for cooking remains widespread, contributing to poor indoor air quality and a heightened risk of respiratory diseases, which are major causes of death (Bruce *et al.*, 2015). Similarly, the lack of reliable water and sanitation infrastructure enables the spread of diarrheal diseases, which remain one of the top killers, especially among children and other vulnerable groups. These environmental risks are exacerbated by rapid population growth in the region. Elevated fertility rates increase the pressure on existing energy, water, and sanitation systems, potentially overwhelming them and diminishing the positive effects of development interventions.

Against this backdrop, the present study investigated the moderating role of total fertility rate on the relationship between access to clean cooking fuels and technologies (ACFTC) and crude death rate. It also assessed how TFR influenced the relationship between access to at least basic drinking water services (PUBDWS) and mortality, as well as between access to at least basic sanitation services (PUBSS) and crude death rate across Sub-Saharan Africa. The analysis uncovered whether high fertility rates mitigate or amplify the health benefits typically associated with improvements in environmental infrastructure.

Review of Related Literature

Globally, an estimated 3 billion individuals still depend on solid fuels like wood, charcoal, and animal dung for cooking, which leads to household air pollution and was linked to over 2 million premature deaths in 2019 (Frostd *et al.*, 2022). The health risks associated with exposure to pollutants from burning solid fuels and kerosene have become a major global concern, highlighting the urgency of transitioning to cleaner domestic energy options (Puzzolo *et al.*, 2024). In Sub-Saharan Africa (SSA), this issue is particularly acute, as more than 80% of the population, especially in rural areas, continues to rely heavily on traditional biomass fuels, including wood, charcoal, and crop residues (van der Kroon, Brouwer & Van Beukering, 2013; Adewuyi, 2014). According to the World Health Organization (2022), household air pollution contributed to 3.2 million premature deaths in 2020, with more than 237,000 of these occurring among children under five years of age.

Research utilising data from 226,186 individuals demonstrated that the continued use of solid fuels was associated with increased mortality risk from cardiovascular and respiratory conditions, whereas switching to cleaner cooking fuels substantially lowers these risks (Yu *et al.*, 2020). In Pakistan, Naz, Page, and Agho (2017) found that families depending on biomass fuels incurred higher health-related expenses and experienced greater burdens associated with cooking, affecting women and children most severely.

Similarly, Imran and Ozcatalbas (2020) established that enhanced access to clean cooking technologies led to significant reductions in maternal and child mortality. A review by Tornel-Vázquez, Iglesias, and Loureiro (2024) revealed that the adoption of cleaner cooking technologies was shaped by a range of social factors, including gender roles, economic conditions, and community ties. Furthermore, Owili, Muga, Pan, and Kuo (2017), in their study across 23 African nations, reported higher child mortality rates among households using biomass fuels.

Taken together, these findings emphasised the critical importance of examining how total fertility rate (TFR) may influence the relationship between access to clean cooking energy and crude death rates in Sub-Saharan Africa. Understanding this moderating effect can offer deeper insights into the design of effective public health and environmental interventions tailored to the region's demographic realities.

Inadequate access to water, sanitation, and hygiene (WASH) infrastructure continues to endanger the health of approximately one-third of the global population, particularly in low- and middle-income countries (Okesanya *et al.*, 2024). In Sub-Saharan Africa (SSA), water-related illnesses such as cholera, typhoid, dysentery, and several neglected tropical diseases (NTDs) contribute significantly to child mortality, primarily due to insufficient sanitation and limited access to safe water. To address this situation, Okesanya *et al.* (2024) recommended the implementation of the WHO WASH Fit tool, alongside institutional reforms and sustainable financing, to enhance water service provision across the region. Additionally, access to clean drinking water is closely connected to reproductive health dynamics. For instance, Grossman and Slusky (2019) demonstrated that exposure to polluted water in Michigan led to a decline in fertility rates due to compromised water quality. In a similar vein, Mcknight (2023) identified a link between unsafe drinking water and higher infant mortality, a significant drop in female fertility up to 40 percent and increased cases of low birth weight.

Conversely, Gibson and Mace (2006) reported that improved access to clean water in rural parts of Ethiopia led to higher fertility rates, where women with reliable water access were three times more likely to conceive in any given month compared to those without such access. However, the study also noted that while fertility increased, it was accompanied by higher rates of child malnutrition. In Indonesia, Cameron *et al.* (2021) found no consistent correlation between access to household water and maternal health outcomes. Furthermore, Haq *et al.* (2023), in their cross-sectional investigation across 31 countries, concluded that fertility rates were influenced by several environmental factors, including the availability of clean water. Collectively, these findings highlighted the complex relationship between access to drinking water and mortality outcomes, with total fertility rate (TFR) acting as a significant moderating factor.

Improved sanitation is essential for maternal and child health, particularly in large households with high fertility. Households with many children are often deprived of sanitation access, which disproportionately affects women. Baker *et al.* (2018) found that women in India who relied on shared sanitation were 55% more likely to experience preterm births than those using private toilets. Also, collecting water for more than two hours per day was associated with a one-third increase in low birth weight. Using over 1.2 million live births from 190 surveys, Kmush *et al.* (2021) found that community-level sanitation access was more important than household-level access. Poor community sanitation coverage, despite household access, was associated with adverse birth outcomes and maternal anemia, whereas better coverage significantly reduced neonatal deaths. In a global burden of disease study, Prüss-Ustün *et al.* (2014) found that 842,000 deaths in 2012 were caused by inadequate sanitation, poor drinking water, and poor hygiene, including 361,000 deaths of children under five. These three factors accounted for 1.5% of the global disease burden and 58% of diarrhoeal diseases.

Fewtrell *et al.* (2005) found that improved water, sanitation, and hygiene interventions significantly reduce diarrhoea, with relative risk values ranging from 0.63 to 0.75. Interestingly, water treatment at the point of use had a stronger effect than previously assumed. However, combining interventions did not offer significantly greater benefits than individual interventions. These studies suggest that total fertility rate could moderate the impact of access to sanitation on health outcomes, especially in households with many children. Hence, it is important to examine how TFR moderates the effect of sanitation access on crude death rate in SSA. In sum, the literature reviewed highlighted that access to clean fuels, drinking water, and

sanitation significantly influenced mortality and public health in Sub-Saharan Africa. Total fertility rate (TFR) has also been shown to affect the efficiency of these infrastructural services at the household and community levels. The complex interactions between fertility and health infrastructure justify examining the moderating effect of TFR on the relationship between these basic services and crude death rate in SSA.

Theoretical Framework

This study was grounded in the Health Promotion Function Theory (HPFT) and the Demographic Transition Theory (DTT), whose triangulation provided a robust conceptual lens for analysing the moderating effect of population growth on the relationship between environmental factors and crude death rate (CDR) in Africa. As articulated by Green and Kreuter (2005), HPFT conceptualised health as a product of integrated interventions spanning health education, policy advocacy, environmental change, and community mobilisation. It emphasises that health outcomes like mortality are shaped not only by individual behaviour but also by systemic socio-environmental factors. In the African context, where rapid urbanisation and environmental degradation persist, HPFT highlights how targeted health promotion strategies such as public education on hygiene, policy reforms in sanitation, and grassroots engagement can reduce the health risks posed by environmental hazards.

Complementing HPFT, DTT provides demographic context by explaining how population structures evolve over time. Most African countries are currently situated in the early to middle stages of demographic transition, characterised by declining death rates but sustained high fertility. This dynamic leads to rapid population growth, which intensifies demand for land, water, sanitation, and healthcare infrastructure, thereby amplifying environmental stress and potentially increasing mortality rates. The integration of HPFT and DTT allows for a nuanced understanding of how population growth moderates the environment–mortality nexus. While DTT explains the structural pressures induced by demographic expansion, HPFT outlines the mechanisms through which health promotion efforts can buffer these pressures. In settings where HPFT interventions are absent or weak, the health impact of environmental degradation is likely to be more severe under conditions of rapid population growth.

Together, these theories frame population growth not merely as a background variable but as a dynamic moderator that influences the strength and direction of the relationship between environmental degradation and crude death rate. This theoretical synthesis supports the investigation of differential health outcomes across varying demographic and policy contexts in Africa.

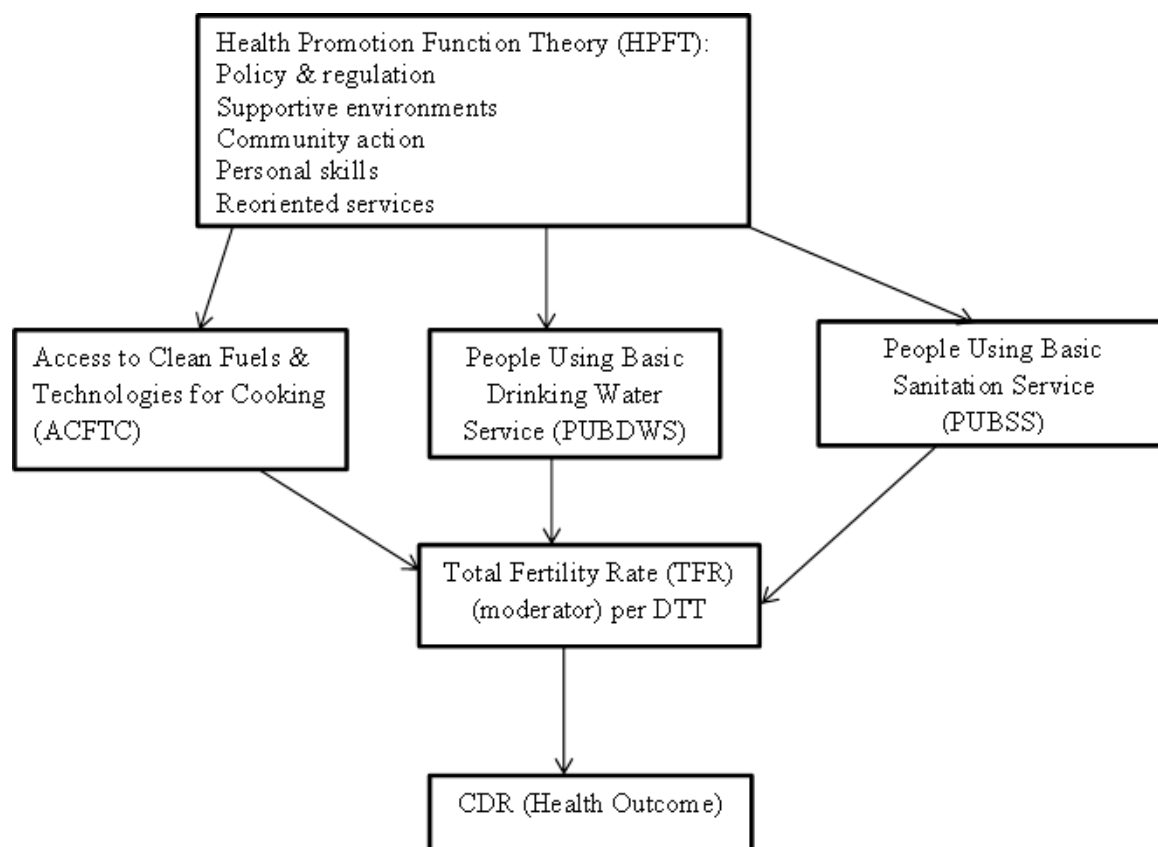


Figure 1: Conceptual Framework Explaining Moderating Role of TFR in the Environmental Factors-CDR in Africa Using HPFT and DTT

Methodology

This study employed a retrospective panel research design to assess the moderating effect of population growth, proxied by the Total Fertility Rate (TFR) on the relationship between selected environmental health factors and the Crude Death Rate (CDR) in Africa. The design enabled the exploration of long-term dynamic interactions among variables over time and across multiple African countries. This approach is suitable for evaluating temporal and cross-sectional variations in demographic and environmental health outcomes, as well as for examining potential interaction effects that may influence mortality patterns.

The study focused on 30 purposively selected African countries with adequate and consistent time-series data on the key variables of interest from the year 2000 to 2022. These countries were selected based on the availability and completeness of panel data required to conduct longitudinal analyses using robust econometric techniques. By way of selection, they included: Nigeria, The Gambia, Ghana, Benin, Senegal, South Africa, Egypt, Kenya, Morocco, Tanzania, Rwanda, Zambia, Madagascar, Angola, Cameroun, Chad, Congo Republic, Algeria, Tunisia, Botswana, Lesotho, Namibia, Mozambique, Malawi, Burkina Faso, Sierra Leon, Togo, Ethiopia, Mauritania and Uganda.

All secondary data used in this study were sourced from the World Bank's World Development Indicators (WDI) database (2000–2022). This dataset provided harmonised and internationally comparable data across the selected countries, ensuring reliability for macro-level panel data analysis.

Variables and Measurements

The dependent variable was Crude Death Rate (CDR), measured as the number of deaths per 1,000 people per year. The key independent variables were:

- i. Access to Clean Fuels and Technologies for Cooking (ACFTC) – measured as the percentage of population with access.
 - ii. People using basic drinking water services (PUBDWS) – measured as the percentage of population with access.
 - iii. People using basic sanitation services (PUBSS) – measured as the percentage of population with access.
- The moderating variable was total fertility Rate (TFR), defined as the average number of births per woman. Total unemployment (TU) was included as a control variable to adjust for labour market dynamics that could influence mortality outcomes.

Model Specification

The empirical analysis was conducted using a robust fixed effects regression model to account for unobserved heterogeneity across countries and heteroskedasticity in the error terms. Two models were estimated: Model 1 tested the direct effects of ACFTC, PUBDWS, PUBSS, and TFR on CDR. Model 2 incorporated the interaction terms (ACFTC*TFR, PUBDWS*TFR, and PUBSS*TFR) to assess the moderating effect of population growth on the relationship between environmental factors and crude death rate.

The general econometric form of Model 2 is specified as:

$$CDR_{it} = \beta_0 + \beta_1 ACFTC_{it} + \beta_2 PUBDWS_{it} + \beta_3 PUBSS_{it} + \beta_4 TFR_{it} + \beta_5 (ACFTC_{it} \times TFR_{it}) + \beta_6 (PUBDWS_{it} \times TFR_{it}) + \beta_7 (PUBSS_{it} \times TFR_{it}) + \beta_8 TU_{it} + u_i + \epsilon_{it}$$

Where:

i represents the country,

t represents the time period (2000–2022),

u_i is the country-specific fixed effect,

ϵ_{it} is the idiosyncratic error term.

Diagnostic and Post-Estimation Tests

To ensure the reliability and validity of the regression estimates, several diagnostic and post-estimation tests were conducted. These tests are critical in addressing potential violations of classical linear regression assumptions, particularly in panel data models where the risk of biased or inefficient estimates is heightened due to complex data structures involving both temporal and cross-sectional dimensions.

One of the foremost concerns in multivariate regression analysis is multicollinearity, which arises when two or more explanatory variables are highly linearly related. According to Gujarati and Porter (2009), multicollinearity inflates the standard errors of the coefficients, making statistical inference unreliable even if the overall model fit appears strong. The initial step in detecting multicollinearity typically involves a pairwise correlation matrix, which helps to identify potential problematic correlations between variables. However, while a correlation above 0.80 is often viewed as a red flag, it does not by itself confirm severe multicollinearity. A more robust measure is the Variance Inflation Factor (VIF). VIF values exceeding 10 are generally considered indicative of high multicollinearity, while values between 5 and 10 suggest moderate levels. If all VIF values fall below 5 and the mean VIF is well within acceptable limits, the risk of severe multicollinearity can be deemed minimal, and regression coefficients are considered stable enough for interpretation (Gujarati & Porter, 2009; Wooldridge, 2013).

Another critical diagnostic test pertains to the normality of residuals. The assumption of normally distributed errors is particularly relevant when the goal is to conduct hypothesis testing, as normality ensures that the t-tests and F-tests maintain their validity. This assumption is often assessed through formal statistical tests like the Shapiro-Wilk or Jarque-Bera tests, in conjunction with graphical tools such as histograms or Q-Q plots. According to Greene (2018), while the Central Limit Theorem provides some

leeway in large samples, rendering the assumption of normality less crucial, the presence of skewed or non-normally distributed residuals may still signal underlying model misspecification or the influence of outliers. Consequently, when normality is rejected, it is advisable to adopt robust estimation methods that are less sensitive to such violations.

Heteroskedasticity, or the presence of non-constant variance in the error terms, poses another significant challenge in regression analysis. If left unaddressed, it leads to inefficient estimates and biased standard errors, thus distorting statistical inference. The Breusch-Pagan or Cook-Weisberg tests are commonly employed to detect heteroskedasticity in linear regression models. As noted by Wooldridge (2010), if these tests indicate the presence of heteroskedasticity, the classical assumption of homoscedastic errors is violated, necessitating corrective measures. One widely accepted remedy is the application of robust standard errors, which adjust for heteroskedasticity without altering the estimated coefficients. This correction allows for more accurate confidence intervals and hypothesis tests, ensuring the validity of the inferential results.

In panel data models, selecting the appropriate estimation technique is crucial for drawing valid conclusions. The choice between Pooled OLS, Random Effects (RE), and Fixed Effects (FE) estimators depends on the underlying assumptions about the relationship between individual-specific effects and the explanatory variables. The Breusch-Pagan Lagrangian Multiplier test is used to determine whether a panel structure (as in RE or FE models) is preferable to the simple Pooled OLS model. If the test suggests significant individual-specific heterogeneity, a panel model is warranted. The subsequent decision between FE and RE models is informed by the Hausman specification test, which evaluates the consistency of the RE estimator. The FE model assumes that the unobserved individual-specific effects are correlated with the explanatory variables, while the RE model assumes no such correlation. As emphasised by Hausman (1978) and elaborated by Greene (2018), if the Hausman test rejects the null hypothesis of no correlation, the FE estimator is both consistent and efficient, while the RE estimator becomes inconsistent. In such cases, the FE model is preferred.

Given the outcomes of these diagnostic and model selection tests, it is standard econometric practice to adopt a Robust Fixed Effects Regression Model when addressing both heteroskedasticity and unobserved country-specific heterogeneity. This approach, advocated by scholars like Baltagi (2008) and Hsiao (2014), ensures that the model accounts for time-invariant omitted variables and corrects for heteroskedastic disturbances, thereby producing consistent coefficient estimates and robust standard errors. Ultimately, this method strengthens the credibility of statistical inference by aligning with both the empirical properties of the dataset and the theoretical expectations of panel data econometrics.

Results

The pairwise correlation matrix in Table 1 revealed that most correlations among the variables were within acceptable limits; however, the correlation between ACFTC and PUBSS was 0.8574, which exceeded the common threshold of 0.80 suggested by Hair, Anderson, Tatham and Black (1998) and Dormann, Elith, Bacher, Buchmann, Carl, Carré...Lautenbach (2013) for indicating problematic multicollinearity. This high correlation suggested that the assumption of no multicollinearity may be violated, as elevated correlations among independent variables can lead to inflated standard errors and unstable coefficient estimates, potentially undermining the reliability of the regression results.

Table 1: Test for Multicollinearity Using Pairwise Correlations

Variable	CDR	ACFTC	PUBDWS	PUBSS	TFR	TU
CDR	1.0000					
ACFTC	-0.4225	1.0000				
PUBDWS	-0.4155	0.7647	1.0000			
PUBSS	-0.4999	0.8574	0.7927	1.0000		
TFR	0.4921	-0.7758	-0.7935	-0.7277	1.0000	
TU	-0.0274	0.6414	0.5713	0.5959	-0.6120	1.0000

Source: Authors' Computation Using STATA Software version 13

The Variance Inflation Factor (VIF) values for the variables in Table 2 showed ACFTC (4.85), PUBSS (4.57), PUBDWS (3.70), TFR (3.43), and TU (1.81), with a mean VIF of 3.67. These values were below the commonly cited threshold of 10, suggesting that multicollinearity was not a significant concern in this model (Hair *et al.*, 1998). However, some researchers advocate for more conservative thresholds, such as 5, to ensure the robustness of regression analyses (Dormann *et al.*, 2013). Therefore, while the current VIF values suggested that multicollinearity was not problematic, it was advisable to remain vigilant and consider the potential impact of multicollinearity on the interpretation of the regression results.

Table 2: Validation Test for Multicollinearity Using Variance Inflation Factor

Variable	VIF	1/VIF
ACFTC	4.85	0.205981
PUBSS	4.57	0.218896
PUBDWS	3.70	0.270596
TFR	3.43	0.291456
TU	1.81	0.552155
Mean VIF	3.67	-

Source: Authors' Computation Using STATA Software version 13

The Shapiro-Wilk normality test for the residuals ($n = 690$) yielded $W = 0.96193$, $V = 17.133$, $Z = 6.927$, and a probability (p -value) of 0.00000, which indicated that the null hypothesis of normality was strongly rejected, suggesting that the residuals did not follow a normal distribution (Shapiro & Wilk, 1965).

Table 3: Shapiro-Wilk Normality Test

Variable	Obs	W	V	Z	Prob>Z
Residual	690	0.96193	17.133	6.927	0.00000

Source: Authors' Computation Using STATA Software version 13

The histogram in Figure 1 presented, in conjunction with the Shapiro-Wilk test in Table 3, provided clear evidence of non-normality in the distribution of residuals. The Shapiro-Wilk test result rejected the null hypothesis of normality at all conventional significance levels, indicating that the residuals were not normally distributed. This statistical outcome was visually supported by the histogram, which showed a distribution that deviated from the ideal bell-shaped curve. The distribution was slightly asymmetric, suggesting skewness, and lacks the symmetry and peak characteristic of a normal distribution. As highlighted by Ghasemi and Zahediasl (2012), histograms serve as effective visual tools for assessing normality, especially when interpreted alongside formal statistical tests. In regression analysis, such deviations from normality in residuals may not necessarily bias coefficient estimates, particularly in large samples, but they can affect the accuracy of standard errors and statistical inference. Therefore,

understanding the shape and spread of residuals is crucial for validating model assumptions and improving the robustness of empirical findings.

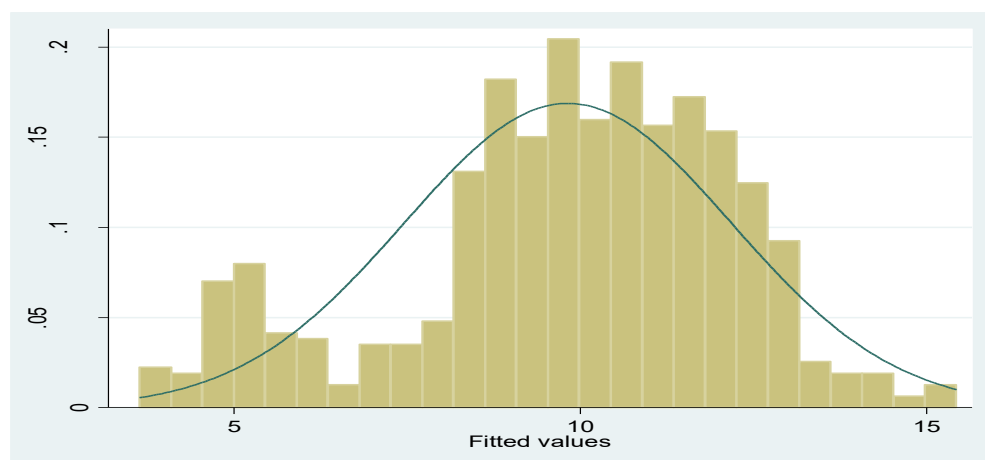


Figure 1: Test for Non-normality Distribution Pattern Using Histogram
Source: Authors' Computation Using STATA Software version 13

As shown in Table 4, the Breusch-Pagan/Cook-Weisberg test results for the presence of heteroskedasticity in the Sub-Saharan African panel data model revealed a Chi-square statistic of 86.93 with an associated p-value of 0.0000. Since the p-value is less than the conventional significance level of 0.05, we reject the null hypothesis of homoskedasticity, thereby confirming the presence of heteroskedasticity in the model. This implies that the variance of the residuals was not constant across observations, violating one of the key classical linear regression assumptions. As noted by Greene (2012), heteroskedasticity can lead to inefficient estimators and biased standard errors, which affect hypothesis testing and the validity of confidence intervals. Therefore, robust standard errors or heteroskedasticity-consistent estimation techniques, such as the use of robust fixed effects models, were utilised to address this issue and ensure valid inference.

Table 4: Heteroskedasticity Test Using Breusch-Pagan/Cook-Weisberg for West Africa

Test type	Chi-square	p-value	Decision	Conclusion
Breusch-Pagan Test for Heteroskedasticity	86.93	0.0000	Accept the null hypothesis of homoskedastic	Evidence of heteroskedasticity found.

Source: Authors' Computation Using STATA Software version 13

The Breusch-Pagan Lagrangian Multiplier (LM) test for panel data was conducted to determine the appropriate model between Random Effects and Pooled Ordinary Least Squares (OLS) regression. The test in Table 5 yielded a Chi-bar²(01) statistic of 3111.09 with a p-value of 0.0000. Since the p-value was well below the 0.05 threshold, the null hypothesis that variances across entities are zero (i.e., no panel effect) was rejected. This result indicated the presence of significant individual heterogeneity across the cross-sectional units in the panel, justifying the use of the Random Effects model over the Pooled OLS. As Baltagi (2013) explained, the LM test assesses whether the variance of the unobserved individual effects is zero. A significant result, as observed here, confirmed that the assumption of a common intercept in pooled regression was invalid, and thus, the Random Effects model, which accounts for heterogeneity across units, is more suitable for the analysis.

Table 5: Breusch-Pagan Lagrangian Multiplier Test for Random Effects V. Pooled OLS Regression

Test type	Chi-bar ² (01)	P-Value	Decision	Conclusion
Breusch-Pagan Lagrangian Multiplier Test	3111.09	0.0000	Reject H ₀	Random Effects model was preferred over Pooled OLS regression

Source: Authors' Computation Using STATA Software version 13

The Hausman specification test was conducted to determine whether the Fixed Effects or Random Effects model was more appropriate for the analysis. With a Chi-square statistic of 3152.43 and a p-value of 0.0000 in Table 6, the null hypothesis that the Random Effects model is consistent was rejected. This significant result indicated systematic differences in the coefficients between the two models, leading to the conclusion that the Fixed Effects model was preferred for accounting for unobserved heterogeneity across entities (Hausman, 1978).

Table 6: Hausman Specification Test

Test	Chi-square	p-value	Decision	Preferred Model
Hausman Specification Test	3152.43	0.0000	Reject the null (H ₀)	Fixed effects model was preferred

Source: Authors' Computation Using STATA Software version 13

The results were presented in Table 7 with two models: Model 1 reflects the direct relationships among the variables, and Model 2 includes the interaction (moderating) terms with total fertility rate (TFR). The adjusted R² for Model 1 was 0.4610, indicating that about 46.1% of the variance in the crude death rate (CDR) was explained by the direct effects, whereas Model 2's adjusted R² of 0.3543 reflected the additional effects of the moderator and interactions.

Regarding the moderating effect of TFR on ACFTC and CDR, the results indicated that the direct association between the two variables in Model 1 was not significant (coeff. = 0.0029, t = 0.46, p = 0.649), indicating no statistically significant relationship. In Model 2, upon the inclusion of the moderator, the direct impact of ACFTC was negative (coefficient = -0.0656, t = -1.00, p = 0.324) and remained statistically insignificant. The interaction term (ACFTC*TFR) yielded a coefficient of 0.0171 (t = 1.19, p = 0.243), implying that the moderating role of TFR in the nexus between ACFTC and CDR was statistically insignificant. In short, the results of this analysis did not find any evidence showing that the total fertility rate affected the relationship between ACFTC and CDR.

The moderating effect of TFR on the relationship between PUBDWS and CDR yielded more insightful results. As Model 1 disclosed, PUBDWS had a positive and statistically significant indirect link with CDR (coefficient = 0.0207, t = 2.07, p = 0.039). In Model 2, the coefficient of PUBDWS was significantly higher (coefficient = 0.2865, t = 3.81, p = 0.001), thus confirming a strong positive relationship. Crucially, the interaction term PUBDWS*TFR was statistically significant with a negative coefficient (-0.0554, t = -4.17, p = 0.000). This result meant that TFR played a moderating role between PUBDWS and CDR to the effect that as TFR rose, the positive impact of access to basic drinking water services in decreasing crude death rate was enhanced in such a way that it decreased CDR.

In Model 1, PUBSS showed a significant negative direct effect on CDR (coefficient = -0.0726, t = -9.11, p = 0.000), indicating that greater access to basic sanitation services was associated with lower crude death rates. In Model 2, the direct effect of PUBSS remained negative (coefficient = -0.1417, t = -1.97, p = 0.059), which was borderline significant at the 0.05 level. However, the interaction term PUBSS*TFR was not statistically significant (coefficient = 0.0018, t = 0.10, p = 0.919). Thus, there was no statistically significant moderating effect of TFR on the relationship between PUBSS and CDR. In the nutshell, across

both models, total fertility rate (TFR) itself had a strong positive and statistically significant direct effect on CDR (Model 1: coefficient = 1.4402, $t = 10.43$, $p = 0.000$; Model 2: coefficient = 5.6405, $t = 7.35$, $p = 0.000$). Total unemployment (TU) was also significant in both models, indicating its important role as a control variable in explaining variations in CDR. While TFR did not significantly moderate the effects of ACFTC or PUBSS on crude death rate, it did significantly moderate the relationship between PUBDWS and CDR. This suggested that improvements in access to drinking water services may be more effective in reducing crude death rates when the moderating influence of population growth (proxied by TFR) was taken into account.

Table 7: Robust Fixed Effects Regression Explaining the Mediating Impact of TFR on ACFTC, PUBDWS, PUBSS and Crude Death Rate Nexus in Sub-Saharan Africa

Note: Model 1(DV=CDR, IVs=ACFTC, PUBDWS, PUBSS) and Model 2 (IVs *TFR, DV), * $p < 0.05$, ** $p < 0.01$

CDR	Model 1 (direct relationship)			Model 2 (indirect relationship)		
	coefficient	t-value	p-value	coefficient	t-value	p-value
ACFTC	.0029004	0.46	0.649	-.0655582	-1.00	0.324
PUBDWS	.0206982	2.07	0.039	.2864622	3.81	0.001
PUBSS	-.072645	-9.11	0.000	-.1416646	-1.97	0.059
TFR	1.440199	10.43	0.000	5.640473	7.35	0.000
ACFTC*TFR	-	-	-	.0171288	1.19	0.243
PUBDWS*TFR	-	-	-	-.0553585	-4.17	0.000
PUBSS*TFR	-	-	-	.0017889	0.10	0.919
TU	.2842494	14.51	0.000	.1042861	2.58	0.015
CONSTANT	2.155703	1.98	0.048	-14.87658	-2.81	0.009
Adjusted R-Sq.	0.4610			0.3543	-	-
F(5, 684)	118.86			58.38	-	-
Prob > F	0.0000			0.0000	-	-

Source: Authors' Computation Using STATA Software version 13

Discussion

The finding relating to objective one showed that access to clean cooking fuels and technologies for cooking (ACFTC) did not exert a significant effect on the crude death rate (CDR), either on its own or in interaction with total fertility rate (TFR). In other words, households' adoption of cleaner stoves and fuels did not translate into a statistically discernible shift in overall, all-cause mortality. This finding contrasts with some studies that document strong health benefits of clean cooking, but those investigations focused on specific outcomes like respiratory illness, under-five mortality, or maternal deaths rather than on the CDR. For example, Naz *et al.* (2017) and Imran and Özcatılbaş (2020) both reported differently, substantial reductions in child and maternal morbidity and mortality after households switched from biomass to liquefied petroleum gas or improved stoves. While these studies confirmed that clean fuels save lives in targeted demographic groups, they did not address whether such reductions are large enough or widespread enough to influence the aggregate death rate.

Some factors help explain why improvements in clean cooking did not move the CDR. First, crude death rate aggregates deaths from all causes such as infectious diseases, chronic conditions, accidents, and more so, declines in smoke-related illnesses can be “drowned out” by other prevalent causes unless ACFTC reaches near-universal adoption. Second, persistent barriers such as high costs, cultural norms, and inconsistent fuel supply continue to limit clean-fuel uptake in rural communities (Tornel-Vázquez *et al.*, 2024; Owili *et al.*, 2017). Third, evidence from multi-country sanitation and energy analyses suggested that clean cooking's full health impact often depends on complementary investments in water, sanitation, nutrition, and women's empowerment (Kmush *et al.*, 2021; Fujii & Shonchoy, 2020). Without these supportive interventions, the life-saving potential of clean fuels remains confined to early adopters and

specific subpopulations. In sum, the null finding regarding ACFTC and CDR does not undermine the established evidence that clean fuels improve health outcomes for women and children. Rather, it highlights that those benefits must be both deeply scaled and integrated within broader public-health, infrastructure, and social-welfare initiatives before they can register as reductions in a population's crude death rate.

The findings further indicated that greater access to basic drinking water services was significantly associated with lower all-cause mortality and that this beneficial effect became even stronger in contexts of higher fertility. In other words, while safer water supplies reduced deaths overall, they did so to an even greater extent in populations where women bear more children. This pattern aligns closely with global estimates of water-related disease burden. Prüss-Üstün *et al.* (2014) showed that unsafe water and inadequate hygiene accounted for a large share of diarrhoeal deaths especially among young children and that reliable piped water and effective hand hygiene could avert hundreds of thousands of fatalities each year. In addition, when more children are born per woman, the absolute number of those vulnerable to waterborne infections rises, magnifying the lifesaving potential of clean water access in high-fertility settings. Moreover, systematic reviews of WASH interventions confirm that improvements in drinking water quality substantially reduce diarrhoeal illness, a leading killer of children under-5 and that these gains are comparable to or greater than those achieved through sanitation or hygiene alone (Fewtrell *et al.*, 2005). In communities where fertility is high, each household often includes multiple young children who are especially susceptible to gastrointestinal infections. Access to at least basic drinking water services, therefore, can interrupt multiple transmission pathways at once benefitting larger households more dramatically than smaller ones.

The clear inverse relationship between basic sanitation access and crude death rate aligns well with the broader evidence that improved sanitation sharply reduces mortality from water- and hygiene-related illnesses. By interrupting faecal–oral transmission pathways, household toilets and community sewage systems lower diarrhoeal disease incidence, a leading contributor to child and adult deaths in low-resource settings. Prüss-Üstün *et al.* (2014) estimated that better water, sanitation, and hygiene could prevent hundreds of thousands of diarrhoea-related fatalities each year, while systematic reviews (Fewtrell *et al.*, 2005) confirmed that sanitation interventions alone delivered substantial reductions in gastrointestinal illness. In the current study, greater access to at least basic sanitation services corresponded with a lower all-cause mortality measure, reinforcing sanitation's foundational role in public health.

Despite this robust main effect, total fertility rate did not meaningfully alter the strength of the sanitation–mortality link. In other words, sanitation's life-saving benefits appeared consistent across populations with both high and low fertility levels. This finding resonates with studies of birth outcomes by Baker *et al.* (2018) and Kmush *et al.* (2021), which showed that private and community sanitation reduce neonatal and maternal risks regardless of family size. While large families undoubtedly place greater demands on limited sanitation infrastructure, raising women's time burdens and potential exposure to pathogens, the protective effect of an adequate facility remains fundamentally the same, irrespective of a mother's number of children. Taken together, these insights suggest that investments in basic sanitation offer universal mortality dividends and do not require fertility-tailored adjustments to be effective. The strong, direct association with lower death rates underscores the urgency of scaling up sanitation coverage in high-burden regions. At the same time, the significant direct effect of fertility on crude death rate highlights that reproductive health interventions should go in tandem with infrastructure improvements. A dual strategy expanding access to private and community sanitation while supporting family planning and maternal care will therefore yield the greatest reductions in overall mortality in low-resource, high-fertility settings like Africa.

Conclusions

The study examined how population growth, indicated by total fertility rate (TFR), influenced the relationship between environmental factors and crude death rates (CDR) in Africa. It found that TFR significantly affected CDR and enhanced the positive impact of access to basic drinking water services on reducing mortality rate. However, TFR did not remarkably alter the effects of access to clean cooking fuels

or basic sanitation services on CDR. These findings suggested that managing population growth through effective family planning could amplify the benefits of improved drinking water access in lowering death rate.

Policy Implications

To effectively reduce crude death rates in Africa, a multi-faceted approach involving governments, non-governmental organisations (NGOs), international agencies, and community leaders is essential. Governments should invest in comprehensive family planning programmes to manage high fertility rates, as these are directly linked to higher crude death rate. Prioritising the expansion and improvement of basic drinking water infrastructure, especially in high-fertility rural Africa, can further decrease mortality rate. Accredited NGOs can contribute by educating communities on the benefits of family planning and the importance of utilising clean water and sanitation facilities, while collaborating with governmental bodies to implement programmes addressing both population growth and environmental health factors. International agencies should be encouraged to provide financial and technical assistance for projects aimed at improving access to clean water, sanitation, and family planning initiatives, as well as support research exploring the interplay between population dynamics and environmental factors affecting mortality rates in Africa. Community leaders in individual African countries should be made to play a crucial role in mobilising local populations to participate in family planning programmes and adopt practices that enhance environmental health, while also assisting in monitoring the implementation of water and sanitation projects to ensure they effectively meet community needs.

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Abstract

Metropolises face several challenges. One of the most fundamental is congestion. Several strategies have been adopted to address this challenge. The development of metropolitan villages is one such approach. This paper examines the use of metropolitan villages as a tool of metropolitan planning, employing a case study approach. The case studies used include United Kingdom, South Africa, China, Canada and United States. The concepts of metropolitan villages and livable cities provide the theoretical framework. In various parts of the world such as the United Kingdom, United States and China, Metropolitan villages have been developed as a means of decongesting large cities. In the United Kingdom, Irby, Willaston and Greasby have been used to decongest Liverpool. Similarly, Poundbury has been used to decongest Dorchester. Crown Village was employed to decongest Glasgow and Britannia village was used to make London a more liveable city. Joslin Reserve was employed to make South Australia, Australia a more liveable city. In the United States, Webster village was used to decongest Iowa city. In the same way, in Canada Columbia's Cook Street Village was employed to make Victoria a more liveable city. Three metropolitan villages; Shipai, Tangxia, and Xiancun have emerged in an attempt to make Guangzhou city, China more liveable. There is no doubt that the details of the experiences on the use of metropolitan villages to make large cities more liveable vary from one country to another. This is why research that compares the experiences in various parts of the world is meaningful.

Keywords: Metropolitan villages, liveable cities, challenges of metropolis, decongestion of cities, metropolitan planning

Introduction

Urbanization is a universal phenomenon. It is a revolution that the world is going through. Fifty-five percent of the global population currently lives in urban areas, a figure projected to rise to Sixty-eight percent by 2050. (Obateru et al, 2025 Ritchie et al 2024, Mendez et al. 2023, Kamana et al 2024, United Nations, 2018) The influx of people into cities poses many challenges. Creating sustainable/liveable cities is one major challenge. A liveable city puts the needs of its citizens at the forefront of its planning activities; it aims to balance the social, economic and environmental needs of its citizens. There is now a considerable emphasis on sustainability in the growth of cities. Making sustainable urban development a reality is critical for ensuring cities can provide for their teeming population and tackle environmental challenges. (African Urban Forum 2024, Lawanson T 2023, Keith *et al.* 2023, Hager 2023, Yadav 2021,).

A new phenomenon that has emerged in the focus of cities' sustainability is the metropolitan village. Metropolitan village is a settlement near a metropolis meant to absorb the challenges of the metropolis. It is walkable, bicycle-friendly, transit-oriented, a mixed-use settlement that provides housing, environmental benefits, and quality of life improvements for its residents. (Madanipour, 2001; Li et al 2010; Urban design group, 2024)

Problem Statement

Cities are growing without adequate planning and the result of this is manifested in overcrowding in homes, increasing pressure on infrastructural facilities and a rapidly deteriorating environment. Unplanned or inadequately managed urban expansion leads to rapid sprawl, pollution, and environmental degradation, together with unsustainable production. This rapid growth needs to be properly managed. This is the basis for metropolitan villages (Lanrewaju, 2012; Bamzar *et al.*, 2014; Bloch *et al.*, 2015; Bodo, 2019; United Nations, 2019, Kuddus, 2020).

This study examines the use of metropolitan villages as a tool for decongesting cities. It analyses the experiences in the use of metropolitan village as a planning strategy in different parts of the world. In order to identify and analyze variations over the globe, countries of different characteristics are chosen. The next section presents the approach to data collection.

Sources of Data

This study employs a case study approach. The case studies used include United Kingdom, United States, Canada, China and Australia. Data were obtained from the following sources;

- i. Websites of governments of the various countries:
- ii. Websites of Relevant Organization and
- iii. Publications of various researchers:

Data were obtained from the websites of United Kingdom, United States, Australia, China and Canada. The data obtained from this source included the challenges of the cities near the metropolitan villages. Existing metropolitan villages and the use of the metropolitan villages for urban management. In the case of United States of America, the Seattle Comprehensive Plan digest was particularly useful.

The Relevant Organizations whose websites provided data includes United Nations, World bank, African Urban Forum. The data obtained from this source included the rate of urbanization, Challenges of urbanization and attempts at managing the urban crisis.

Data obtained from the publications of various researchers included Relevant information on the concept of Metropolitan Village, Liveable cities and Sustainability. In certain cases, information from this source was used to compliment the data obtained from the websites of government of the various countries.

Conceptual Framework

The relevant concepts are:

Concept of Metropolitan villages; and

Concept of Sustainable Urban Growth/Livable cities.

Concept of Metropolitan Villages

Metropolitan village, a concept that is gaining prominence across the world can be defined as settlements on the outskirts of large conurbations that absorb the pressure of residential development and these settlements depend largely on the metropolis for the satisfaction of their needs (Masser and Stroud, 1965; Agarwal, 2003; Peach, 2012; Beasley, 2015; Yiwen, 2018; UDG, 2024).

A Metropolitan village is one of the sustainable means of living in urban spaces (Rijnks *et al.*, 2019). A Metropolitan village is also referred to as an Urban Village or a city village (Stefan, 2014; Wicks, 2015). They are communities that provide pleasant living, strong pedestrian accessibility; adequately well-located open spaces, a well-connected street system, and a balance of residential and public spaces. The scales of buildings and spaces in metropolitan villages are suitable and comfortable, the residential density can sustain a range of key services, they have their own defined boundaries, atmosphere, and sense of place, there is ample public and green space, the central hub generates social interaction, and there is a network of walkable routes. In a metropolitan village, there is an emphasis on beauty, aesthetics, human comfort, and creating a sense of place (Scanlon *et al.*, 2016).

A metropolitan village is an intensification strategy, used as a growth management tool to counteract unsustainable growth patterns caused by the decentralization and other basic services. (McArthur 2000)

Metropolitan Villages are planned and developed according to a specific set of characteristics which include;

- Development of critical mass
- Mixed tenure housing
- A mix of building types
- A diverse range of Population
- Provision of basic shopping, health, and educational needs
- Flexible building style which favors future changes

The objective of these characteristics is to order neighborhoods so that they provide an environment of diversity and functionality (Neal, 2003; Aldous, 1997).

In the literature, there is sometimes a tendency to confuse these various concepts related to that of metropolitan villages. However, there is a difference between Metropolitan Village and these other concepts. These are residential villages, satellite villages/towns, and residential estates.

Residential Village is a community located outside of the city. It is a small town or village composed mostly of residents, as opposed to commercial or industrial facilities. All occupants of a residential village do live in it (Axelsson, 2014; Benjamin, 2016; Ramoni, 2018). A Satellite village is located on the outskirts of larger cities and maintains a distinct boundary separating it from the parent city (Chatterjee and Chattopadhyay, 2020). A residential estate is simply an area containing a large number of houses or apartments and it is usually located in any part of a city (UN-Habitat, 2016).

Concept of Sustainability/Liveable cities

The concept of sustainability is increasingly important in urban planning as communities are striving to reduce environmental pressure and build equitable and resilient communities. The thrust of sustainability is motivating many communities to change their practices. It is simply the city's use of resources and space in a way that meets the needs of its residents in the present without negatively impacting residents' needs in the future. This approach aims to minimize damage to the environment while preserving as much of our resources as possible and transitioning to renewable resources where possible. (Topos 2023)

Sustainability specifically means achieving a balance between the development of the urban areas and the protection of the environment with emphasis on equity in employment, shelter, basic service, social infrastructure, and transportation in the urban areas. With the rapid expansion of the Urban population around the world, there has been awareness about minimizing the environmental cost of urbanization.

The concept of livable cities is related to that of sustainability. Urban livability is deeply intertwined with sustainability, though the two concepts differ in emphasis. While sustainability focuses on preserving resources for future generations ("there and later"), livability addresses immediate, localized experiences that enhance residents' quality of life (here and now) (Jodder et al., 2025). Livability's relationship with sustainability can also be viewed through the lens of the "triple-bottom-line" framework, emphasizing equity, economy, and environment (Lissandrello and Bruyère, 2022). While sustainability prioritizes environmental preservation, livability brings a sharper focus to social equity and human-centered experiences. This nuanced interplay highlights the complementary roles of livability and sustainability in fostering inclusive urban growth and environmental responsibility.

A livable city is one that is safe, attractive, socially cohesive and inclusive, and environmentally sustainable; with affordable and diverse housing linked by convenient public transport, walking and cycling infrastructure to employment, education, public open space, local shops, health and community services, and leisure and cultural opportunities" (Cramer-Greenbaum, 2021; Lowe, Chirombo, & Tompkins, 2013). A liveable city is one that is safe and secure, has affordable and appropriate housing and transportation options, and offers supportive community features and services" (AARP, 2011).

The concept of livability was initially highlighted in the 20th century; however, it has become a global priority after the recognition of the United Nations Sustainable Development Goals (SDGs) (Kovacs-Györi et al. 2020). Creating liveable cities is a commonly stated aspiration within urban strategies and policy documents across the world (Arundel *et al.* 2018). The concept of livability encompasses the opportunities (occupation, business, education), and facilities (leisure, sports, healthcare, and housing) that a city has to offer (Florida, 2008), and as such urban planning and design play a significant role in promoting livability (Kashef, 2016). The motivation behind improving cities livability is not only to promote the well-being and satisfaction of city residents but also to strengthen the position of a city within a globally competitive context (Baker and Ruming, 2015).

Metropolitan Village as an urban management strategy

This section analyses the use of metropolitan village as an urban management strategy in various parts of the world.

The Experiences of the United Kingdom

There have been several cases where the metropolitan village has been used as an urban management strategy in the United Kingdom. Some of the best examples are:

Poundbury Metropolitan Village.

Irby, Willaston and Greasby metropolitan villages

Crown Street Metropolitan village and

Bordesley metropolitan village

Poundbury Metropolitan village is one of the best examples of metropolitan villages in the United Kingdom. In the early 1990s, it became necessary for urban planners and city managers in Dorchester, United Kingdom to tackle the increasing challenges of inadequate housing, lack of sufficient basic facilities and over dependence on transport facilities. (Department of Environment 1997, Urban design group 2024). The Poundbury, one of the most extensively developed metropolitan villages in Britain was then developed to plan for a more sustainable city. The village was a Prince Charles' initiative to provide a mixed use residential community with an emphasis on sustainable urban living and traditional neighborhood. The Poundbury village offered solutions to these problems. It was the success of the Poundbury metropolitan village that encouraged the introduction of metropolitan villages in Contemporary Urban Planning in the United Kingdom (Rossiter, 2002; Biddulph, 2003).

Another example of metropolitan villages in the United Kingdom is a group of Irby, Willaston and Greasby metropolitan villages. In a bid to mitigate the challenges of overcrowding and congestion in the city of Liverpool, a group of Irby, Willaston and greasby metropolitan villages was used to provide better housing conditions and provide a community that is peaceful and environmentally sustainable (United Kingdom, 1998). These metropolitan villages provided mixed tenure housing, different facilities with an emphasis on sustainability, the feeling of neighborliness and a feeling of identity also prioritized. Although, there was a need to improve transport facilities in Greasby and Irby metropolitan villages. (Masser and Stroud 1965, Urban design group 2024).

Crown Street metropolitan village is another example of metropolitan village. Glasgow, one of the largest cities in United Kingdom was faced with the need to create more homes that are sustainable as well as a mixed-use community for its population and so the Glasgow City Council introduced Crown Street metropolitan village Project to solve these challenges. (Scottish government, 2008; Inside Housing, 2022). The metropolitan village provided more quality homes to the people with mixed use developments such as pharmacies, supermarket, Hair Salons, Library, Butcher etc. The metropolitan village also placed emphasis on green spaces and a pedestrian friendly society. It also helped to create as well as revive the sense of community of the residents (McArthur, 2000; Biddulph, 2003; Thompson-Fawcett, 2004; Forsyth and Crewe, 2009).

Bordesley is a metropolitan village used to make the city of east Birmingham more liveable by helping tackle the problems of inadequate housing and environmental degradation the city faced at the time (East Birmingham Urban Development Agency, 1989; Department of the Environment, 1997; Birmingham Heartlands Development Corporation, 1998). The initiative provided high density developments, A Mixed tenure and mix use community with a sense of identity, a community that is socially and environmentally sustainable, the existence of basic facilities such as health, trading and recreational facilities. Just like others, there is an emphasis on pedestrian facilities (Franklin, 2003; Biddulph, 2003).

The Experiences of United States of America

In the case of United States of America, the typical examples of Metropolitan Villages are:

Crown Hill, Green Lake, Fremont and University district.

Webster metropolitan village

A group of Crown Hill, Green Lake, Fremont and University district metropolitan village is one that was used in the United States. In the early 1990s, Seattle, United States of America reached a point where she had to critically provide more family homes and provide basic amenities for her increasing population (Seattle 1994). In 1994, the city of Seattle adopted the 'metropolitan village strategy' as part of its comprehensive plan to put measures in place for a sustainable city. This strategy included metropolitan villages in Crown Hill, Green Lake, Fremont, University district. The strategy was successful in creating a livable Seattle, the metropolitan villages provided more housing, mixed-use development, improved transportation and a people involved neighborhood (Seattle's Comprehensive Plan Digest 2001, Tsenkova 2002, Beachworks LLC, 2020).

Webster metropolitan village was used to decongest Iowa City, United States. The metropolitan village is a compact neighborhood with various facilities such as shops, schools, parks and other community amenities (Iowa planning and public affairs 2018, Ewing and Hamidi 2014; Litman 2023). Webster metropolitan village placed an emphasis on reducing dependence on public transport services and preserving the habitat. It provides an attractive public realm that improved community cohesion and a sense of belonging (Redelmeier, et al. 2023).

The Experiences of Canada

In the case of Canada, the examples of Metropolitan Villages are:

Vancouver's west end metropolitan village.

Cook Street metropolitan village.

A salient example of metropolitan village in Canada is the Vancouver's west end metropolitan village which was introduced to make Vancouver a more livable city. The village provided more housing units, Mixed tenure and mix use community, a community that is socially and environmentally sustainable. West End has a village-like sense of place as residents take ownership of their streets. Basic facilities such as educational, health, trading and recreational facilities existed in the village. It also emphasized the use of pedestrian facilities. (Government of Canada 2019, Litman 2025)

The Cook street metropolitan village is the intervention used in the case of Victoria City, Canada, the city was plagued with the problems of inadequate family homes and overcrowding, these made it imperative for urban planners to introduce the Cook Street metropolitan Village to mitigate these challenges. This village provided high-value single-family homes and many moderate value apartments and condominiums, creating an accessible, mixed-income community; it also had shops, parks, schools, restaurants and salons. The village accommodated moderate automobile ownership and use. (Cleveland 2023; CUI 2020).

The Experiences of China

A typical example of Metropolitan Village in China is:

A group of Shipai, Tangxia and Xiancun

The trio of Shipai, Tangxia and Xiancun is one of the most extensively developed metropolitan villages in China. The increasing urban population in Guangzhou was accompanied with challenges such as unsustainable homes, inadequate basic facilities and Air pollution. The Chinese government focused on solving the problem by studying and transferring policies that have been effective in other countries. Between the 1990s and 2015, Metropolitan villages such as Shipai, Tangxia, Xiancun etc were constructed around Guangzhou in an attempt to provide more housing units and sustainable communities (Ren 2014, Zhang and Richards 2017).

The Experiences of Australia

In the case of Australia, the Metropolitan Villages are:

The Kelvin Grove metropolitan village

Joslin Reserve Metropolitan Village

A typical example of metropolitan village in Australia is The Kelvin Grove metropolitan Village, which was used to decongest Brisbane, Queensland. A development partnership between QUT and the Department of Housing, is an innovative mixed use development. It was completed in 2014, the village comprises over 1,100 medium density residential units, educational facilities, retail, shopping centre and a range of public and university health and recreational facilities. (Brisbane City Council 2001.)

Another example of metropolitan village is Joslin Reserve metropolitan village which was introduced in 2012 by the South Australia's Urban Renewal Authority to make South Australia more livable by providing a city that is sustainable where people can collectively share and own the neighborhood while still retaining the sense of being part of the city. (Barnes et al., 2006; Wardner & Hefferan, 2015; Peach 2017).

Conclusion

Generally, the metropolitan village is a good attempt at creating sustainable/liveable cities. Metropolitan village optimizes land uses and allow for development that prevents wastefulness, more growth can be carefully steered into the communities without diminishing the quality of life. It also has a greater capacity for restoring a sense of place in communities. They are a promising alternative to the increasing Urban Housing Crisis. Metropolitan villages do not exist in isolation from the metropolis; it is dependent on the metropolis for the satisfaction of some of the needs of the residents.

This article has, using examples from various parts of the world, analyzed the use of a metropolitan village as an urban management strategy. It has not been possible to employ a pre and post incidence analysis. It is such an analysis that would have clearly indicated the impact that a metropolitan village plays in reducing the crisis of its metropolis. This is because such data are lacking. However, even if such data were available, the complexities of urban dynamics may have limited the usefulness of such an analysis.

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Government Policies and their Implications on Entrepreneurship Development in Nigeria

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Abstract

The actions or inactions of the government do influence both economic and non-economic factors for entrepreneurship. So, any government that wants to develop its economy must deliberately develop policies that promote entrepreneurship. The government can support entrepreneurs in establishing enterprises by providing an

enabling environment and various incentives to offset the initial costs of starting a business. Despite the recognition of the importance of entrepreneurship development to economic growth, some of these policies and their implementations have restricted access to improving their performance. Therefore, this paper examines how government policies influence entrepreneurship development in Nigeria. This paper reviewed some previous studies and found that government policies have both positive and negative impacts. Understanding these policies and their impact on entrepreneurship development is not only important to existing entrepreneurs but also to potential entrepreneurs. The study offers some relevant recommendations to policymakers to ensure the optimisation of policies that will advance an enabling environment for Nigeria's entrepreneurship and SME sector.

Keywords: Government policy, entrepreneur, entrepreneurship development

Introduction

Globally, entrepreneurship has been a driving force behind economic growth, stimulating innovation, creating jobs, and improving productivity. This is the same in Nigeria, playing a vital role in driving economic growth, generating new businesses, creating jobs, and bringing fresh products and services to the market. It can be so challenging to start and run a business; entrepreneurs struggle to access funds due to the complex regulations, as well as to acquire the right knowledge and required skills. (Paradis, 2023). Having an understanding of these policies and their impact on entrepreneurship development is not just important to entrepreneurs but also to potential entrepreneurs.

It is also worth noting that any government that desires to develop its economy must deliberately advance policies that encourage entrepreneurship. In Nigeria, with a volatile and highly competitive market economy, the success of entrepreneurship/entrepreneurs depends on the government providing an enabling environment. Akinyemi and Adejumo (2018) stated that several studies revealed that government policies impact entrepreneurial activities, like other nations, where entrepreneurship policies have influenced the promotion of entrepreneurs' activities. Though Sanni-Kamal (2025) opined that the impact of these policies on Nigerian entrepreneurship could be both positive and negative, there is still a need to investigate the impact of government policies on entrepreneurship development.

Literature Review

Conceptual Review

Entrepreneurship can be defined as the process of identifying, undertaking, and exploiting business opportunities bearing risk associated with it. Entrepreneurship does not occur by coincidence; it involves taking advantage of available opportunities to create new businesses. According to Sulaimon and Abedeen (2020), entrepreneurship comprises of series of activities carried out by an entrepreneur who is always in search of something new and takes advantage of ideas for lucrative opportunities along with the risk associated with the enterprise. Schumpeter in 1959 stated that entrepreneurship is a new way of combining new factors of production to form an enterprise; those who carry out the functions are known as entrepreneurs. Once more, entrepreneurship is also about exploiting opportunities and turning them into goods or services, involving taking risks to create economic value. Thus, entrepreneurship can be defined as taking opportunities to start, manage, and scale a business.

Entrepreneurship development encompasses the various training and programs aimed at improving the skills and knowledge of entrepreneurs. According to Sulaimon & Abedeen (2020), the whole idea of entrepreneurship development is to increase the number of entrepreneurs and their activities. Having a well-developed entrepreneurship activity helps in the reduction of poverty and unemployment. Creation of jobs improves the living standard and human capital development (Olagunju & Ikeolumba, 2019). The business environment could perhaps be significantly strengthened by effective and good governance institutions at the federal, state, and local levels that will reinforce economic growth, mainly the growth of SMEs.

Government Policies are a set of actions taken or not taken by governments to address societal issues, influenced by ideas, institutions, and interests within the political arena (Mays, 2017). Policies are the decisions, schemes, projects, or programs initiated by the government sector at various levels. For example,

the implementation of Computer-integrated Manufacturing (CIM) in SMEs, government policies play a vital role in adopting it (Marri et al., 2008). Policy embodies the actions or schemes of government to advance and encourage the activities of the MSME to increase the number of contributing agencies in the Nigeria Enterprises Development Programme (World Bank Group, 2011, as stated in Olagunju & Ikeolumba, 2019).

Macheridis and Paulsson (2019) revealed that government policies are based on the assumption of the impact of the actions of what the government can do, and Mellaard and van Meijl (2017), in agreement, opined that since they are outcomes of political activities, they could have political implications. While Maggetti and Gilardi (2016) and Zeb-un et al. (2021) assert that it is unusual to have a complete understanding of the reasons behind government policy as a model, much alone the setting in which the assumptions must be used (Macheridis & Paulsson, 2019). However, any change in government policy will affect the cost of raw materials, power supply, food items, transportation facilities, etc. Hence, every nation's entrepreneurship development is a manifestation of government policy (Adeniran et al., 2023). Deygers and Vanbuel (2022), however, stated that government policy first acts as a persuasive force before the manifestation. Most of these policies have a ripple effect in other sectors of the economy, directly or indirectly.

Therefore, the national policy on ease of undertaking business is a deliberate course of action that the federal government of Nigeria established to review and eradicate or reduce impediments to trade. This is also an effort to create a favourable environment for business activities in Nigeria. Entrepreneurship development is achieved through favourable government budgetary and economic policies. Myrczik et al. (2022) added that one objective of government policy is to ensure that decision makers in society, irrespective of their position, should be well-trained.

Empirical Review

Several empirical findings on the relationship between government policies and business performance in Nigeria exist. The empirical examination of the impact of government fiscal and monetary policies on the performance of businesses indicated a negative relationship, as conducted by (Ibrahim & Muritala 2015). The monetary policy measured by inflation and exchange rate on return on assets (ROA) was negative; meanwhile, the impact of value-added tax on return on assets (ROA) had a positive relationship. The indication is that policies by government, be it domestic or foreign, can either impact positively or negatively on competitiveness or ROA (profitability) of a business, as confirmed by (Ibrahim & Muritala, 2015). In the same vein, Ahmadu et al. (2025) examine the effect of government policies on SME support programs in Abuja. The findings show expected contributions to support programmes that enhance the strengths and challenges prevailing in SMEs. The study emphasized gaps in the implementation of policy and areas that need to be improved. Onileowo (2024) also examined the impact of government policy in promoting entrepreneurship and its economic outcomes. The study showed a positive relationship between entrepreneurship and economic growth, emphasizing the importance of having a favourable government policy in increasing entrepreneurship development.

The investigation carried out by Akinyemi and Adejumo (2018) in a comparison between Nigeria and South Africa on government policies and entrepreneurship phases in emerging economies showed that some differences exist in the implementation approaches of policy in both economies. The deficiencies and efficiencies aligned with the policies that impacted entrepreneurial activities. The summary of the findings shows that the impact of government policies on entrepreneurship phases varies in both countries. Lastly, Salami et al. (2023) carried out the examination of the impact of the government policy on entrepreneurship growth and development of SMEs. The study also confirmed that a strong positive relationship exists between entrepreneurship policy intervention and monetary policy, and entrepreneurship development (Salami et al., 2023).

After critically examining the various empirical investigations, this study agrees that a relation exists between these government policies and entrepreneurship development. However, knowing that the impact

could either be positive or negative, there is a need to discuss the various categories of government policies and their implications in Nigeria.

Various Categories of Government Policies in Nigeria

Economic Policies

Here are some examples of government economic policies for entrepreneurs in Nigeria:

- **National Policy on Micro, Small, and Medium Enterprises (MSMEs):** The objective of the 2021-2025 National Policy on MSMEs is to help and sustain a vibrant MSME sub-sector to be the main driver of national economic growth, entrepreneurship, and employment (Omonona et al., 2025)
- **Presidential Enabling Business Environment Council (PEBEC)** was established in July 2016 by President Muhammadu Buhari to eradicate or reduce administrative bottlenecks of doing business in Nigeria and make the country a progressively easier place to start and grow a business (PEBEC, 2025).
- **National Digital Innovation and Entrepreneurship Policy (2021–2023):** To leverage digital innovation and entrepreneurship for job creation and youth empowerment in Nigeria (NMCDE, 2023).
- **Government Enterprise and Empowerment Program (GEEP):** GEEP provides micro-lending to entrepreneurs, particularly women and youth, to support small business ventures and stimulate economic activity, to alleviate poverty (GEEP, 2025).

Regulatory Policies

Some regulatory policies that govern running a business in Nigeria:

- **CAC Registration Fees:** CAC registration fees depend on the type of business you want to register. It, however, gives you what to expect to plan, and to enable you to budget properly (Ogunbayo, 2025).
- **Operational Permits:** Many industries are regulated by the Nigerian government to ensure they align with national standards, environmental safety, and consumer protection. Failure to do this attracts legal action, closure of business, or substantial fines (ABDigital, 2025).
- **Environmental Regulations:** The National Environmental Standards and Regulations Enforcement Agency (NESREA) has the responsibility to protect and develop the environment, biodiversity conservation, and sustainable development of Nigeria's natural resources in general and the technological environment by regulations, rules, laws, policies, and guidelines (NESREA, 2025).

Trade Policies

Some examples of trade policies in Nigeria:

- **Ban on Certain Imports:** Before now, the Nigerian government has banned or restricted imports like rice and textiles to encourage local production, impacting entrepreneurs in those sectors. (Cadot et al., 2012).
- **Export Incentives:** Nigeria offers multiple incentives to promote export business. NEPC facilitates access to incentives for several exporting companies (NEPC, 2025) .
- **High Import Tariffs:** Tariffs on imported raw materials can significantly increase production costs, particularly for manufacturers that rely heavily on international supply chains (AIT, 2025).

Tax Policies

Some examples of tax policies that affect Nigerian businesses:

- **Company Income Tax (CIT):** Company income tax, otherwise known as corporate Tax, is a tax charged on profits earned by companies operating in Nigeria. It is regulated by the Companies Income Tax Act (CITA) under the supervision of the Federal Inland Revenue Service (FIRS). (FIRS, 2025)
- **Value-Added Tax (VAT):** Value Added Tax (VAT). It is a tax on spending or consumption levied at every stage of transaction, but eventually borne by the final consumer of such goods and services. It is currently charged at the rate of 7.5% (FIRS, 2025).
- **Multiple Taxation:** Multiple taxation in Nigeria stems from the concurrent jurisdiction of different levels of government to levy taxes on various economic activities and assets. At the federal level, the

Federal Inland Revenue Service (FIRS) administers taxes such as corporate income tax, value-added tax (VAT), and withholding tax. Entrepreneurs often face overlapping taxes at the federal, state, and local levels, creating financial strain and reducing profits (FIRS, 2025).

Innovation and Technology Policies

Some examples of government policies on innovation and technology:

- **Nigeria Startup Act 2022:** The Act's objectives are to create an enabling environment for investing, attracting, and protecting investment and innovation in tech-startups. This policy offers legal frameworks and incentives to support tech startups, including tax breaks and access to funding (NSA, 2025).
- **Innovation Hubs:** IT Hub is a platform where Technology, Business, Innovation, and Entrepreneurship are developed by building pools of both inherent and evolving talent and unrestricted IT professionals. The National Information Technology Development Agency (NITDA) supports entrepreneurs in tech and innovation through training and resources (NITDA, 2025).
- **Grants for Technology Development:** Nigerian tech grants initiated by government agencies, private organizations, and international institutions aim to empower innovators, startups, and researchers, accelerate technological improvement, and bring inventive concepts to life. (Ihejieta, 2025).

Implications of Government Policies

As earlier stated, Nigerian government policies have both positive and negative impacts.

Positive Impact

Here are some of the positive impacts of these policies:

Ease of Doing Business Reforms: Government efforts to simplify business registration processes have improved Nigeria's ranking on the Ease of Doing Business Index.

Access to Funding: Programs like the Bank of Industry (BOI) loans and the Central Bank of Nigeria's (CBN) support funds offer critical financial backing to SMEs.

Capacity Building: Government-sponsored training programs empower entrepreneurs with the skills needed to grow their businesses.

Negative Impact

After the discussion on some positive impacts of government policies on Nigerian businesses, here are some of the negative impacts:

Policy Inconsistency: Regular changes in regulations, such as exchange rate policies, create uncertainty for businesses. An example is frequent changes to the list of bans on importation. A ban on the importation of rice, for instance, before the agripreneurs could make meaning out of it, was reversed, making them to incur losses.

High Taxation: Unfair tax burdens force many SMEs into the informal economy, for example, multiple taxation.

Overregulation: Stringent policies increase compliance costs and discourage investment.

Corruption and Bureaucracy: Prolonged bureaucratic procedures and fraud deter entrepreneurs during licensing and compliance.

Conclusion

In a Nigeria with a high rate of youth unemployment and limited economic opportunities, developing entrepreneurship is a necessity. Favourable government policies play an essential role in determining the entrepreneurial landscape in Nigeria. It is important to note that government policy and how it is carried out are about 'outcomes' for the policies being implemented. Hence, this article examined the impact of government policies on entrepreneurship in Nigeria. The research emphasises the significant impact of government policy in nurturing the development of entrepreneurship. Several researchers

acknowledge the relationship between government policies and entrepreneurship activities. Some of the policies in various categories were discussed; some have a negative impact because of the way they are implemented. Understanding these policies and their impact on entrepreneurship development is not only important to existing entrepreneurs but also to potential entrepreneurs. For efficiency, effectiveness, and optimization of policy, recommendations are made to promote an efficient and more enabling entrepreneurship environment.

Recommendations

- Frequent policymaking changes. Before conceiving any policy, it should be thoroughly examined to evaluate the policy and its impact or implications. The details and facts must be systematically assessed to avoid frequent changes that can be detrimental to the entrepreneurs.
- Unfair tax burdens should be reduced if they cannot be eliminated. In the case of multiple taxation.
- Policies should not be too stringent to avoid discouraging investors.
- Implementation of these policies should be followed through. For instance, banning imported rice and second-hand clothes is impractical, as they are readily available nationwide. It will only make them more expensive when they come into the country illegally.
- Implementation is very crucial. Current policy objectives and strategies are thorough but have yet to be effectively implemented, suggesting that the political will to do it efficiently is lacking.
- Prolonged bureaucratic procedures lead to corruption; they should be simplified, and most entrepreneurs who do not want to go through a bottleneck process, go for a shortcut, by bribing their way through.

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Intergovernmental Relations, Market-Preserving Federalism, and Digital Governance in Nigeria

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Introduction

Nigeria is formally a federation of 36 states (including the Federal Capital Territory), yet in practice fiscal powers have been heavily concentrated at the center. The federal government controls key revenue sources, most notably oil, and dominates budgetary policymaking. Observers describe the Nigerian type of federalism as highly overcentralised. Babalola (2019) emphasises that the political economy of Nigeria is shaped by over-dependence on oil, with the state playing a pre-eminent role in distributing oil wealth. Likewise, Adesopo et al. (2004) note that although Nigeria is richly endowed with diverse resources (crude oil, natural gas, minerals, and agricultural products), its economy remains undiversified and oil-centric. In consequence, the federation account and federal budget largely determine subnational finances, leaving states and especially local governments with very limited autonomy to raise and allocate their own revenue.

Oil revenue has long dominated Nigeria's fiscal landscape. Over 90% of federal revenue comes from petroleum, making Nigeria a classic rentier state (Alabi, 2010). With agriculture and mining sidelined, oil became the linchpin of economic growth and government income (Babalola, 2019). This reality has generated an elaborate intergovernmental revenue-sharing regime, often contested by various constituencies. Alabi (2010) shows that Nigeria's fragmented and politicised approach to sharing oil rents has "undermined" development by incentivising rent-seeking and corruption. He argues that revenue allocation has ignored the productive contributions of subnational units and been driven by politically motivated formulas, fueling unrest in the Niger Delta and hindering broad-based growth (Alabi, 2010). In short, the centralisation of oil wealth has shifted fiscal incentives away from local production and toward negotiation over transfers, with significant governance consequences.

As a result, states and local governments are financially dependent on federal transfers and have little fiscal autonomy. Most states rely heavily on the constitutional allocation from the federation account (even as each state collects some internally generated revenue), and local governments depend mainly on federal/state allowances with no constitutional taxing power. Suberu (2010) observe that when subnational units cannot fund their responsibilities directly, accountability suffers. Moreover, the central allocation process itself often becomes politicised. For example, one analysis warns that fiscal transfers can be a "potent weapon" in the hands of the federal government: although intended to equalise resources, misused transfers "engender political altercations and contestations which destabilise the political economy" and undermine federal stability (Ojo, 2010). In practice, this dynamic has manifested in opaque negotiations, wasteful expenditures, and at times open conflict when revenue falls short of local needs. The combined effect is that the intergovernmental fiscal architecture of Nigeria is often seen as distorting incentives rather than empowering subnational governments.

In recent years, policymakers have turned to digital fiscal reforms to address these problems. The federal and some state governments have launched initiatives such as electronic tax-filing systems, online payment portals, and public budget data portals intended to improve compliance and transparency. In theory, e-governance can streamline revenue collection and make allocations more open. However, implementation has been uneven. Investigations find that many planned digital services, for example, a centralised online portal for business fees in Abia State, have failed to materialise (Foundation for Investigative Journalism, 2025a). In one case, the investment and land service platform of remained inactive

long after its budgeted launch (Foundation for Investigative Journalism, 2025a). These gaps reflect capacity and infrastructure limits: digitisation efforts often stall when human and technical resources are lacking. As a result, the promise of e-taxation and budget transparency has outpaced reality (Lafenwa, 2020). Comparative studies reinforce this caution, for example, Arlashkin (2020) finds that in federal systems the design of fiscal transfers (such as conditional grants and decentralised taxes) is more influential on local development incentives than technological fixes alone. In other words, digital tools may help, but without reforming the underlying allocation rules their impact on incentives and accountability will be limited.

Against this backdrop, the central problem of this paper emerges, drawing on the theory of market-preserving federalism by Barry Weingast, as a lens for analysis. Weingast's framework suggests that federations preserve market incentives best when subnational governments have real fiscal autonomy under credible central constraints. In Nigeria, however, the reality has been one of central dominance and contested transfers. Accordingly, this study examines: (1) how Nigeria's intergovernmental fiscal structure reflects or diverges from the criteria of market-preserving federalism (for example, the degree of independent taxing and spending authority at each level); (2) how recent digital governance initiatives (such as electronic tax administration and open budget portals) may reshape fiscal incentives, accountability, and transparency across the tiers; and (3) what these developments imply for effective policy coordination among federal, state, and local governments. By addressing these questions, the paper aims to shed light on whether fiscal federation in Nigeria can evolve toward a more market-preserving model and to what extent digitalisation can contribute to that transition.

Charting a New Fiscal Frontier

This study contributes meaningfully to ongoing debates on federal restructuring and fiscal reform by bridging theory and practice. The application of Weingast's market-preserving federalism to the Nigerian context, helps to interrogate whether existing intergovernmental fiscal relations promote economic incentives, institutional autonomy, and competitive governance. This theoretical grounding enables a more nuanced understanding of the fiscal centralisation challenges in Nigeria and offers a different perspective to evaluate proposed reforms, such as constitutional amendments on revenue allocation and state-level fiscal independence. In doing so, this paper offers policy-relevant insights that can inform legal frameworks as well as institutional practices aimed at strengthening the federal architecture of Nigeria. The study further engages with contemporary discourses on digital governance and public sector innovation. By examining how e-tax systems, open budget platforms, and other digital tools are being deployed across the state and local governments, it sheds light on their potential to reshape IGR dynamics, enhancing transparency, fostering competition among states, and improving public accountability. For the methodology, the study employs a qualitative design. It draws from desk research using document analysis, including the 1999 Constitution of the Federal Republic of Nigeria (as amended), fiscal laws, and budget reports, publications as well as relevant articles. Thematic coding is used to map empirical evidence onto the theoretical framework. Multiple states were selected to reflect diverse levels of digital reform implementation, serve to illustrate comparative patterns and highlight emergent innovations within the evolving fiscal landscape of Nigeria.

The Evolution, Tensions, and Debate on Fiscal Centralism

The progression of Nigerian federalism has been marked by a persistent centralisation of power, particularly in fiscal matters, producing continuing tensions among the tiers of government. Upon its return to democratic rule in 1999, Nigeria adopted a constitution that entrenched the dominance of the federal government. Historical analyses indicate that the legacy of military rule, combined with constitutional arrangements, has institutionalised what scholars refer to as "fiscal unitarism", a system in which the federal government enjoys overwhelming control over revenues and key policy areas (Adesopo et al., 2004; Babalola, 2018). This imbalance has continued to shape intergovernmental relations, often to the detriment of state and local governments fiscal autonomy. The constitutional architecture of federalism in Nigeria also reflects this dominance. For instance, the Exclusive Legislative List in the 1999 Constitution, contains

approximately 66 items covering critical policy domains, meaning federal law supersedes conflicting state laws. Commissions such as the Aboyade Commission (1977) warned early on that such central overreach was eroding true federalism. The net effect has been a structurally centralised system where state and local governments are not only formally constrained but also practically incapacitated (Olaiya, 2016).

Historically, federal framework in Nigeria has been influenced by colonial administrative structures that emphasised rigid regional divisions. Post-independence and especially during military rule, federalism became a convenient label under which a unitary practice was entrenched (Ekanade, 2013). This militarised federal structure weakened the foundational principles of decentralisation and entrenched a political culture of federal superiority, where the central government controls vast financial and administrative powers. These historical legacies continue to manifest in contemporary governance challenges. The federal center's monopoly over oil revenues and its discretionary control over resource allocation have led to repeated disputes and mutual distrust between federal and state governments (Ekanade, 2013). Ethnic and regional inequalities further deepen these tensions, with many states perceiving the federal government as partial or politically skewed in its distribution of national wealth (Olaiya, 2016).

This fiscal and political centralisation has practical consequences. Lower levels of government face immense fiscal discomfort, lacking the authority and tools to mobilise sufficient internal revenues. As Nkwede et al. (2018) and Adesopo et al. (2004) observe, the centralisation of fiscal power limits innovation and development at the subnational level, engendering a culture of dependency on federally allocated funds. Furthermore, attempts to reform the system have often been undermined by the very power structures that benefit from the status quo (Suberu, 2023). In response to these challenges, a growing body of scholarship advocates for a restructuring of the Nigerian federation to promote true fiscal federalism. The neo-federalist paradigm suggests that devolving powers and increasing subnational autonomy are necessary for equitable development and improved service delivery (Nkwede et al., 2018; Mbon et al., 2024). Similarly, Amadi et al. (2017) emphasises the importance of empowering states to generate independent revenues and address economic disparities within the federation. Yet, these reform proposals often face resistance due to entrenched political interests and an inconsistent national commitment to structural change (Amadi et al., 2017).

Despite widespread calls for restructuring, some scholars and policymakers maintain that a strong central government is vital to maintaining national unity, particularly in a multi-ethnic society such as Nigeria. They caution that excessive decentralisation could foster fragmentation, weaken coordination, and undermine national goals. This tension between the imperatives of unity and autonomy underscores the complex trade-offs involved in reforming Nigeria's federal system. In sum, the discourse provides a consensus on the negative impact of excessive centralisation on intergovernmental fiscal relations in Nigeria. However, it also highlights the nuanced debate over how to balance national cohesion with subnational autonomy.

Debates on Fiscal Federalism and Policy Fragmentation in Nigeria

As stated above, the structure of fiscal federalism in Nigeria continues to be a site of contestation, reflecting deep-rooted tensions between centralised revenue control and the normative aspirations for decentralisation and local government efficiency. Scholars have long observed that fiscal framework in Nigeria privileges the federal government, creating both vertical and horizontal imbalances among the tiers of government (Arowolo, 2011; Suberu, 2002). These imbalances are not merely technical, but politically charged, manifesting in recurrent disputes over resource control, tax authority, and the allocation of federal revenues. A critical flashpoint in the evolution of Nigeria's fiscal relations was the introduction of the Value-Added Tax (VAT) in 1993. Administered centrally by the Federal Inland Revenue Service (FIRS), VAT effectively replaced the autonomous sales tax regimes of state governments. This has sparked continuous legal and political battles over who has the constitutional authority to levy consumption taxes (Babalola & Okafor, 2019). Several states, led by Lagos and Rivers, have argued that VAT usurps their fiscal space and diminishes their internally generated revenue potential, leading to Supreme Court litigations and renewed calls for fiscal restructuring.

Oil revenue remains the dominant source of national income, constituting over 80% of revenues to the Federation Account in most years. However, this dependence on oil has entrenched what Ewetan (2015) and Suberu (2002) describe as a “leech syndrome,” wherein states remain fiscally passive and overly reliant on federal statutory allocations. This dependency undermines fiscal discipline, encourages rent-seeking behaviour, and weakens the incentive for states to develop robust tax systems (Babalola & Okafor, 2019; Obi, 2019). Multiple revenue allocation commissions, including the Raisman (1958), Dina (1968), Aboyade (1977), and Okigbo (1980) commissions, have attempted to address these tensions, yet none have successfully balanced the competing demands of equity, efficiency, and regional autonomy. The derivation principle, which allocates a percentage of mineral revenues to producing states, has generated sharp political divisions, particularly between the oil-rich Niger Delta and the more populous northern states (Ojo, 2010; Ota et al., 2022).

At the lower end, local governments are structurally disadvantaged. Although constitutionally recognised as the third tier of government, they are often controlled by state governments, particularly through the State Joint Local Government Account (SJLGA). Scholars argue that this subjugation denies local governments both administrative and fiscal autonomy, resulting in poor service delivery and weak grassroots development (Ikeji et al., 2012). The fragmentation of policymaking authority is further complicated by the concurrent legislative list, which allows both federal and state governments to legislate on certain matters. In practice, however, states and local governments often lack the fiscal resources or bureaucratic capacity to implement policy independently, leading to duplication, inefficiencies, and blurred accountability lines (Nkwede et al., 2018; Suberu, 2022). This situation reflects what scholars call “nominal federalism”, a system where subnational units are nominally autonomous but are fiscally and administratively subordinated.

In response to these challenges, academics have proposed a range of reforms. Ewetan (2015) and Mbon et al. (2024) advocate for constitutional amendments that grant states greater revenue authority, especially over consumption taxes, property taxes, and natural resources. Others suggest redesigning intergovernmental fiscal transfers to reward performance and incentivise subnational innovation (Babalola & Okafor, 2019). Still, alternative perspectives caution against overdecentralisation. Some argue that given Nigeria’s ethnic diversity and history of regional pressures, a degree of fiscal centralisation is necessary to prevent disparities from escalating into conflict and to ensure uniform standards in critical sectors like education and healthcare (Kimenyi & Meagher, 2004). This school of thought highlights the need for a balanced federal arrangement, one that preserves national unity while enhancing subnational efficacy.

Recent judicial and policy discourse has reinforced scholarly debates on fiscal federalism. Notably, the *NISER Seminar on the Supreme Court Judgement on Local Government Financial Autonomy* (September 17, 2024) reflected on the Court’s July 2024 ruling affirming financial autonomy for Nigeria’s 774 local governments. The seminar highlighted the disconnect between revenue allocations and developmental outcomes at the local level, and revisited historical challenges stemming from the 1976 Local Government Reforms, which centralised authority under military rule and weakened traditional governance structures. Thus, the picture painted here seem to be a complex one where fiscal federalism in Nigeria is neither wholly centralised nor meaningfully decentralised. The system is marked by overlapping roles, fiscal dependence, and contestations over authority, which continue to undermine policy coherence and government efficiency.

Digital Fiscal Reforms and the Reconfiguration of Intergovernmental Relations in Nigeria

Recent advancements in Nigeria’s digital governance, particularly in public finance, signal a transformative shift aimed at building transparency, efficiency, and public accountability. These reforms represent a significant departure from opaque, manual systems. However, they raise important questions about their implications for intergovernmental fiscal relations and the broader structure of federalism in Nigeria, a dimension that remains relatively underexplored in academic discourse. At the federal level, FIRS has introduced key e-governance platforms such as the Integrated Tax Administration System (ITAS) in 2013 and TaxPro Max in 2021. These tools automate tax registration, filing, payment, and reporting processes, contributing to increased compliance and reduced bureaucratic delays (Madunezim et al., 2023; FIRS

Annual Report, 2023). Notably, FIRS surpassed its 2021 revenue collection target by generating ₦6.405 trillion, up from ₦4.95 trillion in 2020, largely due to these digital innovations (Chibueze, 2022). While uptake varies across sectors and regions, the platforms have demonstrated measurable improvements in tax revenue and taxpayer satisfaction (Madunezim et al., 2023).

State governments are also making significant strides in digital fiscal reforms. Lagos State launched the Lagos Revenue Portal (LRP) in August 2024 to harmonise all state taxes and levies into a unified digital interface (Lagos State Government, 2024; Punch, 2024). This platform allows for real-time revenue tracking and provides multiple payment channels, thereby aligning with the broader vision of the state in becoming a smart city. Similar efforts have been initiated in states like Kaduna, Edo, and Ekiti, particularly in response to dwindling federal allocations and increasing demands for fiscal autonomy (Ajetunmobi et al., 2022). Civil society organisations, notably BudgIT, the MacArthur Foundation, and PLAC, have also played a catalytic role in promoting digital transparency through open budget initiatives. BudgIT's Open Budget System (OBS), launched in 2015, has encouraged subnational governments, particularly states, to publish budget estimates, approved budgets, and audited financial statements online. By 2021, at least seven states had fully adopted OBS, fostering civic engagement and enabling citizens to monitor public spending (BudgIT Foundation, 2020; Taiwo, 2024).

Despite these gains, several challenges persist. The digital divide, manifested through inadequate internet infrastructure, erratic electricity supply, and low digital literacy in rural areas, continues to constrain the reach and effectiveness of these platforms (Madunezim et al., 2023; IFAC, n.d.). Moreover, the fragmented nature of the federal system in Nigeria complicates the uniform adoption and interoperability of e-governance tools, raising concerns about policy incoherence and bureaucratic duplication. Theoretically, e-governance initiatives hold promise for strengthening subnational fiscal autonomy and administrative capacity, core elements of a more functional federal system (OECD, 2019; Kettani & Moulin, 2014). However, the literature often treats digital reforms as purely technical fixes, overlooking their political and structural dimensions. Ajetunmobi et al. (2022) argue that while states are increasingly digitalising revenue systems, the federal government continues to dominate infrastructure, regulatory oversight, and standard-setting, thereby reinforcing centralisation under a digital guise.

This disconnect points to a critical research gap of how do digital fiscal reforms intersect with the broader architecture of Nigerian federalism? Do these innovations empower subnational governments, or do they further entrench federal dominance? What are their effects on transparency, coordination, and accountability across different tiers of government? Addressing these questions is vital to understanding digital governance not just as an administrative tool but as a potential reconfiguration of intergovernmental power dynamics. Hence, while Nigeria's digital reforms in public finance are commendable and potentially transformative, they remain uneven and politically contested.

Theoretical Framework

This study draws on the theory of Market-Preserving Federalism by Barry Weingast originally developed to explain the conditions that enabled sustained economic expansion in 18th century England, 19th and 20th century United States, and contemporary China (Weingast, 1995), to examine the evolving dynamics of Nigeria's intergovernmental fiscal relations, particularly in the context of recent digital reforms. It argues that for federalism to facilitate economic development, the political structure must credibly commit all tiers of government to rules that sustain market incentives and protect economic actors from arbitrary interference (Weingast, 1995). The framework identifies a set of institutional features that collectively promote a stable and competitive federal order: decentralisation of economic policymaking to subnational units; interjurisdictional competition for capital and labour; fiscal discipline through hard budget constraints (HBC); and strong but limited central authority to protect property rights and enforce rules without overriding subnational autonomy (Montinola, Qian, & Weingast, 1995).

At the heart of Market-Preserving Federalism is the idea that subnational governments must have meaningful policy autonomy over local economic decisions (A2¹), including regulatory authority and tax policy, to respond efficiently to local preferences and conditions. This autonomy is only meaningful if paired with interjurisdictional competition, facilitated by a common market (A3), and financial responsibility, such that states cannot externalise the costs of poor policy decisions to the central government (A4). In addition, the framework presupposes a robust institutional arrangement (A5) that guards against central encroachment, thereby preserving the integrity of decentralised government (Weingast, 1995, 2025). These conditions are essential to maintaining a system in which economic actors can operate with confidence and where subnational innovation and fiscal discipline are incentivised. For example, when state governments know they cannot rely on bailouts, they are more likely to adopt prudent fiscal policies, thus fostering economic growth and accountability.

Applying Market-Preserving Federalism to Nigeria underscores a profound misalignment between theory and practice. The 1999 Constitution grants the federal government sweeping powers, with over 66 items on the Exclusive Legislative List, thereby severely limiting the policy autonomy of states (A1, A2). Fiscal federalism in Nigeria remains centralised, with federally collected revenues, particularly oil rents and VAT, pooled and redistributed, often without clear performance-based constraints. This structure contravenes Market-Preserving Federalism principle of hard budget constraints (A4), as states and local governments are heavily dependent on federal transfers and frequently lobby for bailouts, reinforcing a rentier and dependency dynamic (Weingast, 2025). Moreover, the common market ideal (A3) is weakened by institutional inefficiencies and legal ambiguities that allow subnational actors to impose informal trade restrictions and taxes. Property rights enforcement and the rule of law remain uneven across the federation, undermining the credibility of the macroeconomic environment. Local governments, although constitutionally assigned to the states, have virtually no fiscal autonomy, further eroding the decentralised logic of the theory. Furthermore, institutional mechanisms to protect the federal arrangement from political encroachment are either weak or absent, allowing for executive overreach and the erosion of subnational independence (Weingast, 1997).

Nonetheless, some features of Market-Preserving Federalism are partially visible in Nigeria's evolving landscape. States have been encouraged to grow their Internally Generated Revenue bases, especially in response to the volatility of oil revenue. Recent digital reforms in public finance management, such as electronic tax systems, biometric payroll audits, and improved expenditure tracking, represent incremental steps toward fiscal transparency, accountability, and ultimately greater autonomy at the subnational level. These developments hint at a potential trajectory toward more competitive decentralisation, where states may increasingly compete on the basis of governance efficiency and fiscal innovation. In summary, while Nigeria formally qualifies as a federation, its operational structure diverges significantly from the market-preserving ideal. The excessive centralisation of fiscal powers, dependence on federal transfers, and weak institutional protections for subnational autonomy hinder the realisation of a truly competitive and efficient federal order. Weingast's framework is thus particularly relevant for this study as it offers a lens to assess not just whether federalism exists in form, but whether it functions in a manner conducive to economic discipline, innovation, and sustainable development within a digitalising fiscal environment.

Methodology

This study adopts a qualitative research design, using a case-study approach to explore the institutional and governance dynamics of intergovernmental fiscal relations in Nigeria. The research is exploratory in nature, seeking to understand how formal rules and emerging digital innovations shape incentives and behaviours, particularly in relation to internally generated revenue across different levels of government. A detailed documentary analysis is undertaken, involving a review of legal and policy instruments such as the 1999 Constitution, fiscal decentralisation frameworks, budget and audit reports, and publicly accessible open

¹ The axioms (A1–A5) are foundational conditions for a functioning market-preserving federal system. A1 refers to a hierarchy of governments, each with constitutionally defined autonomous policy domains.

data portals. Other secondary literature and credible media sources are also analysed to capture recent developments in digital governance. This analysis draws on examples from multiple states to illustrate contrasting models of digital governance and institutional capacity. States such as Lagos, Ebonyi, and Anambra are highlighted to reflect regional diversity and different approaches to digital fiscal reform. Lagos demonstrates advanced deployment of e-tax and revenue portals; Ebonyi showcases early collaboration with civic tech platforms like BudgIT on open-budget initiatives; and Anambra reflects innovation in digital auditing and financial management. These illustrative cases help surface broader themes. Data is analysed thematically, with coding focused on internally generated revenue challenges, such as fiscal autonomy and revenue control as well as the impacts of digital tools on transparency, compliance, and institutional discipline. Comparative analysis across the cases shows how digital innovations influence fiscal behaviour, and findings are interpreted in relation to the Market-Preserving Federalism framework to assess the extent of theoretical alignment.

Revenue Allocation Conflicts and Fiscal Tensions in Nigeria's Federal Structure

This section addresses the first objective by analyzing how Nigeria's intergovernmental fiscal structure diverges from the principles of Market-Preserving Federalism. It emphasises the centralised control of key revenue streams—especially VAT and oil derivation—and the resulting fiscal dependence of subnational governments. It also points to the dominance of oil-rich states in revenue allocation debates, which has intensified inter-state tensions. These dynamics exposes the absence of hard budget constraints and limited subnational autonomy, highlighting structural barriers to competitive and accountable federalism in Nigeria.

a. Value-Added Tax Distribution Conflicts

Nigeria's VAT system has been a flashpoint in federal–state revenue conflicts. Under law, 7.5% VAT is collected centrally and shared 15:50:35 between federal, state and local governments (The Nation, 2025). However, states such as Lagos and Rivers – which generate large VAT bases – have challenged the Federal Government's exclusive collection of VAT. In August 2021 a Federal High Court in Port Harcourt ruled that Rivers State (and by implication other states) was entitled to collect VAT locally. The Rivers and Lagos state legislatures promptly enacted VAT laws (September 2021) to assert this right, provoking a legal showdown: the Federal Inland Revenue Service (FIRS) appealed to the Court of Appeal, which ordered a status quo pending appeal (The Cable, 2022). As of 2023, the matter awaited Supreme Court resolution, keeping tension high.

Federal tax reforms in 2024–25 further underscored these disputes. The Senate tax bills ultimately retained the 7.5% VAT rate but modified the sharing formula: federal share was cut from 15% to 10%, states' share raised from 50% to 55%, with locals fixed at 35% (This Day, 2025a). This change – a political win for governors – was driven by state demands for a fairer split (This Day, 2025a). For example, in a typical FAAC disbursement (February 2025), the VAT pool was ₦609.43 billion, of which the federal government got only ₦91.42 billion (15%) while states collectively received ₦304.72 billion (50%) (The Nation, 2025). Disparities fuel complaints: wealthier states (Lagos, Rivers) donate disproportionate VAT but fear losing revenue under any change, whereas smaller states (Niger, Gombe, etc.) cling to any advantage. In practice, tax analysts note that states like Kano and Lagos generate far more VAT than oil-rich states, making any reallocation contentious. Throughout 2021–24 the VAT conflict featured legislative battles and court cases as states pushed for autonomy or higher shares.

b. Oil-Derivation Revenue Disputes

Oil-producing states (mainly in the Niger Delta region) receive a 13% derivation share of onshore oil revenue. Disputes have centered on the adequacy and distribution of this fund. Some oil states argue the 13% is too low to address environmental harm and development needs. In Congress, oil-state legislators

even introduced a bill to raise derivation from 13% to 50% (second reading passed in late 2024) (This Day, 2025b). At the same time, states newly recognised as oil producers (e.g. Enugu in 2022, Kogi in 2024) have demanded inclusion. Enugu’s governor publicly pressed the federal government to release its 13% share from nearby oil fields, noting that although an inter-agency committee recommended benefits, Enugu had “still not benefited” (Premium Times, 2025). Similarly, Kogi State (which recently discovered commercial oil in Olamaboro LGA) officially requested derivation payment in late 2024.

Delta State’s dominance illustrates regional disparity in derivation. Analysts report that from 2015–2023 Delta alone garnered about 29% of all derivation allocations (≈₦1.3 trillion of ₦4.72 trillion) (National Bureau of Statistics, n.d.). By contrast, smaller producers like Bayelsa and Edo each get a much smaller share. Such gaps heighten calls for redistribution; for example, when oil revenues were shared in early 2025, six major producers (Delta, Rivers, Akwa Ibom, Bayelsa, Ondo, Edo) received most of the ₦136.04 billion 13% pool (The Nations, 2025). The ongoing majority share by Delta tends to make it the big winner. Meanwhile, non-oil or new-oil states (Kogi, Enugu, Ebonyi) see themselves as disadvantaged. The Punch (2025) reports that oil states have collected roughly ₦2.85 trillion in 13% funds during 2022–24, but still claim a shortfall of about ₦1.3 trillion. These figures and the draft 50% bill underscore sharp North–South tensions: southern oil states push for higher derivation, while northern/landlocked states see little or no benefit.

c. Ecological Fund Allocations

The Ecological Fund (for environmental projects in oil-producing areas) is another disputed resource. FAAC data show that between 2021–2022 Nigeria’s 36 states received a total of ₦64.42 billion from this fund (ICIR, 2023). In H1 2024 alone, states shared ₦24.91 billion (The Cable, 2024). Allocations vary by state: in first-half 2024, Kano received the most (₦1.042 billion) and Bayelsa the least (₦0.581 billion). By geopolitical zone, the northwest led (₦5.52 billion) while the oil-rich South-South only got ₦3.89 billion in that period (The Cable, 2024). These uneven patterns reflect a complex formula and stir occasional grievances.

Conflict over the ecological fund tends to be about transparency and management. Civil society reports have flagged misuse of these allocations: for example, Dataphyte noted states received ₦64.42 billion ecological funds in 2021–22 but cited allegations of diversion (ICIR, 2023). The ICIR (2023) likewise reported former leaders calling on governors to fully account for ecological spending. Thus, while the raw data show substantial transfers, activists and opposition figures accuse state governments (and sometimes federal agents) of failing to implement mandated projects. So far these disputes are more about *post*-allocation audit than formula (no state is litigating to change the 13% ecological share); still, the public fights contribute to revenue-allocation tensions.

d. Solid Minerals and Other Revenues

Revenue from solid minerals is shared similarly (federal vs state vs local). The amounts are relatively small and have generated less high-profile conflict. For example, February 2025 FAAC figures show only ₦28.22 billion collected from mining, of which the federal government took ₦12.93 billion and states ₦6.56 billion (The Nation, 2025), the remainder to local governments. Eligible “derivation” share from mining was just ₦3.67 billion. Nonetheless, some mineral-rich states (Zamfara, Nasarawa, Kogi, etc.) argue for greater support to develop mining. So far these issues have elicited less legal battle than oil or VAT; they mostly appear in fiscal commission discussions.

e. Regional and State-Level Dynamics

Revenue allocation fights cut along regional lines. South-South and Southwest states (Delta, Rivers, Lagos, Bayelsa, Akwa Ibom, Edo) are often the loudest critics. They generate most oil and VAT, and thus feel shortchanged by any perceived under-allocation. For instance, Lagos and Rivers contested FG over VAT

collection (The Cable, 2022), while Delta championed higher derivation and benefited disproportionately. Newer oil producers (Kogi, Enugu) have publicly demanded entry into derivation receipts, echoing calls by some North-Central leaders that their resource revenues be recognised (Premium Times, 2025). Meanwhile northwestern states (Kano, Kaduna, Katsina) have voiced support for more equality in sharing, and welcomed the 2024 reform that raised every state's VAT slice (This Day, 2025a). Governors' meetings have further proposed formula adjustments (some advocated VAT split partly by population) to soothe regional complaints.

To illustrate, in mid-2024 BudgIT reported that several states relied heavily on VAT income (BudgIT, 2024). For example, seven states got over 25% of their revenues from VAT, whereas others got less than 15%. This helps explain why richer VAT collectors (southern commercial centres) argued for keeping a larger share. Similarly, of the ₦24.91 billion in ecological funds to H1 2024, Kano (northwest) and Lagos (southwest) each got around ₦0.8–1.0 billion, whereas each Niger Delta state received only about ₦0.58–0.73 billion. These empirical disparities drive public discontent. To conclude, over the past five years, Nigeria has seen intense debates and legal battles over VAT administration, oil-derivation, and allocations of special funds. All levels of government vigorously contest the revenue formula. States with high economic output or new resource discoveries have been most vocal, and civil society has amplified data on distribution imbalances. Official FAAC and budget reports (NBS, 2022, 2024; Revenue Mobilisation Allocation and Fiscal Commission (RMAFC), 2022) and independent analyses (BudgIT, 2023; Dataphyte, 2022) document these patterns: for example, FAAC statements show states' share of total allocations often rivaled or exceeded the federal share, and press reports highlight specific shortfalls (e.g. ₦68.57 billion derivation in Dec 2022 versus ₦90.12 billion in Apr 2024) (NBS, 2023). These data, figures and ongoing court cases underscore that revenue allocation remains a deeply contested issue shaping Nigerian fiscal federalism.

Impact of Digital Governance on Fiscal Transparency and Intergovernmental Incentives in Nigeria

Digital tools are being deployed across Nigeria's federal system to modernise tax collection, budgeting, and audit processes. At the federal level, FIRS and Central Bank have rolled out e-tax and e-financial systems. For instance, FIRS now offers mandatory electronic invoicing (the "Merchant Buyer Solution" e-invoice platform) for all VAT-registered suppliers (business-to-business (B2B) transactions) starting July 2025 (Ernest & Young Global, 2025). This system uses real-time invoice validation through the PEPPOL network so that every invoice carries a unique reference, aiming to curb underreporting and boost compliance (Ernest & Young Global, 2025). FIRS also provides online tax registration, filing, and payment portals, mirroring global e-tax trends (e.g. e-filing, e-payments via Remita/NIBSS) to improve transparency and reduce leaks. These federal e-governance reforms complement fiscal consolidation measures like the Treasury Single Account and IPPIS payroll by centralising transactions in digital platforms, generating auditable data and strengthening accountability across ministries, departments and agencies.

At the **state level**, a good number of governments have launched digital finance reforms. Lagos State, for example, in 2024 unveiled a Lagos Revenue Portal to unify all IGR collections. This user-centric portal integrates every revenue-generating agency into one platform (each agency is given a unique payment code) so taxpayers pay levies online without visiting offices. The Lagos portal "harmonised and integrated various collection avenues into a single revenue stream" for easier management and audit (The Cable, 2024b). Governor Sanwo-Olu noted that this digitisation "removed barriers to compliance" and made Lagos more business-friendly. The success of e-collection system in Lagos State is evident in fiscal outcomes: Lagos collected ₦815.9 billion in IGR in 2023, being the highest in the country (Nairametrics, 2024).

Other states have also digitised their revenue and budgeting processes. Ebonyi State introduced an integrated e-procurement portal with an open contracting (OCDS) interface (BudgIT, 2023). Its portal publishes tender ads and contract awards online, and its e-procurement site is now accessible and comprehensive. Ebonyi also posts budgets, budget-execution reports and audited accounts on an online portal (INFF, 2022). In practice, research confirms that the shift of Ebonyi state to an electronic tax system has boosted revenue collection. A 2021 study found that e-tax registration and e-filing significantly

increased the state's IGR, though e-payment had not yet shown a clear effect (Oketa et al., 2021). By making the tax process digital, Ebonyi improved taxpayer compliance and data quality, which helped close loopholes.

Enugu State similarly embraced digital tax reforms. In 2024 it launched a unified “e-Ticket” system so all informal businesses pay a single annual levy via one platform, instead of multiple local charges (News Agency of Nigeria, 2024). The State's IRS chair said that by paying once through e-Ticket, each business is automatically cleared for that year, preventing duplicate taxation by various agencies. Early results have been remarkable: Enugu reported generating ₦35.9 billion in IGR in the first 7 months of 2024, a substantial uptick over prior years. Governor Mbah later claimed Enugu grew IGR from ₦30bn to roughly ₦500bn annually, though that figure may be overstated (Daily Champion News, 2025).

In Edo State, the focus has been on transparent procurement. It maintains an open contracting portal (OCDS) for all tenders and projects². The immediate past Governor had acknowledged the transparent, technology-based procurement system in Edo state for saving costs and attracting investment (<https://www.godwinobaseki.com>). By embedding planning templates and publishing award data online, Edo state is able to ensure better oversight of public spending. Other states like Kaduna, Ogun, and Osun have also developed e-procurement systems and public fiscal dashboards, under the World Bank's States Fiscal Transparency, Accountability, and Sustainability (SFTAS) programme. For instance, BudgIT reported that by Q2 2023, Ogun and Ondo had comprehensive e-procurement portals and regularly published Medium-Term Expenditure Framework (MTEF) and Budget Implementation Report (BIR) documents online (BudgIT, 2023).

At the same time, many states now proactively publish budget documents, citizen guides, and audit reports on government websites or portals. BudgIT's *OpenStates* platform aggregates these documents for all 36 states (INFF, 2022). Ebonyi, Edo, Ekiti amongst others, post approved budgets, implementation reports and independent audits publicly. For instance, BudgIT noted in 2023 that the approved budget and quarterly execution reports for Ebonyi state were online, as was its e-procurement data (BudgIT, 2023). Similarly, Lagos state publishes its budget execution reports although it still lags on MTEF and citizen budgets. Interestingly, most leading IGR states are also improving transparency. Nairametrics (2024) reported that seven of the top ten IGR states are in the South, and BudgIT ranked Lagos, Edo and Enugu among the highest in fiscal openness, while Nasarawa, Enugu amongst others lagged behind with missing budget documents.

These digital reforms have yielded measurable outcomes. Nationally, state IGR grew ~26% from ₦1.93t in 2022 to ₦2.43t in 2023. Lagos's streamlined portal likely contributed to its 25% IGR increase that year. The pay-as-you-earn (PAYE) component (which relies on employer filings) accounted for the lion's share of revenue (₦1.24t, ~64% of all state taxes), suggesting better formal sector compliance under digital tracking (Nairametrics, 2024). By contrast, states with weak digital systems remain near the bottom: Taraba, Yobe and Kebbi collected only ~₦11 bn each in 2023. Thus, states investing in e-governance saw much larger tax bases (Nairametrics, 2024). The 2023 State of States report by BudgIT supports this that 19 states saw IGR growth thanks to reforms, even as 17 saw declines. These negative cases often lacked digital systems.

Transparency and accountability have also improved. The Open Budget Survey 2023 shows Nigeria's federal score falling to 31/100 (from 45 in 2021) due to delays in publishing budget reports (BudgIT, 2024). However, subnational disclosures are rising, largely via digital portals. The *States Fiscal Transparency League* by BudgIT, ranks states on online disclosures; recent reports highlight those with full e-procurement and fiscal data sites (e.g. Lagos, Edo, Ebonyi) versus those missing documents. For example, a state qualifies for World Bank SFTAS grants only if it publishes audited financial statements and approved budgets on time (Davenport & Aquino, 2019). This results-based incentive forces a “hard budget constraint”. For instance, states that fail to meet digital transparency milestones forfeit funding. In practice, SFTAS conditioning has compelled states to adopt online reporting and audit release, tightening fiscal

² Data for all public procurement across Edo State can be accessed at <https://www.edostateocds.cloudware.ng>

discipline. Remarkably, Notably, under SFTAS, technical assistance and peer pressure have spurred many auditor general offices to digitise records and share electronic audit reports with legislatures.

In the market-preserving federalism framework, these digital initiatives are strengthening subnational fiscal autonomy and competition. By enabling states to collect and retain more own-source revenue (IGR), e-tax systems increase the revenue bases of states and reduce dependence on oil-derivative transfers. Lagos state, for instance, now keeps far more funds (₦704.9 b in taxes) on its books, which it can allocate per its own budget priorities. At the same time, online budget and procurement platforms put real limits on how governors can spend money. Because the public can see what's happening, and federal grants can be withheld, governors risk serious consequences if they overspend or misuse funds. States now compete to attract investors and residents. Those with strong digital finance systems, like fast payments, clear budgets, and timely audits, can show they are well-managed and business-friendly. This is reflected in things like credit ratings and investment interest; for example, the credit rating of Lagos state improved to “stable” in 2025 after it introduced fiscal reforms. Even fiscally weaker states are incentivised by visibility. When their debt or deficits are clearly shown online, it pushes them to reform or learn from others, like Ebonyi and Kaduna sharing ideas on revenue systems.

To summarise, Nigeria's digital public finance reforms, from FIRS e-tax tools to state open-budget portals, are having deep effects on transparency and accountability. The data clearly show that states using digital systems for tax registration, payments, and budget publishing often generate more revenue (IGR) and score higher on transparency rankings. In contrast, states that lag in digitisation fall behind. This pattern supports the core ideas of market-preserving federalism: as states improve their financial systems and follow enforceable rules (like those under the SFTAS programme), they begin to act more like financially independent units competing within a larger federal system.

Implications for Multilevel Policy Coordination in Nigeria's Evolving Federal System

While subnational governments are responsible for most service delivery, the federal government controls the bulk of revenue. Recent reforms under the Buhari and Tinubu administrations have introduced digital and fiscal tools like the Treasury Single Account (TSA), Government Integrated Financial Management Information System (GIFMIS), updated Finance Acts, and harmonised tax frameworks to improve financial management and transparency. Intergovernmental transfer rules (the FAAC) remain critical. For example, in January 2024, Nigeria shared N2.07 trillion (≈\$4.4 bn) of oil and non-oil revenues among tiers, with roughly 55% from oil (Statutory Account) and only ≈20% from VAT (National Bureau of Statistics, 2024). However, heavy reliance on volatile oil revenues and centrally managed transfers like the FAAC disbursements, continues to challenge coordinated governance. These reforms, while enhancing control and efficiency, also raise concerns about subnational autonomy, making multilevel policy coordination increasingly complex yet necessary.

Intergovernmental Coordination Bodies

To manage Nigeria's complex fiscal federation, several formal and informal platforms help align policies across federal, state, and local levels:

a. National Economic Council (NEC)

Chaired by the Vice President, NEC includes all state governors and key federal ministers. It reviews policies affecting all tiers of government. For instance, in October 2024, NEC recommended pausing a new tax reform bill pending wider consultation with states, illustrating its role in balancing federal initiatives with subnational interests (FMNO, 2024). It also coordinated Nigeria's COVID-19 fiscal response, integrating both federal and state measures.

b. Federation Account Allocation Committee (FAAC)

FAAC meets monthly to share revenues among the federal, state, and local governments. While federal gets ~52%, states receive 30%, and local government areas, 18%. For example, in November 2023, the FG received ₦407.3bn, states ₦379.4bn, and LGAs ₦278.0bn (National Bureau of

Statistics, 2024). However, the heavy reliance of FAAC on oil makes transfers unstable, as seen in February 2024 when fluctuations in oil and FX markets significantly altered disbursements (National Bureau of Statistics, 2024).

c. **Joint Tax Board (JTB)/Joint Revenue Board (JRB)**

The JTB brings together FIRS and state tax agencies who work to harmonise tax rates and improve coordination. A 2018 framework formalised cooperation between federal and state tax bodies (PwC, 2025). A pending reform bill is being proposed to rename it the JRB to reflect modernised functions. The Nigeria Governors' Forum (NGF) also participates, advocating for state revenue autonomy.

d. Other platforms include the National Tax Council, sectoral committees, and the Open Government Partnership (OGP), which has supported transparency and public engagement in budget reforms.

Coordination vs Fragmentation: Impacts on Services and Budgets

The extent of coordination (or its absence) has had implications on state/local budgets and services. A recent analysis of fiscal transparency found major disparities among states: the Paradigm Leadership Initiative's 2024 Subnational Audit Efficacy Index scores only 2 states above 50% (Yobe, Ekiti) while 34 states fall below 50% (Foundation for Investigative Journalism, 2025b). Such fragmentation in accountability suggests uneven adoption of PFM reforms. The Index notes that early gains under the World Bank's State Fiscal Transparency, Accountability & Sustainability (SFTAS) programme are slipping away, with the average state transparency score actually declining between 2022–2024 (Foundation for Investigative Journalism, 2025b). This suggests coordination has weakened, states are backtracking on publishing budgets, audit reports, and budget performance data that they once did under reform incentives.

Similarly, fiscal performance metrics vary widely. For example, Lagos state, with strong coordination of finance and digital IGR systems, has an exceptional internally-generated revenue covering ~75% of its budgets (The Guardian, 2025). Other states remain almost entirely dependent on FAAC transfers. Fitch Ratings noted (April 2025) that Kaduna and Kogi states, carry heavy external debt burdens (66–86% in FX debt) and payback ratios far higher than Lagos, whose strong IGR (75%) gives it much stronger fiscal resilience (The Guardian, 2025). In practice, when federal government reforms boost revenue (e.g. subsidy removal or VAT rates), federally-collected revenues rise, improving FAAC transfers. But states with weak tax systems capture little of that gain and remain vulnerable.

One notable case of coordination in action was the COVID-19 crisis. The World Bank reported that all 36 state governments passed amended 2020 budgets to cope with the revenue collapse. This joint fiscal response was coordinated via NEC and finance ministry directives: the FG amended its own budget and adjusted VAT/excise rules, while states re-prioritised spending to protect health and social services. States did not receive new unconditional bailouts; instead, the SFTAS programme offered extra grants tied to these reforms, giving states an incentive to comply. Where coordination faltered, services suffered. For instance, some states experienced delays in civil servant payroll and social transfers when FAAC disbursements were delayed or when states lacked strong revenue administration (World Bank, 2020). In Table 1 below, under SFTAS, states that met reform targets received performance grants. Key results by 2019 included 32 of 36 states publishing annual budgets and audited accounts online (up from 24 in 2018), 26 states holding public budget consultations (vs. 3 in 2018), 19 states achieving ≥20% domestic revenue growth, and 25 states linking payrolls to the bank Verification Number (BVN) to eliminate “ghost workers”. These reforms indicate **improved federal–state coherence** (common standards on transparency and payroll data).

Table 1: Selected State Fiscal Reforms achieved under SFTAS (2018–2019)

Reform Outcome	States in 2018	States in 2019
Budgets & audited accounts published online	24	32
Public budget consultations held	3	26

≥20% domestic revenue growth	7	19
Consolidated revenue code enacted	2	15
Payroll linked to BVN (ghosts removed)	17	25
Procurement law reformed	7	20

Source: World Bank (2020)

Despite notable progress, coordination challenges remain. The TSA, introduced to streamline public finances by consolidating government accounts, has faced resistance at the state level. Between 2015 and 2018, some states like Lagos and Kaduna, established separate accounts to manage their internally generated revenues outside the CBN/FAAC framework, arguing that applying uniform TSA rules infringes on their fiscal autonomy. Similarly, attempts to extend the federal government’s Integrated Personnel and Payroll Information System (IPPIS) to state payrolls met resistance. Some governors rejected the move, citing the rigidity of the system, which has limited the integration and transparency of payroll data across government levels (Olagunju & Olufemi, 2021).

Digital Governance and Data Sharing

Digital tools are reshaping how Nigeria manages public finances by making data sharing easier and faster. At the federal level, the GIFMIS was introduced to automate budgeting and accounting processes. According to the Office of the Accountant General, GIFMIS helps manage public funds more efficiently by using integrated digital systems³. In practice, tools like GIFMIS and the TSA allow the federal government to monitor spending in real time and publish overall financial reports. In late 2019 the FG launched an “Open Treasury” portal as part of a new Financial Transparency Policy. This e-portal (opentreasury.gov.ng) requires daily publication of the consolidated treasury statement, monthly fiscal accounts and budget performance reports for all MDAs. By putting real-time spending data online, the government has given auditors, civil society and citizens tools to monitor compliance. This effort dovetailed with Nigeria’s OGP commitments; indeed, the portal rollout was hailed as a “seismic shift” towards open data.

Data-sharing between government tiers in Nigeria has improved through digital reforms. Under the SFTAS programme, states upload budgets and audits to federal platforms, encouraging alignment. Many states now use e-payment and budgeting systems that match federal formats. Electronic tax tools like e-filing and the Integrated Tax Administration System help share taxpayer data across levels. Unified systems (like TSA, GIFMIS, and IPPIS) aim to reduce leakages and ensure fiscal transparency, though adoption remains uneven. Thus, the shift to automation is strengthening intergovernmental coordination by improving access to consistent financial data.

Fiscal Coordination through Development Partnerships and Civic Oversight

Development partners and civil society groups have supported Nigeria’s fiscal reforms while identifying gaps. The World Bank’s SFTAS programme (2018–2023) provided funds and technical support to states meeting shared PFM targets, aiming to strengthen fiscal coordination while respecting state autonomy. Civil society organisations like BudgIT and Paradigm Leadership Support Initiative (PLSI) have monitored transparency through independent indices, which help pressure low-performing states and promote learning, though their influence is informal. Similarly, Nigeria’s commitments under the Open Government Partnership (OGP) have shaped reforms like the Open Treasury portal.

Policy Recommendations

The recommendations outlined below aim to address these challenges:

a. Constitutional Reforms for Fiscal Autonomy

Amend the 1999 Constitution to grant states greater control over key revenue areas such as VAT, property taxes, and solid minerals. This would reduce vertical fiscal imbalance and align Nigeria more closely with Market-preserving Federalism principles of decentralised economic decision-making and hard budget constraints.

³<https://oagf.gov.ng/initiative/gifmis/#:~:text=GIFMIS%20%E2%80%93%20Government%20Integrated%20Financial%20and,GIFMIS>

b. Restructure the Federation Account Allocation Formula

Review and adjust the FAAC sharing formula to incentivise subnational fiscal effort. Consider adopting a performance-based allocation model that rewards improvements in IGR, transparency, and service delivery, much like the SFTAS disbursement-linked indicators.

c. Institutionalise Digital Public Financial Management (PFM) Tools Nationwide

Develop a federal-state interoperability framework to harmonise digital platforms (e.g., e-tax, GIFMIS, TSA, and IPPIS) and eliminate duplication. Invest in digital infrastructure, especially in low-capacity states and local governments, to ensure equitable adoption.

d. Strengthen Subnational Fiscal Reporting and Oversight

Make it mandatory for all states and LGAs to publish budget and audit documents on publicly accessible platforms, building on the Open Treasury initiative. Penalties or conditional grants (as with SFTAS) should be tied to compliance.

e. Create a Standing Intergovernmental Fiscal Coordination Council

While existing bodies like NEC and JTB have made strides, a dedicated statutory council should be established to coordinate fiscal and digital policies across tiers, including state and local governments. This could take the form of an upgraded Joint Revenue Board with clearer mandates.

f. Enhance Local Government Fiscal Independence

Following the Supreme Court's 2024 ruling, implement direct allocation of funds to local governments from the Federation Account without interference from states. States should be required to transparently transfer LG funds and publish local-level fiscal reports.

g. Leverage Peer Learning and Incentives

Encourage states to engage in structured peer reviews and learning exchanges. Lessons from states like Lagos, Ebonyi, and Enugu should inform national reforms. Public ranking systems like BudgIT's Fiscal Transparency League and PLSI's Audit Efficacy Index should be institutionalised as informal accountability mechanisms.

h. Clarify Overlapping Jurisdictions and Responsibilities

Review and streamline items on the Concurrent Legislative List to reduce policy fragmentation and confusion. Assign clearer roles and fiscal authority to avoid duplication in service delivery.

By adopting these recommendations, Nigeria can move closer to a model of market-preserving federalism, one that combines rule-based decentralisation, fiscal discipline, and competitive governance, with digital governance as a key enabler of reform.

Conclusion

This study has examined Nigeria's intergovernmental fiscal structure through the lens of Market-Preserving Federalism, assessing how fiscal centralisation, digital governance, and policy coordination affect subnational autonomy and competitive federalism. Evidence from multiple sources, including constitutional and legal provisions, budget data, court cases, and case studies from Lagos, Ebonyi, Enugu, and others, shows persistent structural imbalances. The federal government retains dominant control over critical revenue streams such as oil and VAT, while states and local governments remain largely dependent on statutory allocations. This dependency undermines the Market-Preserving Federalism principle of hard budget constraints and limits the capacity of subnational units to innovate, plan independently, or compete effectively.

Digital reforms have introduced new dynamics, with tools like e-tax platforms, open budget portals, and electronic procurement systems enhancing transparency and expanding the fiscal space for some states.

Lagos, Ebonyi, Enugu, and Edo offer compelling evidence that investment in digital public financial management can improve internally generated revenue, foster greater compliance, and promote public accountability. However, uptake remains uneven, and the effectiveness of digital reforms is constrained by infrastructure gaps, administrative fragmentation, and weak policy harmonisation across tiers of government. While development partners (e.g., the World Bank via SFTAS) and civic organisations (e.g., BudgIT, PLSI) have made important contributions to improving fiscal transparency, Nigeria's fiscal federalism continues to be shaped more by political bargaining than by transparent, rule-based intergovernmental collaboration.

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Informal Sector Taxation and the Determinants of Inclusive Growth in Nigeria

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Abstract

Government desire more tax payer from informal sector into tax net to earn more revenue from taxing their productive services but the benefit resulting from taxing these resources are not being equitably distributed across all sectors of the economy and it persists more especially in the informal sector which makes the growth non inclusive. The challenge of this non equitable distribution of resources resulted in poverty and non-improvement in the social welfare of the informal sector operators, this study investigated the relationship between informal sector taxation and inclusive growth in Nigeria. This study adopted a survey research design. The population of the study was 39,977 subsistence informal sector tax payers and 105 tax officials. Using Taro Yamane sample size technique, 1,157 tax payers were selected as sample while total enumeration was done for the tax officials. Data were collected with two sets of validated questionnaire to obtain responses from the tax officials and the subsistence tax payers selected from the informal sector operators. The data were analysed using descriptive and inferential statistics using multiple regression analysis and analysis of variance (ANOVA). The findings from the study revealed that there were significant relationship between informal sector taxation and presumptive tax regime and inclusive growth (poverty and presumptive tax regime) ($F = 44.19$; $R^2 = 0.2044$; $\text{sig} = 0.0000$; $t = 6.285$; $p < 0.0.5$; $\beta_4 = -0.1107$) The study concluded that the presumptive tax regime to informal sector statistically influence poverty of the informal sector operators in Nigeria. The study recommended that government through designated tax authorities should made inclusive growth their objective in order to get more tax payers into the tax net from the informal sector of the economy.

Keywords: Inclusive growth, informal taxation, poverty, presumptive tax regime, tax policy

Background to the study

The growing interest of government in the taxation of informal sector arouse as a result of potential benefits in terms of increase in revenue and the resultant growth in the economy. Despite the potentials of taxation as a dynamic tool for sustainable national development, Nigeria tax system, has not been able to achieve its objectives due to lack of robust framework for the taxation of informal sector and high net worth individuals, thus limiting the nation's revenue base and creating inequity (NTP, 2017). There exists a revenue gap occasioned by leakage as a result of challenges in collecting tax from the operators of informal sector (Udoh, 2015) or through non-compliance with tax payment by the enterprises in informal sector. Fragmented database of tax payers and weak structure for exchange of information by and with tax authorities also resulted in revenue leakage (NTP, 2017).

The developed countries use taxation as dynamic instrument of fiscal policy to foster economic development. In United State of America (USA) for instance, there is the saying among citizens that the only thing that are sure in life is death and taxes (Eze, Iorwuese & Abba, 2016). This means that the citizens have imbibed the culture of tax payment as moral obligation, unlike the developing nations, especially the sub-Saharan African countries. Most countries in the Sub-Sahara Africa are developing economies that are yet to develop their tax system to capture both formal and informal sectors operators into their tax net (Dube & Casale, 2016). Akintoye and Tashie (2013), affirmed tax revenue as an important instrument for inclusive economic growth and development in many developing economies like Nigeria.

It is similarly becoming increasingly clear that if attempts to achieve green growth and sustainable development are to succeed, they must be rooted in a sound understanding of the informal economy – especially if such efforts are to be inclusive, and to benefit the poor. For economic growth to be truly broad-based and inclusive, the working poor in the informal economy must be recognized for their contributions to economic growth and integrated in economic plans and policies. Gael, Saunoris and Schneider (2017) found positive correlation between informal sector operations and growth. Inclusive growth is a concept that focused on equitable opportunities for productive participants in the economic growth with benefits

incurred by every section of society (OECD, 2017). Anand, Mishra and Peiris (2013) refer to inclusive growth as a distributable economic growth that must be sustainable and effective in reducing poverty. Nijenhuis (2015), reiterates that informal sector should be developed for inclusive growth to create productive jobs for the young to limit the brain drain characterized by the informal sector.

Informal sector is defined as the totality of all economic activities that are not regulated by any government agencies, they are not taxed and their economic activities are not included in the calculations of Gross Domestic Product (GDP) (CISLAC, 2013). Informal sector also referred to as informal economies (Gael, et al., 2017), provide jobs and income to most Africa's poor households (Nijenhuis, 2015). The question of whether taxing or not taxing the informal sector for revenue and for economic reasons readily comes to mind. Taxing the informal sector and bringing the potential tax payer into the tax net will help answer the question posited above on how to create additional sources for more revenue generation; how to improve upon economic growth and the quality of governance provided by government to the people (Udoh, 2015).

This sector is of interest to study because it is very large and consists of very wide variety of groups (Joshi, *et al*, 2014). The legal economic activities of the informal sector contribute to economic growth of the nation. However, the reality is that far too many governments face difficulties in measuring informality. Because of poor official statistics, policymakers depend on unofficial estimates (IMF, 2017). Informality results in lower tax revenues that hinders the government's ability to spend on social programs and investment. With the major setback that economic growth not translating into decent employment of employable youths, this type of growth is far from being inclusive (Wright, 2017). Thus, the need to fill revenue gap and expand the tax base in terms of taxable persons and transactions could be achieved by the expansion of tax net to cover the informal sector. Long and Miller (2017), noted that more taxes is associated with benefits above the fund it raises thereby solving some financing needs on infrastructures, social protection and delivery of services. Thus, inability of any government to source fund from taxation limits social expenditure on health, education and social protection (Long & Miller, 2017).

This means the individuals that are most in need of social programs and public infrastructure may not receive them. The current economic recession arising from fall in oil prices, among other factors, across the globe, the inability of Nigeria to expand oil production level, and the weak value of the Naira when compared to other major currencies, have left government to intensify efforts on more sustainable non-oil revenue sources to finance their expenditure. According to Adegbe and Fakile (2011), taxation has been a major non-oil revenue source of government. Effective tax system is central to promoting economic growth (Gael et al., 2017). In developed countries of the world, tax system creates enabling environment and ease of compliance, leading to taxation being used as dynamic tool for sustainable national economic development (Long & Miller, 2017).

One of the reasons advanced for this to be attained is because the formal sectors of these countries are within the tax net having fulfilled all registration formalities. The developing economies are striving to achieve this objective by ensuring that their tax system is robust to cover all taxable persons but most of them are not paying tax because they operate in the informal sector and there is no clear tax policy on how to capture potential revenue from informal sector in these countries (Olaitan, 2016). The Federal government of Nigeria through the National Tax Policy (NTP, 2017), admits that Nigeria tax system has not been able to achieve its objective of using tax as a tool for sustainable national development due to lack of robust framework for the taxation of informal sector and high net worth individuals, thus limiting the revenue base and creating inequity.

At this moment when government attention is being drawn to the potential revenue from the informal sector, this study seeks to evaluate what effect an increase tax revenue will have on economic prosperity for all the participants. How can the increase in tax revenue from the informal sector get many people out of poverty bracket through fair taxation from government tax policies? Thus, the revenue gap that can be filled by expanding the tax base in terms of taxable persons and transactions could be achieved by the expansion of tax net and ensuring that the benefits accruing from this is inclusive. In light of the above, the main objective of this study was to assess the relationship between informal sector taxation and inclusive

growth in Nigeria, and specifically to investigate the effect of informal sector taxation on the determinants of inclusive growth in Nigeria.

To achieve the objective of the study, this study raised the research question of what is the effect of informal sector taxation on the determinants of inclusive growth in Nigeria. Thus, the study tested the null hypothesis that there is no significant relationship between informal sector taxation and determinants of inclusive growth in Nigeria.

The need to investigate the effect of informal sector taxation on the determinants of inclusive growth in Nigeria is informed by which tax system is appropriate for the informal sector. The informal sector economic activities contribute to economic growth of the nation but it has not improved the wellbeing of the operators in this sector. This objective seeks to know if fiscal policy can be used to influence inclusive growth.

Review of Literature

Informal Sector

Informal economy or informal sector is that part of economic unit which is not officially registered and monitored by any form of government regulations (Atawodi & Ojeka, 2012; Udoh, 2015). The term informal sector, originally proposed by Keith Hart (1973), initially referred to employment outside of formal labour markets. The idea was to distinguish businesses on their 'degree of rationalisation, or embodiment of impersonal principles of social organisation' (Kenyon, 2007). The International Labour Organisation (ILO) (1970s) took up the concept, and mainly used it for small and micro enterprises that were subsistence economy, and were outside the purview of government regulation and taxation (ILO, 1972). The term was reinterpreted when de Soto (1989), identified the informal sector as a source of dynamism and growth, held back only by inappropriate government regulation.

CISLAC (2013) emphasized that; informal sector provides critical economic opportunities for the poor, made up primarily of self-employed persons, small and micro enterprises and other forms of economic activities. Over the past forty-three years or thereabout, many studies carried out by individuals, groups and organizations on informal economy including: (ILO, 1972 & 2002); Atawodi & Ojeka, 2012; Saidu & Dauda, 2014; Ameyaw *et al*, 2015; Udoh, 2015; Olaitan, 2016; and others, have characterized this economic unit as one item occupying the most challenging domain in taxation.

Inclusive Growth

From the economics perspective, growth refers to increase in potential output of goods and services, which can be production at full employment. It is measured as a percent increase in real Gross Domestic Product (GDP), which is GDP adjusted for inflation (Gracianna, 2012). An inclusive approach to economic growth means recognizing, validating and integrating the working poor in the informal economy into the mainstream of economic activities in an approach that validates economic diversity and allows the informal and formal economies to co-exist in a hybrid economy.

Hentz (2012) adopting the definition of the International Development Research Centre (IDRC) (2010), describe inclusive growth as growth that takes place in a context in which economics opportunities (including employment opportunities) expand, the poor's access to these opportunities improves and inequality are reduced. Accordingly, inclusive growth allows all members of society to participate (Ayinde & Yinusa, 2016), and contribute to the growth process through productive employment. Productive employment is an essential part of inclusive growth as it paves the way for broader social and economic advancement, strengthening individuals, families and communities (Belami, Ahmed & Yusuf, 2016).

Thus, growth will be meaningful to the citizens when it fails to address the following fundamental areas of human endeavour particularly in the informal sector as identified by Belami *et al.*, (2016); the level unemployment, poverty, inequality and the extent that the poor are been allowed to participate in the growth process as well as benefiting from the fruits of the growth.

Theoretical Framework

Political Economy Theory of Fiscal Policy

The theoretical underpinning for this study builds on the political economy theory of fiscal policy. The theory develops the perspective that governments raise tax revenues and then use the collected resources for the financing of infrastructural investment to improve the availability of public goods and services and pursue the provision of specific quality public infrastructure. The theory outlines quite clearly, that the reason for the collection of tax revenues is chiefly to improve the “fiscal capacity” of the state to undertake infrastructural development spending and investment that can then go a long way to stimulate growth and economic performance. Empirical evidence have shown that it is often the case that in periods of low tax revenues, one area that is worst hit is that of public spending on infrastructure (Palley, 2006; Schade, 2005; Kumar et al. 2007; Gupta et al. 2014). A plausible reason for this may be because the positive gains from investment in infrastructure may not be immediate and comes with a long lag as compared to other direct spending by government such as transfers and wage raises which tends to have immediate gains and benefits that affects the generality of the people. However, it suffices to note that the level of the effect of revenue generation on public investment spending may differ, given differences in macroeconomic structure and conditions of the economy and level of development (Drether, et al. 2006; Kumar, et al. 2008). Therefore, within the context of the political theory of fiscal policy, the challenge now especially for developing economies like Nigeria is regarding policy decisions made by the government, which decides on how best to allocate the collected limited resources into alternative competing sectors (Battaglini & Coate, 2008).

Empirical Review

Domestic revenue generation occupies a central domain in most countries, leading to continuous mapping of strategies towards its enhancement. Taxation is a dependable and foreseeable avenue to generate revenue for governments to fulfil key obligations of employment creation, economic growth, infrastructural development, poverty reduction and state security. The increasing attention to the taxation of the informal economy is grounded in its potential importance to revenue, growth, and governance. Researchers concur that the informal sector occupies the most complex domain with regards to taxation, due to its characteristics such as the hidden nature, small scale, ease of tax evasion and mobility as well as diversity, yet they disagree on the impact of taxation on the viability of the sector’s activities (Joshi et al., 2014; Ligomeka, 2019; Maina, 2017; Munjeyi, 2017).

Some researchers support the taxation of the informal sector to broaden the tax base, boost revenue generation to fund economic development (Joshi et al., 2014; Rogan, 2019; Schneider et al., 2010; Schneider & Klinglmair, 2004), yet others have queried the logic of taxing the informal sector in view of its small scale nature, minimal and erratic incomes, lucid nature, heterogeneity and difficulties tracking players, aggressive nature of operators in the sector and low tax morale (Kundt, 2017; Meagher, 2018; Pimhidzai & Fox, 2012; Sebele-Mpofu, 2021). The opponents of informal sector taxation further argued that as means of subsistence, its taxation might be regressive and lead to crippling those activities that are essential for employment generation, poverty alleviation and the provision of a livelihood for the disadvantaged.

Yet, from the statistics shown on the sector’s contribution to GDP, economic activity and employment, the exigency to bring this sector into the tax net is apparent. The sector represents an understudied yet promising group of potential taxpayers. Di John (2009), concluded that domestic revenue mobilisation has not moved in the same strides with the rising public government expenditure. Therefore, there is greater need to take into account what governments should do or know better in order to raise revenue from the informal sector. Ebeke and Ehrhart (2012) asserted that the ever ballooning public expenditure needs and budget deficits signal that revenue from the formal sector and foreign aid are not sufficient, making the informal sector a competing option for expanding domestic revenue. The argument is that the expansion of the non-tax paying informal sector undermines domestic revenue mobilisation and equity. Moyi and Ronge (2006) concur by pointing out that to enlarge the tax base and enhance equity, it is necessary to bring the IS into the tax net.

In consistent with proponents of informal sector taxation, Bhattacharya and Akbar (2014), opined that steps towards expanding the tax base and enhancing revenue mobilisation should thoughtfully consider

taxing the burgeoning informal sector. Benjamin and Mbaye (2012) asserted that, despite the importance of the informal sector in African economies, it only contributes 3% of overall tax revenue collections. Thus, Toyé, (2000), Munjeyi (2017), Munjeyi et al. (2017) and Rogan (2019), asserted that fifty percent or more of potential tax revenue goes untapped in developing countries. In the wake of fiscal crises of the states in sub-Saharan Africa, designing tax systems that can provide incentives for growth, ensure equity, stimulate economic growth as well as preserve the survival of firms and increase revenue collection is central to state viability and effectiveness. In support of the forgoing, Munjeyi et al., (2017) and Van den Boogaard et al., (2018), posited that the size and magnitude of the informal sector, implies the need to tax it, if developing country governments are to remain afloat and be able to collect enough revenue to finance public expenditure

On the contrary, empirical evidence points to a negative relationship between payment of taxes, the costs of compliance and growth of firms in the informal sector. Tee et al. (2016), established that taxation has an adverse impact on growth of SMEs and recommended the need for tax policy review and its alignment to the growth needs of SMEs. Ocheni and Gemade (2015), observed the negative impact of multiplicity of taxes on the survival of SMEs noting that the size of the firm also has an impact on its propensity to honour its tax obligations. The smaller the firm, the higher the risk of failure to pay taxes and the risk of failure. The increased risk of failure would see the same strategy aimed at growing small firms and increasing the prospects of tax revenues, resulting in their failure and reduced revenues respectively. De Mel et al. (2013) and Bruhn and McKenzie (2014) adduce that it is unlikely that taxing the informal sector would bring in noteworthy revenues at least in the short and medium term. Omare and Erickson (2015), observed the inability to purchase assets after committing the bulky of the resources to tax payments as a major hindrance to small business expansion, yet asset accumulation is an imperative measure firm growth and performance.

Mungaya et al. (2012) opine that tax payments constitute a tax cash outflow, resulting in the reduction in the purchasing power of a company as more cash is channelled to the tax obligations instead of using it for business expansion efforts. However, Ligomeka (2019), concluded that revenue collection is negatively impeded by the existence of a large heterogeneous informal sector, corruption, low tax compliance and heightened tax evasion and feeble taxation administration in developing countries especially Sub-Saharan African countries. Therefore, in order for governments in developing countries to reap any meaningful enlarged revenues from this sector, they have to equally invest into it and nurture it. There is a great potential to grow the contribution of the informal sector to revenue mobilisation and economic growth if necessary institutional support is availed to them to foster their productive capacity (Bruhn and Loeprick, 2014; Bruhn and McKenzie, 2014).

Methodology

This study adopted survey research design. The choice of survey design was made due its effectiveness when getting opinions, attitudes and description as well as for getting cause and effect relationships (Atawodi & Ojeka, 2012). Survey research design is found to be appropriate to address the heterogeneous nature of the informal sector and to collect primary data directly from the source. The population of the study consisted of 39,977 registered subsistence operators who are predominantly informal from all intents, and the small and medium enterprises in the agro allied industries in Lagos, Ogun and Oyo States (IRS, 2017).

The Taro Yamane statistical formula was adopted to determine the sample size with 5% margin of error to give a sample size of 395 respondents from each of the three states of the Southwest. This number was distributed equally among the three states. In addition, 105 members of enforcement staff were proposed which represent the total population of the informal sector section of internal revenue staffs were taken as sample. The sample for the informal sector operators was selected based on the characteristics and groupings of the associations and their readiness to assist the researcher in the administration of questionnaire. Purposive sampling technique which permits the researchers to rely on their own judgment when choosing members of population to participate in the study was applied in selection of participants.

Primary data were collected through the use of structured questionnaire to collect quantitative data about the views, perspectives or opinions from the respondents. The choice of this type of questionnaire is informed by the intention of the researcher to capture the opinion of the officers of internal revenue in the informal sector section of IRS, and the operators' view. The questions were short and simple for information gathering considering the level of educational attainment of some of the operators in the informal sector and even the officers of internal revenue. The questions asked revolve round a particular objective of the study being examined.

The test of hypothesis was based on the model formulated for the study. The model uses poverty to proxy inclusive growth. Informal sector taxation was proxied by the taxation systems variables like tax policy, administrative cost of tax laws for informal sector (presumptive taxation), and other variables like level of awareness, perception and tax incentives.

Results and Discussion of Findings

Data Analysis

Categories of Informal sector operations

Table 1: Categories of Informal Sector Operations of Respondents

Categories of Informal Sector Operations	Frequency	Percentage (%)
Hairdressers and Beauticians	172	16.56
Dressmakers & Fashion Designers	197	18.93
Artisans	104	10.05
Contractors	129	12.42
Food Ventures	68	06.51
General Traders	369	35.53
	1,039	100.00

Source: Field Survey, 2024

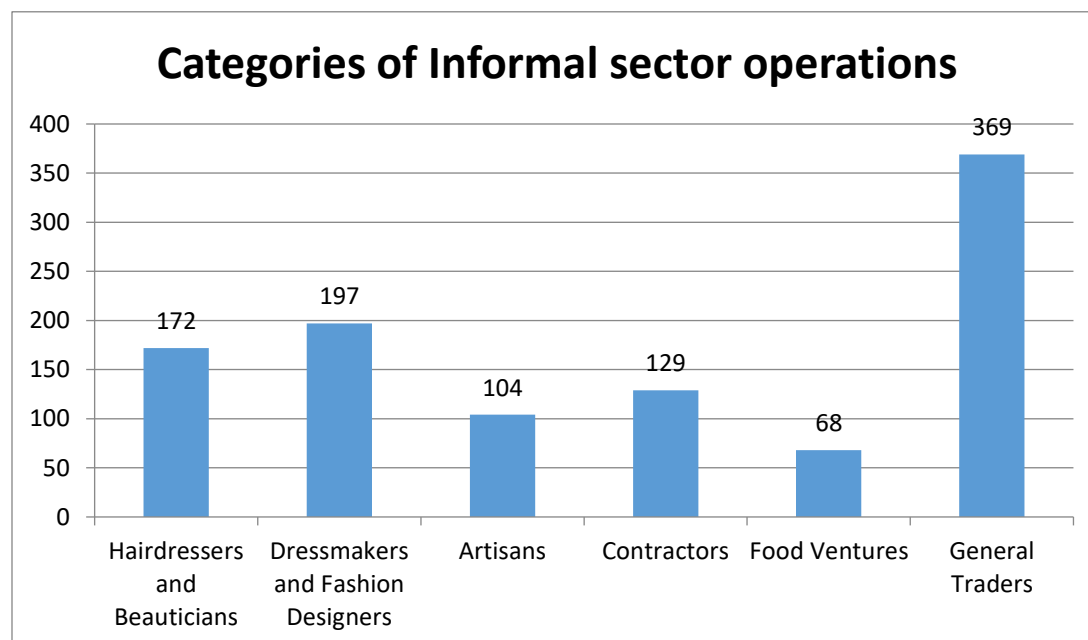


Figure 1: Bar Chart showing the Categories of Informal Sector Operations of Respondents

Source: Field Survey, 2024

Model

$$POV = \beta_0 + \beta_1 LOA_i + \beta_2 TP_i + \beta_3 AC_i + \beta_4 PTR_i + \beta_5 PoPTIG_i + \beta_6 IoINV_i + \mu_t$$

Where:

POV = Poverty
 LOA = Level of Awareness
 TP = Tax Policies
 AC = Administrative cost
 PTR = Presumptive Tax Regime
 PoPTIG = Perception on tax and inclusive growth
 IoINV = Incentives on investment for inclusive growth
 β_0 = Coefficient or the degree of responsiveness
 μ_t = Error term

Table 4.2: Output of the model

Dependent Variable: POV

Method: Least Squares

Date: 01/12/2024 Time: 00:11

Sample: 1 1039

Included observations: 1039

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOA	-0.009279	0.024758	-0.374791	0.7079
TP	-0.075941	0.022934	-3.311289	0.0010
AC	0.142605	0.023903	5.966112	0.0000
PTR	0.123339	0.019317	6.384909	0.0000
PoPTIG	0.051551	0.017389	2.964604	0.0031
IoINV	0.056476	0.017807	3.171567	0.0016
C	-0.110717	0.239720	-0.461860	0.6443
R-squared	0.204428	Mean dependent var		3.022137
Adjusted R-squared	0.199803	S.D. dependent var		1.459304
S.E. of regression	1.305402	Akaike info criterion		3.377614
Sum squared resid	1758.605	Schwarz criterion		3.410936

Log likelihood	-1747.670	Hannan-Quinn criter.	3.390255
F-statistic	44.19665	Durbin-Watson stat	1.302254
Prob(F-statistic)	0.000000		

Source: Author's Computation E-view 7.1

Interpretation

The interpretation of the above result in terms of coefficient is given as follows; the intercept is -0.1107. This is a constant term which shows that if all the explanatory variables are held constant, poverty level among the tax payer will still be -0.1107, this means that when the Level of awareness (LOA), Tax Policies (TP), Administrative cost (AC), Presumptive tax laws (PTR), Perception on tax and inclusive growth (PoTIG) and Incentives on investment for inclusive growth (IoINV) assumed the value of zero i.e. if the proxies of the independent variable are not allowed to influence the level of poverty, the rate of poverty will be negative because the constant value exhibit a negative value.

The coefficient of Level of awareness (LOA) is -0.009. This shows that Level of awareness (LOA) is also negatively related to poverty and that a unit increase in the Level of awareness (LOA) will reduce poverty by 0.9%. Also the coefficient of tax policy (TP) is -0.076. This also shows that tax policy is negatively related to poverty and that an increase in quality of tax policy will also decrease or reduce poverty by 7.6%. In addition the coefficient of administrative cost (AC) stands at 0.143. This also implies that administrative cost is positively related to poverty and that an increase in administrative cost will positively affect poverty by 14.3%. Moreover, the coefficient of presumptive tax laws (PTR) stands at 0.123. This also shows that presumptive tax is positively related to poverty and that an increase or decrease in tax law will positively or negatively affect poverty rate by same point.

The coefficient of perception on tax and inclusive growth (PoPTIG) stands at 0.052. This shows that perception on tax and inclusive growth (PoPTIG) is positively related to poverty and that an increase or decrease in Perception on tax and inclusive growth (PoPTIG) will affect poverty rate by same. Lastly, the coefficient of Incentives on investment for inclusive growth (IoINV) stands at 0.056. This shows a positive relation to poverty as the dependent variable in the model it means that Incentives on investment for inclusive growth (IoINV) is positively related to poverty and that an increase Incentives on investment for inclusive growth (IoINV) will positively affect poverty rate among the tax payer.

Coefficient of determination (R^2)

In our model, R^2 is 0.2044, which implies that approximately 20.44% of the variation in the dependent variable (poverty) is explained by the variations in the explanatory variables. Judging by the size of the coefficient of determination (R^2), 20.44% shows no fit for the model. Meaning that 20.44% variation in poverty is explained by the model, leaving the remaining 79.56% variation in the model unexplained, indicating that 79.56% is explained by other factors outside the model. The adjusted R^2 of 0.1998 shows that the sample size is increased or decreased significantly the coefficient of determination changes slightly from 0.2044 to 0.1998.

F-test (ANOVA)

This test is carried out to determine if the independent variables in the model are simultaneously significant or not. If probability of F_{cal} is greater than the critical F at 0.05 level of significant, then reject the alternative hypothesis, H_1 and accept the null hypothesis H_0 .

H_0 : $b_i = 0$

H_1 : $b_i \neq 0$

H_0 : shows that the model is not significant

H_1 : shows that the model is significant

Decision Rule

The decision rule says that reject the H_0 if F_{cal} is greater than F_{tab} otherwise accept.
Reject H_0 : if $F_{cal} > F_{tab}$ otherwise accept.

Table 3: Table of summary of F-test (ANOVA)

F Calculated	Prob of F_{cal}	Critical Value	Decision	Conclusion
44.19	0.0000	0.05	$p < 0.05$	Statistically significant

Source: Extracted from E-view Version 7.1

From the result, it is observed that probability of F_{cal} is greater than the critical value of 0.05 that is $p < 0.05$, this invariably mean that F_{cal} is greater than F_{tab} we therefore reject the null hypothesis and simply accept the alternative hypothesis and this means that there is significant relationship between revenue from presumptive tax regime and inclusive growth in Nigeria and that the relationship is not by chance but statistically significant in nature. The F – statistics shows that all the incorporated variables were simultaneously significant at 5% critical level because the probability of the F - statistics 0.0000 is less than the critical value of 0.05.

Durbin-Watson Test

The Durbin–Watson test assumes the value of 1.916, which shows that there is no positive serial auto-correlation among the variables in the model because the d-value (1.916) is far from zero.

Estimated model from output four

The model for this objective was formulated as:

$$POV = \beta_0 + \beta_1 LOA_i + \beta_2 TP_i + \beta_3 AC_i + \beta_4 PTR_i + \beta_5 PoPTIG_i + \beta_6 IoINV_i + \mu_i$$

Where POV represents Poverty (which is a proxy for inclusive growth), LOA is Level of Awareness, TP meant Tax Policies, AC is Administrative cost, PTR stands for Presumptive Tax Regime, PoPTIG means Perception on tax and inclusive growth, IoINV indicate Incentives on investment for inclusive growth, β_0 is Coefficient or the degree of responsiveness of explanatory variables on the explained variable and μ_i is Error term. By substituting the value of the estimates (β) of the constant (intercept) and the coefficients of the regression model, the estimated model will be represented thus:

$$POV = -0.1107 - 0.0093LOA - 0.0759TP + 0.1426AC + 0.1233PTR + 0.0516PoPTIG + 0.565IoINV + \mu$$

Discussion of the estimated model

From the estimated model in paragraph 4.2.1.4.7 above, the interpretation of coefficients of economic significance was done relative to economic apriori expectations, which consider the signs (positive or negative), size (magnitude) and statistical significance of the coefficients. The estimated model in paragraph shows a negative constant figure, which indicate that when there are no other explanatory variables like level of awareness, tax policy, administrative cost, presumptive tax regime, perception of tax payers and incentives investment to tax payers, the level of poverty will still be at zero level. Poverty as an inclusive growth proxy is a common phenomenal across the region of informal sectors.

When level of awareness is introduced as an explanatory variable using the tax payer’s perspectives, it exhibits a negative sign which doesn’t conform to apriori expectation. This sign indicates an increase relationship that when level of awareness increases, the poverty level will reduce and when there is reduction in the level of awareness of tax payers, poverty level will increase. This view shows the position of the payers that knowledge of the filing of returns will make payment easy and evasion to reduce which when there is more revenue to government there will be more inclusiveness in the growth of the sector. Using the size or the magnitude of the coefficient to interpret the resolution the model, 1% increase or decrease in the level of awareness will on average lead to about 0.93% i.e. less than 1% decrease or increase in the level of poverty. This indicates that the tax payer does not influence the level of inclusive growth

even with an improvement in the level of awareness. Student t-test and standard error test of the level of awareness at 5% level of significance shows that level of awareness is not statistically significant. This shows invariably that it is not a variable to be considered important in the model that uses poverty to proxy inclusive growth from the tax payers' perspectives. Tax policy as an explanatory variable in the model that uses poverty to proxy inclusive growth from tax payer perspective shows a negative sign of relationship. This means an increase in the level of tax policy will lead to decrease in the level of poverty. This does not conform to apriori expectation of the estimated model. The magnitude of the tax policy as an explanatory variable to explain the level of poverty reveals that 1% increase in the level of tax policy will lead on average to about 7.59% reduction in the level of poverty and reduction of 1% in tax policy will increase the level of poverty as an inclusive growth proxy. Testing the coefficient of tax at 5% level of significance using the student t-test and standard error test, the results as disclosed in table 4.2.1.4.5.2 and table 4.2.1.4.5.3, shows that the tax policy is statistically significant in the model that uses poverty as a proxy for inclusive growth.

Administrative cost of compliance as a proxy of inclusive growth exhibits positive sign of direct relationship, this conforms to the apriori expectation, and it indicates that only increase or decrease in the administrative cost will lead to increase or decrease in poverty as a proxy for inclusive growth. In terms of the magnitude of the coefficient, an increase or decrease 1% in administrative cost of compliance to about 14.26% increase or decrease in poverty level. The coefficient of administrative cost is significance at 5% level of significance using students t-test and standard error test.

The presumptive tax regime introduced for informal sector as a variable to influence level of poverty assume a positive sign therefore conform to the rational expectation that the coefficient is expected to be greater than zero. An increase or decrease in the presumptive tax regime will have a direct relationship to increase or decrease the level of poverty as indicated in table 4.2.1.4.4. The size of the coefficient of administrative cost of compliance also shows that an increase or decrease of 1% in the level of presumptive tax regime will lead to about 12.33% in the level of poverty of the informal sector. Further test on the coefficient of the presumptive tax regime at 5% level of significance shows that using both student t-test and standard error. The result as indicated in tables 4.2.1.4.5.2 and 4.2.1.4.5.3 shows that is significant meaning that it is an important variable in the study of inclusive growth when poverty is used to proxy it.

Tax payers perception on presumptive tax and inclusive growth as a variable in the model that uses poverty as inclusive growth proxy from the tax payers perspective assumes a positive sign, this conform to apriori expectation that it is expected that the coefficient will increase or decrease to influence the explained variable in direct relationship. In terms of the magnitude of coefficients, it shows that 1% increase or decrease in the level of perception of tax payers will on 'average lead to about 5.16% increase or decrease in the level of poverty. Statistically testing the coefficients at 5% level of significance using both student t-test and standard error test reveals the result that using student t-test, it is significance but using standard error test it is not significant. This indicates mixed with results which still need further investigation.

Incentives on investment for tax payers as an explanatory from tax payer perspective assumes a positive sign as expected from the apriori. This shows that the coefficient or the level of influence should be greater than zero. The magnitude of the coefficient of incentives on investment shows that an increase or decrease of 1% in the incentives on investment will on average lead 5.65% in the level of poverty. The incentive on investment is significant of 5% level of significance using student t-test and standard error test. The result as displayed in table 4.2 and 4.3.

Conclusion

After investigating the effect of presumptive tax regime introduced in Nigeria to the operators of informal sector, it was discovered that in order to achieve inclusive growth, it is a statistically significant explanatory variable which cannot be waved. The empirical result used as evidence conclusion show that the F-statistic is 44.19 with p-value of 0.0000 which is less than critical value of 0.05, therefore the presumptive tax regime is adopted suitable for the informal sector for achievement of inclusive growth purpose

Recommendations

The findings of the study acknowledge the role played by the informal sector in the economy and that unfavourable tax policies can have a detrimental effect on the on the sector's growth and its taxation for inclusive growth. Based on the empirical evidence deduced from the statistical findings of the study, that there is relationship between informal sector taxation and inclusive growth in Nigeria, the study recommended that to enhance the informal sector level of participation in the identification of potential tax payers, government should desist from a single minded focus on revenue collections but nurture the informal sector firms through incentives, skills empowerment programmes on record keeping, financial management, cost and management accounting as well as tax technical knowledge, access to credit and other financing programs. In addition, government can use them as agent of collection in consideration for commission arising from collections made on behalf of government. This is the practical application of the benefit received theory of taxation used in the theoretical framework for this study.

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Factors Impeding Income-generating Activities (IGAs) and Sustainable Wealth Creation among Low-income Women in Nigeria (TETFund funded)

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Abstract

This qualitative study examined the mitigating factors impeding income-generating activities (IGAs) and sustainable wealth creation (SWC) among low-income women in Nigeria. Women constitute over 50% of Nigeria's 236 million total population and dominate the low-paying jobs and the informal sector of the economy. Despite their critical role in unpaid reproductive and domestic labour at the household, most of the poor in Nigeria are women in low-income-

generating ventures. Although Nigeria is a rich country, blessed with abundant mineral resources and manpower, available statistics indicate that there's a widening gender poverty gap with low-income women, particularly those aged 25- 34 years in their prime working years at the bottom of the ladder. The study adopts a participatory approach, Gender Inequality Theory (GIT), and a qualitative method to assess the factors impeding income-generating activities (IGAs) and by extension, sustainable wealth creation (SWC) among targeted low-income women across two (2) Local Government Areas (LGA's) In each of the three (3) states (Benue, Kaduna, Ogun) and the Federal Capital Territory (FCT), Abuja. Each selected State was highly populated, multi-cultural and multi-ethnic to obtain perspectives of the targeted population with an average monthly income of sixty thousand Naira (N60,000.00). The qualitative data was elicited from Focus Group Discussions (FGDs) and In-depth Interviews (IDIs) of various women groups, leaders and market associations. The study found that lack of capital for purchasing raw materials and the necessary equipment was the most important factor affecting women's engagement in income-generating activities (IGAs). Additionally, high interest rates from money lenders and the challenges associated with loan repayment are major obstacles to women's participation in income-generating activities (IGAs) and sustainable wealth creation (SWC) in the study area. The study recommends the reorientation and training to remove cultural barriers that discourage women from accessing financial incentives for their business.

Keywords: Low-income, women, wealth creation, Nigeria

Introduction

For decades, the critical role of women in wealth creation and income-generating activities (IGAs) is well acknowledged in the literature. Beyond the contribution of women to economic growth and national development of their respective countries, they carry out multiple roles as wives, mothers and caregivers. According to Oyesomi et. al (2017), the importance of women in contemporary society cannot be underestimated mainly because it has brought about innovation, employment, and development. For instance, (Adetayo, 2014) posits tha women empowerment and entrepreneurship can help achieve economic development if women's skills and talents are well nurtured and utilised. Many women involved in wealth creation fail in their businss as a result shortage of capital. There is also the challenge of low education and lack of are usually not aware of business technology and market knowledge (Lambing & Kuehi, 1997; Ogunche & Rabah, 2001; Khanka, 2000).

Active participation of women in wealth creation and Income-generating Activities (IGAs) will result in women empowerment for strengthening their existing skills and capacities to participate and perform better to improve themselves and their families. Women's economic empowerment is acknowledged as the cornerstone of the 2030 Agenda for Sustainable Development. Compared to men, women-owned businesses are smaller and disadvantaged in their access to credit, resources, and assets. Indeed, many economies do not fully realise female low income earners' potential. Education compounds the gender gap (UN, 2016). The ultimate goal of supporting women in income-generating activities (IGAs) is to help reduce poverty among women. It is against this premise that the study seeks to examine and proffer solutions to the militating factors hindering women from maximising wealth creation and income-generating activities.

Wealth Creation for Low- Income Women

The importance of the intervention approach in wealth generation from Uganda was examined in this section. Several poverty reduction and wealth creation policies with the global goals outlined in the Millennium Development Goals (MDGs) and, more recently, the Sustainable Development Goals (SDGs) have been incorporated into annual plans, the National Development Plan (NDP), and Vision 2040.

For example, Uganda intends to be a modernized economy by 2040 as a result of these initiatives. Several poverty reduction and wealth creation programs have been implemented, particularly under the National Resistance Movement (NRM) government, but despite a significant reduction in poverty incidence from 31.1 per cent in 2006, 19.7 per cent in 2013, and 21.4% (8 million) in 2018, the poverty figure remains a source of great concern for many politicians and lawmakers. It is common knowledge that Savings and

Credit Cooperatives (SACCOs) have been used by the NRM government since its launch in 2005 to fight poverty (Omona, 2021).

The World Bank commended Uganda for having the fastest rate of poverty reduction in sub-Saharan African countries, with the population living on \$1.90 PPP (purchasing power parity) per day or less dropping from 53.2 per cent in 2006 to 19.7 per cent in 2013 (UBOS, 2017). Moreover, there is a panic that, with the current above-mentioned and other development challenges, if nothing more is done; the Vision 2040 aspiration may not be achieved. SACCOs have been one of the strategies for poverty reduction. In Uganda today, it is recognized that the rapid expansion of SACCOs has played a significant role in fighting poverty. SACCOs are entities registered under the Uganda Cooperative Statute of 1991 and the Cooperative Societies Regulations of 1992 and the minimum number of members required to register a SACCO is 30 people. In 2005, the Government of Uganda introduced the "Prosperity for all" programme, also commonly known locally as Bonabagaggawale. Its major objective was to extend financial inclusion through the creation of SACCOs, especially in rural areas (Lutaaya, 2017).

The programme was intended to have one SACCO per sub-county to channel both agricultural and commercial loans to potential borrowers at below-the-market rates. The government has greatly subsidized the funding of new SACCOs all over the country. Newly established SACCOs are now required to apply for a start-up grant from a government-owned apex institution, known as the Micro Finance Support Centre (MSC). This MSC has numerous functions, including providing interest-free loans or other subsidized loans to SACCOs, providing operational support to SACCOs, and paying rent and salaries for new SACCOs for the first two years of operation (State House, 2007). Deposits/saving products; non-withdrawal savings; withdrawable savings; holiday saves; Christmas savings; school fees savings; retirement savings; and investment savings were identified as some of the important products of SACCOs in Uganda during interviews. Others include fixed deposit savings, burial savings, and philanthropic savings (Omona, 2021).

Access to credit from non-bank financial institutions differs across the country, in western Uganda, it being highest at 14 per cent, then 5% followed by central Uganda and 3 percent northern Uganda (UBOS, 2014). According to Omona, (2021), SACCOs have been originate to advance small loans, from USD 50-100 to every less privileged person, women most especially for augmenting business with the hope to generate profit.

Lack of access to credit is the major challenges to emancipate from poverty and its crippling consequence. Therefore, a safe and small loan available is hope to bring vital improvement in the people's life by increasing their productive capacity.

According to the International Monetary Fund (IMF, 2020), wealth creation in narrow terms referred to income generation and in a broader view, the creation of assets including physical and human capital. To Blubberer (2003), it refers to economic growth and a better standard of living for the individual, family, and the government. Furthermore, Wasiluk (2012), viewed sustainable wealth creation as "the process of creating business value while simultaneously creating value for stakeholders (including the natural environment) as a result of implementing strategies to achieve corporate sustainability".

The World Bank's core areas of engagement targeted at ensuring sustainable wealth creation in Nigeria cover the areas of investment in human capital, economic transformation, and diversification, resiliency, and strengthening the foundations of the public sector, funded by the International Development Association. Although the programme is still in its early phase, it has recorded massive activation activities across the states of the federation. According to the World Bank (2021), wealth creation intervention strategies and programmes for low-income women included (conditional and unconditional) cash transfers, paid leave, and other forms of intervention strategies.

The private sector, through non-governmental organizations, has also been instrumental in ensuring sustainable wealth creation for low-income women in Nigeria. In Kano Nigeria, the Serendipity Healthcare Foundation through Global Giving, a non-profit organization that funds and supports other non-profit organizations has initiated a project aimed at empowering 100 women in the ten wards of Tofa. This intervention strategy is featured with innovative and replicable efforts for women's development of life skills and self-identity as well as enabling them to manage their social and economic wellbeing.

Another intervention strategy for sustainable wealth creation is expressed in the Women's Economic Empowerment (WEE) components of the National Development Plan (2022 – 2025). The Women Economic Empowerment is funded by the Bill and Melinda Gates Foundation, and it aims at helping women and girls move from limited power, voice, and chores at home and in the economy to having the skills, resources, and opportunities needed to compete equitably and benefit from economic gains. Currently, the Partnership for Advancing Women in Economic Development (PAWED) is conducting technical review meetings both at the national and the state level in building and nurturing the country's Civil Society (CSO) to support the women's economic empowerment interventions.

Research Objectives

The broad objective of this qualitative study is to examine the wealth creation efforts among low-income women in rural/semi-urban, Nigeria. The specific objectives are to:

1. investigate the income-generating activities among women of low socio-economic status in rural/semi-urban Nigeria;
2. examine the factors that impede income-generating activities among women of low socio-economic status in rural/semi-urban, Nigeria;

Theoretical Framework

The theoretical anchor for this study is the Gender Inequality Theory (GIT). Gender disparity has been a major contention among great philosophers of ages from many centuries to this time. The ideologies emerge from Aristotle, Socrates and Plato. The sociological ideology from Emily Durkheim discussed gender disparity in religion, and how religious doctrine and practices create gaps between men and women. Karl Marx, from the capitalist ideology, discussed gender disparity in resource sharing and economic development; as well as the influence of religion on gender financial or economic development. Marxist ideology emphasizes women's liberation from cultural norms and conventions or policies that subjugate, marginalize and oppress women in gender-social relationships. While the functionalist focuses on class and hierarchy in family, workplace and society. Patriarchal ideology discusses women's marginalization and oppression by men in social relationships and inheritance sharing Aluko, 2015; Abara, 2012). Gender gaps were so prominent in the 19th century; it was fought around 1826 and 1846 respectively in Europe, when women agitated for gender-equal voting rights and women's emancipation. The human equal rights law was promulgated in 1884/85 (Folarin & Udoh, 2014; Henry, et. al. 2010). Human rights law failed to promote gender equality because it's against the custom and traditions of the society, patriarchy ideology gained ground in many societies more than human rights law.

The radical and Marxist feminism movement rose against women's marginalization, subjugation, and oppression by advocating for gender emancipation and equality. Gender inequality is the Marxist and socialist ideology that refers to unequal treatment among genders in social relationships due to their role and status in society. The sociologist's perception of gender inequality was based on gender construction and gender interaction in society. They see gender differences in interaction, biological sex and patriarchal norms that provoke gender competition and marginalisation in resource sharing (Giddens, 2001). Patriarchy ideology looks at patriarchy as power or authority and control of women by men. The patriarchal doctrine subjected women to be inferior and subordinate to men, creating gender inequality in social relationships. The patriarchal ideology gave superior power to men. This raises men's egos, power and privilege to ride and marginalized women in resource sharing and social functions. Men's physical strength and behaviour in family and workplace showcase men's ability and disposition to issues. This cannot be compared to women's emotional disposition to challenges in the family and the workplace. Instead of Men and women performing naturally based on their ability, functional competition on status and roles is their disposition, Claim of superiority and inferiority complex, class and hierarchy that always jeopardized gender moral relationships and development in societies (Aluko, 2015).

Gender inequality theories were propounded by western and northern American scholars around the 1970s, 80s, and 90s, during women in development, gender and the environment, and women and

empowerment programs. The feminist movement emerged with different ideologies advocating for women's emancipation, gender equality, and the eradication of gender inequality; such feminist movements include liberal feminism, radical feminism, black feminism, ecofeminism, and social feminism (Abara, 2012). The theory emerged in the work of John Martenussen, in 1997, when he was working on gender and development in the 1990s. Gender Inequality Theory is always concerned with the realization of harmony, equity, and equality, the functional and inheritance-sharing differences between men and women create gender gaps, truncate the movement for equality, and promote inequality ideology. Women were trained to provide caring, and welfare services for the family and support children emotionally and morally, while men were trained to provide security and financial support to the family (the breadwinner). The types of training they received dictated the gaps and differences that exist between men and women. The functional and inheritance-sharing disparities always create conflict in gender relationships and resource sharing (Giddens, 2001; Nejati, 2009).

The feminist movement provides an antidote to gender inequality. They suggest gender equality in law (rule of law), equal participation in politics, resource sharing, and social functions; by establishing a social relationship that provides equal rights to male and female privilege in income without disparity. They also move against women's subjugation, oppression, discrimination, and deprivation and try to eradicate the systemic domination of women by men in functional and social interaction. The theory focuses on how to address the influence of powerful agencies on gender disparities by eliminating patriarchal norms and religious doctrines that promote gender inequality.

Methodology

Two (2) Local Government Areas (LGA's) in each of the three (3) states (Benue, Kaduna, Ogun) and the Federal Capital Territory (FCT), Abuja were sampled. Each selected State was highly populated, multi-cultural and multi-ethnic to obtain a holistic perspective of the targeted population. The FCT qualified for selection as the home of the federal capital of the country. The qualitative data was elicited from Focus Group Discussions (FGD's) and In-depth Interviews (IDI's) of various women groups, leaders and market associations.

The qualitative method was adopted for this study ethnomethodologically, based on the balancing act of discourse objectivity. Balanced representation of the target respondents was obtained from the target population for participatory inclusion. Qualitative data collection was implemented in four LGAs (in four states and FCT). Residence and age was employed during purposive sampling of key focus group discussants (FGD) and In-Depth Interview (IDI) participants. Sixteen (16) Focus Group Discussions were conducted, four per State, and FCT. Each FGD comprised eight (8) participants per session. Similarly, sixteen (16) IDIs were conducted at four per State/FCT.

Focus Group Discussion question guide and In-Depth Interview guides were used to elicit information substantially based on the research objectives. However, the lead interviewers were allowed some latitude of follow-up questions intelligently combined with prompts and redirections. Each Lead interviewer was given a note taker and digital voice recorder controller. Both FGD and IDI guides contained maximum 15 questions with a 45-minutes cap period of interview proper outside of preparation time of the FGD Participants IDI key Informants.

Data Analysis and Discussion of Findings

The collected data were presented, analysed and interpreted. The presentation of the statistical results obtained using focus groups discussion, and the possible implications of the results to the issue investigated were done in sequential order. The qualitative information were analysed using content analysis of Focus Group Discussions (FGDs) sessions conducted in each of the Two (2) Local Government Areas (LGA's) of the Three (3) States of Benue, Kaduna, Ogun and FCT Abuja selected for the study.

In-depth Interview of women leaders involved in IGAs of different age brackets was analysed using summary tables of statements and verbatim quotes of participants. The collected primary data were organized and described in a narrative form and interpreted and presented according to the study objectives

based on the emerging themes and patterns to arrive at major findings for the study. Both descriptive and content analysis were used for analysing the generated information.

This section presents a robust discussion of some of the key findings in the study.

Table 1: Respondents' Level of Education

Level of Education	Frequency (n)	Distribution (%)
Secondary Completed	570	30.70%
Primary Completed	326	17.60%
Secondary Uncompleted	256	13.80%
No Education	247	13.30%
Primary Uncompleted	182	9.80%
Less than BSc/HND	174	9.40%
HND/BSc or higher	93	5.00%
No response	5	0.30%
Don't know	2	0.10%
Total Respondents	1,855	100%

Source: Field Survey, 2023

Table 1 shows that just 17.6% of the women surveyed had finished their basic education, with just 9.8% having completed some basic school. Of those who had completed secondary education, 30.7% had finished it, 13.8% had begun secondary school but had not finished it, and 13.3% had never attended any formal schooling. Nonetheless, the results show that most of the respondents had some kind of formal schooling. This suggests that these ladies could be easily educated to adopt new ideas. This also implies that although the respondents' educational backgrounds varied, the majority (62.7%) of them were literate. This could serve as the foundation for the women's involvement in a range of income-generating pursuits. The illiterate may have fewer options for making money unless they can improve through education. The outcome is consistent with the study of Ojobo (2008), who found that education empowers women through enhancing their lives, hence serving as a catalyst for the advancement and betterment of women's position.

Women's growth in all spheres of human endeavour begins with education, which constitutes the fundamental instrument that must be provided to them to fully participate in society. Accordingly, the study affirms that education is crucial to the socioeconomic growth of the participants. A person with a higher level of education can develop a positive social standing (self-worth, confidence), engage in savings, and carry out any income-generating activity (IGA). By enabling women to have more access to educational opportunities and to be empowered to engage in significant economic activities, education also contributes to the reduction of gender inequities. The first twelve years of a student's education in Nigeria are spent on government-funded basic and, as of late, secondary education. Three years of basic education, known as forms one through three, are often included in secondary education in Nigeria. After that, there is an increase in school fees, which were recently eliminated by several state governments in Nigeria.

Common Types of Income-generating Activities in the Study Locations

Table 2: Summaries of Common Types of Income Generating Activities gathered through FGD in Research Locations

State	Study Location	Status	Income Generating Activities Among Low-Income Women

Benue	Gboko, Gboko	Semi-Urban	Hairdressing, baking and catering services, black soap making, computer business centre, tailoring/dressmaking, used clothes sales (<i>Okrika</i>), and sales of fresh and smoked fish.
	Mkar	Rural	Farming, dress making/trading, hairdressing, provision, phone charging, bead-making, soap-making, petty-trading, sales of <i>Okrika</i> (used clothes).
	Kowa, Makurdi	Rural	Soap-making, petty trading, tailoring.
	Wadata, Makurdi	Rural	Tailoring, petty-trading, hair-dressing, baking and decoration, clothing and charcoal business.
FCT	Gwagwalada (2)	Semi-Urban	Buying, selling, and small-scale businesses.
	Bwari (2)	Rural	Buying and selling, arts and crafts, hairdressing, fashion designing.
OGUN	Ota (2)	Semi-urban	POS business, selling of cooked food, snacks and drinks (alcoholic and alcoholic), supplying waste papers, fashion-designing, sell motor oil, bar business and tailoring.
	Imope-Ijebu (2)	Rural	Ofada Rice farming; Farming of Cassava, Maize, Vegetables, and Pottery.
KADUNA	Igabi (2)	Semi-Urban	Poultry business, fish farming, selling of edible fruits and fire-wood; buying and selling of grains such like beans, guinea corn and millet, and chicken feeds production. Others are Henna tattoo (<i>Laali</i>) business, selling fried yams/akara, vegetables, and grounded flour.
	Lere (2)	Rural	Threshing of rice pods, selling rice, beans and maize, akara with pap; selling tomato and pepper, grains and household items such as mattresses.

Source: Focus Group Discussions

Table 3: Summaries of Income Generating Activities gathered through IDI of Key Informants in Research Locations

State	Study Location	Key Informant	Income Generating Activities Among Low-Income Women According to Key Informants
Benue	Gboko, Gboko	IDI Gboko (Market Leader)	Baking and catering services, sales of cooked food, soap/detergent making, sales of second-hand clothes (<i>Okrika</i>), tailoring and hair dressing.
	Mkar	IDI Mkar (Women Leader)	Farming, tailoring, hairdressing, petty business, local vaseline production.
	Kowa, Makurdi	IDI Kowa (Cooperative Executive)	Sales of cooked and raw foods, provision, farming of vegetables, hairdressing and tailoring.
	Wadata, Makurdi	IDI Wadata (Market Leader)	Tailoring, sales of cooked food, hair dressing. Agricultural activities such as planting of vegetables and rearing of chickens.
FCT	Gwagwalada	IDI Gwagwalada 1 (Social/Political Mobiliser)	Retail businesses and various crafts such as hair dressing.
		IDI Gwagwalada 2 (Market Leader)	Buying and selling.
	Bwari	IDI Bwari 1 (Market Leader)	Buying and selling.
		IDI Bwari 2 (Community Leader)	Petty buying and selling, with a low interest in crafts.

OGUN	Ota	IDI Ota 1 (Market Leader aka “Iyalaja”)	Petty buying and selling of drinks, foodstuffs, eggs, and groundnut oil. POS business.
		IDI Ota 2 (Market Sales Mobiliser aka “Iyalaje”)	Buying and selling palm oil, yam flour, cassava flour, yam, vegetables, and household items.
	Imope-Ijebu	IDI Imope Ijebu 1 (Market Leader)	Planting and harvesting of Ofada rice.
		IDI Imope Ijebu 2 (Women’s Church Leader)	Pottery.
KADUNA	Igabi	IDI Mando Igabi (Cooperative Women Leader)	Selling food items, raw or cooked.
		IDI Mando, Igabi (Garri Market Women Leader)	Selling foodstuffs.
	Lere	IDI Tundunwada Saminaka, Lere (Local Community Women’s Leader)	Buying and selling groundnut, masa; sewing, schooling, teaching.
		IDI Lere LGA (Women Leader)	Trading, tailoring, selling groundnuts, teaching in schools.

Source: In Depth Interviews of Key Informants

Tables 2 and 3 show that, the main income-generating activities found in the study locations are agricultural and non-agricultural income activities and these were found to be determined by the geographical locations as different states selected for the study appeared to be engaged in different income-generating activities depending on the businesses that thrives in their respective locations. However, the most popular of these income-generating activities includes- tie and dye, grow legumes and vegetables, tailoring, farming, sewing, craftwork, sale of used clothes (*Okrika*), catering or snacks making, soap making, pottery, sales of wears/fabrics, provisions, and hair dressing and small businesses to improve their welfare and living standards. The result is that these income-generating activities engaged in by the women would empower them to be able to ensure that their respective households were food secure most of the time, if not at all times. The assumption was that women are engaged income-generating activities to enhance their income. It was, however noted that there were many other reasons why women are engaged income-generating activities (Food and Agricultural Organization, 2011).

A critical evaluation of women’s involvement in income-generating activities reveals that while some of the activities could be profitable, the usage of monies by the women is often limited to household expenditure. Some of the women interviewed claimed they received loan from money lending groups and cooperative societies in their communities for a start-up business and for expansion of their already started businesses and they use such loans and profits from their businesses to satisfy basic needs at the homestead which further immersing them into debts and compromising their economic empowerment. The income-generating activities of these women have enhanced their self-esteem, participation in local decision-making processes and stimulated the economy, which has translated to their children’s improved access to necessities of life such as basic education, adequate nutrition, good healthcare, shelter and protection.

Some of the women participants were engaged in small-scale retailing commercial activities of buying and selling essential goods and services within and across the community borders. In some of the communities visited, daily home needs such as sales of food items (raw or cooked food) as the case may be, provisions, hairdressing and tailoring were common in the rural communities and are highly dependent on retail shops in nearby areas. The majority of the women, if not all, are of low and medium economic

class; some cannot afford to buy rice, oil or sugar in bulk and store them; they just buy small quantities for the day-to-day needs of members of their communities. This has led to many women entrepreneurs in rural areas investing their efforts in these retailing activities. The shops were observed to be located in the home surroundings, because it is in neighbourhoods that these women find their customers who come to ask for small domestic needs like salt, kerosene, rice, soap and so on.

An FGD participant aged 30-60years old at Imope-Ijebu rural community in Ogun State has this to say:

I have been involved with the retail shop for years; it was initiated by my husband who died and left me with the shop, I continued with the shop and through it I was able to educate my children and outsource the business in another place, where one of my children is in charge of the other shop. The shop has helped me a lot to support my family and life sustainability. So, to me entrepreneurship is inevitable. As a housewife, it can bring me income through engaging in the shop selling activities.

Women engage in income-generating activities of different kinds. However, the activities usually have similar characteristics. First, the majority of them are traditional, with low capital input and are labour intensive while the returns accruing to them by comparison tend to be low. Women tend to concentrate in the least rewarding income-generating activities that usually covers a fairly narrow range of consumer goods. Moreover, they tend to keep business close to home to minimize conflict between their diverse roles as wage earners, mothers and home makers. Women's participation in income-generating activities is empowering and it boosts women's self-esteem and bargaining power within the household and gives them more mobility and exposes them to new ideas and knowledge.

Income-generating activities are important for promoting the welfare of women and the household in general. Washa (2002) observed that, income-generating activities are important for employment creation, income generation, production of needed commodities, improving food security status and poverty alleviation. Women who engage in income-generating activities have more chances of becoming visible workers, perceiving and identifying themselves as economic beings and becoming more organized. The income generated from such activities may be small, but it plays a significant role in buying clothing for children, paying for school fees, health care and other household expenditures.

Participation of women in income-generating activities differs in many ways based on their socio-economic characteristics. Women participation varies according to age, religion, ethnicity, education level, literacy, marital status and socio-economic position. In spite of this variation, women participate in those activities which they feel will bring increased income, which they could use to supplement whatever is available or brought in by their spouses. In some cases, however, the women are the breadwinners of the family.

Common Factors Impeding Income-generating Activities in the Study Locations

Table 4: An FGD Summary of the factors that Impede Income-Generating Activities among women of low socio-economic status in rural/semi-urban, Nigeria

State	Study Location	Status	Factors that Impede Income Generating Activities Among Low-Income Women
Benue	Gboko, Gboko	Semi-Urban	Mandatory payment for vocational training, inadequate access to credit, Long distanced learning or training centres.

	Mkar	Rural	Husband's disapproval of business. Challenging home affairs. Lack of capital, Trainers demand payment before training the individual in any skills of their choice.
	Kowa, Makurdi	Rural	Lack of capital to start or expand business. ` Non-availability of loans and credit facilities for business expansion. Poor knowledge of the skills needed for the business, and lack of materials needed for optimal function
	Wadata, Makurdi	Rural	Lack of start-up capital. Lack of connection in the right places. Lack of loan facilities for diversification. Poor patronage and credit sales.
FCT	Gwagwalada (2)	Semi-Urban	Lack of relevant training. Inadequate financing.
	Bwari (2)	Rural	Lack of finances and sustainability of Business. Lack of access to credit facilities. Unstable Economic conditions.
OGUN	Ota (2)	Semi-urban	Intense same product selling competition. Business dupes. Age/health-related challenges. Inflation and poor purchasing power of sellers. Lack of loans and credit facilities for business expansion, poor knowledge of the skills needed for the business, and lack of materials needed for good sales.
	Imope-Ijebu (2)	Rural	Bad weather, long periods of maturation of seeds. Extreme fire needed for pottery. Bad roads.
KADUNA	Igabi (2)	Semi-Urban	Credit selling. Initial poor patronage.
	Lere (2)	Rural	No money to run the business. Low income from our business. Unpaid credit sales

Source: Focus Group Discussions

Table 5: Key Informants' Summary of the factors that impede Income-generating activities among women of low socio-economic status in rural/semi-urban, Nigeria

State	Study Location	Key Informant	Factors that Impede Income Generating Activities Among Low-Income Women
Benue	Gboko, Gboko	IDI Gboko (Market Leader)	Business financing. Pride in women who look down on certain businesses.
	Mkar	IDI Mkar (Women Leader)	Illiteracy, lack of capital, and over-dependence of husbands on their wives.
	Kowa, Makurdi	IDI Kowa (Cooperative Executive)	Poor patronage. Poor storage facilities.
	Wadata, Makurdi	IDI Wadata (Market Leader)	Unpaid credit sales.
FCT	Gwagwalada	IDI Gwagwalada 1 (President, Market Women's Association)	Poor access to sustainable credit facilities.
		IDI Gwagwalada 2 (Market Leader)	Lack of access to credit facilities.
	Bwari	IDI Bwari 1 (Cooperative Rep.)	Being the major breadwinner of the family. Inadequate business training.
		IDI Bwari 2	Inadequate Business training.

		(Women Leader)	
OGUN	Ota	IDI Ota 1 (Women's Leader aka "Iyalode")	Being the sole breadwinners of their families. Widowhood. Irresponsible husbands. Single parenting. Polygamy.
		IDI Ota 2 (Market Leader aka "Iyaloja")	Widowhood. Lack of funds, unavailability of loans, and the tedious process of accessing loans from microfinance banks. Complicated health challenges.
	Imope Ijebu	IDI Imope Ijebu 1 (Head, Women Settlers)	Weather conditions, lack of finance and aids, limited manpower, bird invasion of rice fields and bad roads.
		IDI Imope Ijebu 2 (Women's Church Leader)	The road is the major problem. High cost of pottery production and transportation.
KADUNA	Igabi	IDI Mando Igabi (Cooperative Women Leader)	Low profit margin. Poor patronage.
		IDI Mando, Igabi (Garri Market Women Leader)	High cost of living
	Lere	IDI Tundunwada Saminaka, Lere (Local Community Women's Leader)	Lack of capital. Spousal restriction. Poor sales.
		IDI Lere LGA (Women Leader)	Lack of funds. Inconsistency in running the business. Low customer patronage.

Source: In Depth Interviews of Key Informants

Tables 4 and 5 indicate that one of the major obstacles to Women's income-generating activities is the lack of capital for starting and expanding their businesses. It is one of the most important factors forcing women to stop their engagement in income-generating activities. On failures of the income-generating activities, IDI Tundunwada Saminaka, Lere (Local Community Women's Leader) says:

I believe it's a lack of capital that is responsible for their failures in business. You know if you don't have strong capital; your business will just be shaky. So if we will have the money to run the business, no matter how small. We don't disdain capital. It will go a long way because we don't disdain support here.

IDI Ota 2 (Market Leader aka "Iyaloja") narrated the experiences of women she worked with as thus:

Because they come to me regularly with many complaints – no food for their children, no money to continue their trading etc. they collect money from moneylenders to trade. For example, if they collect N6, 000, they are expected to pay a daily interest of N600 on it. After they have paid the ten

per cent on the loan, they no longer make profit for themselves at the end of the day. So, whenever they see me, it is all complaints and complaints. You hear them saying, *Iyalode* meaning Women Leader, we are unable to feed our children. In fact, now that you call me that you are coming, I am very delighted. Perhaps, you may be able to assist me in a little way, because the responsibilities have become too heavy on me. As *Iyalode* (Women Leader), I am only able to do just a little empowerment, within my very little power. They manage the little empowerment among themselves. The money they take from moneylenders eventually add to their problems”

The participants also mentioned high interest rate from money lenders as part of what affects their businesses as most of the proceeds from the businesses and even the main capital goes in to loan repayment and at the end, they end up not having enough money to proceed with their businesses, while they run bankrupt and indebted to the money lenders. An FGD participant at Iju, Ogun State, revealed her experiences as thus: I also borrow money from Sure Banker Finance to sell goods and it is daily repayment it is difficult because of their high interest rate; we will be happy if we see people to help us with funds to improve our business

IDI Mkar (Women Leader), Benue State also stated as follows:

Hmmm! Some use to fail because of their family background, when a woman is having N50, 000.00 to start up a business, inside that N50, 000.00 and the money even her own, she went and borrowed from LAPO or GRUMMY inside that business, she would be paying credit outside, feeding the family, catering for some other things like her farming, she has to pay people that would tilt the heap, doing like those things, from there, business start collapsing. That’s where the failure of the business begins. Then some women are not kind enough as in they are not careful with their business, some when they start this business, that is when they would know to buy new cloth, cream and start shining their face, from there the business start collapsing. But mostly things that collapse business are mostly i family. You know, kitchens use to carry the highest money in a woman’s hand. If you want to really keep your family growing, their kitchen uses to consume money very well, so, if you are not the kind of woman that is very careful and you don’t know to economize it the way it would be ok, your business would start collapsing

Participants and Key Informants also mentioned pests as a major challenge they are confronted with, especially those engaged in agricultural income-generating activities. IDI Kowa (Cooperative Executive) reveals as thus:

At times, buyers are not many, they end up selling it at low prices; they would not have much gain. Sometimes, even the farming does not have enough money enough to take care of the vegetation, so it would not produce well. So, all these insects eat up the whole things. If someone doesn’t have money, how would the person spray pesticide and other chemicals on it? These are the major reasons why they would not have income to do what they are supposed to do

This was supported by the claim of an FGD participant 15-29 years and Key Informant at Imope-Ijebu thus:

The chemicals kill the weeds and insects that could affect the peppers. If we don’t use chemicals, the output will not be good. So, by the time we remove the money for the chemicals, we might get some profits and at other times, there might be no profit from it”.

(FGD participant aged 15-29 years at Imope-Ijebu community)

When the road is good, they quickly get their products sold. Because of bad roads, the vehicles are unable to move freely. At times, by the time the vehicles arrive, some of the pottery would have cracked/broken to pieces and they cannot sell the

broken pottery. There was a time one of the vehicles got stuck in the mud near my house. I had to call some people to come and help them.

(IDI Imope Ijebu 1 (Market Leader))

Again, there are also socio-cultural factors affecting women engaged in income-generating activities, and this is revealed that some of them are being restricted by their men, while others are not restricted (IDI Ota 1 (Women's Leader aka "Iyalode"), IDI Tundunwada Saminaka, Lere (Local Community Women's Leader), and IDI Mkar (Women Leader)).

On how IGAs can be strengthened, the participants of the Focus Group Discussion (FGD) recommended among others the following in remedying the drawbacks and/or strengthening income-generating activities: Record keeping support since the women have already engaged in different remunerative IGAs and organizing themselves in self-help groups for saving.

An FGD participant in Obere-Atan area of Ado-Odo Ota LGA of Ogun State emphasized that:

Availability of more funds will make the business blossom, change to another business. Non-availability of loans and credit facilities for business expansion, poor knowledge of the skills needed for the business and lack of materials needed for optima function. Many prefer cash gifts from individuals/government but loan facilities improve the business out-look. Infrastructure and social amenities will increase sales.

The statement above was extended by an FGD participant at Imope-Ijebu, Ogun State:

If we say the government to give us money, we are deceiving ourselves, the government should borrow us and we will return it, we should be able to do our business because if we ask them to give us, we will stay long there, but if we ask them to borrow us, in this rainy season, we don't make much sales, regardless of people saying that they are making this or that money. If you look at our road, there is no sale; the road to this place for people to ply and patronize us is very bad. If you look at me I have gone to the farm and I'm back. I went in search of wood but I came back halfway, I said it the other time that if you see us arranging the pottery, may God not let us suffer. if you see us one day, you will know we are seriously working. We beg and implore the government to borrow us, we will pay back, and I'm not saying the government should give us o but they should lend us, we will pay it back. if it is monthly pay they want us to pay back, we will. God will help the government as well, that is what I can say concerning that...

An interviewee at Tudun Wada Saminaka Community of Kaduna State reported thus:

I want them to be supported in their businesses and to also help with training. Because with education everything will be greatly improved and even though one is not educated, at least their children will be God will always elevate whom He desired to elevate and one cannot just go and be sitting at home.

On the needed supported, another FGD participant in Mkar, Benue State, revealed that: Capital, training on skill acquisition, training on business skills and/or putting in place anything that is deemed beneficial to them and to their community.

In another development, a market women leader at Iju Area of Ota, Ogun State suggested regular training as the needed support required for low-income women to thrive in business. In her words:

Some women are not educated; some of them depend on businesses, businesses which you know that they need money, which is capital. The ones that are at least educated slightly, if you ask them to go for training, that you want to train them on how to do one or two things, they would be interested, they would be very interested to do it, but some that you know they cannot read and write, they depend on table market, selling of small small food

items that would keep them moving; for that, at least have small education. If you call them to order that you want to train them, I want to teach you how to do this, we want to train you people how to be doing this, they would be interested.

CONCLUSION

The study examined the militating factors of Income-generating Activities (IGAs) by low income women across two Local Government Areas (LGA's) in three states from various geo-political zones of Nigeria : (Benue, Ogun, Kaduna and the Federal Capital Territory (FCT) Abuja. The study found that women in the study location are engaged in various IGAs such as food vending, the sale of goods connected to agriculture (such as spices, grains, palm oil, fruits, and vegetables), the sale of fish and/or sardines, the sale of charcoal and firewood, the sale of local beer, buns and doughnuts, second-hand clothing, and tailoring. Findings of the survey further revealed that women involved in IGAs in order to be less dependent to their spouses, help their husbands financially and as a source of income after retrenchment/retirement. In spite of their meagre income, women provide support to the household compared to other members. The survey also found that the majority of households in the study area only paid a modest percentage of their income toward other household requirements, such as food. The results also demonstrate that the majority of women in the research region had little money when they first launched their IGAs. Findings from the qualitative study indicated that women who run IGAs make money, they lack access to financial resources to expand their business due to customs and traditions that forbid women from accessing credit facilities, land ownership, or education. The negative attitudes and behaviour of money lenders towards women in IGAs orchestrated by the negative customs further worsened the predicaments of women in IGAs in the research area. Hence, the study concluded by identifying the development and sustainability of IGAs undertaken by women as being hampered by their limited access to credit, training, and technical support.

RECOMMENDATIONS

Based on the findings from this study, training and re-orientation is recommended for money lenders in the study location on the need for attitudinal change and perception about women. This will assist low income women involved in Income-generating Activities (IGAs) to access financial resources restriction that women were hitherto denied by the money lenders. Traditional customs and norms that limit women's access to financial resources for IGAs should be acknowledged, challenged and resisted. These kinds of customs are those that forbid women from accessing credit facilities, land ownership, or education. There is an urgent need for a paradigm shift and collective responsibility by all stakeholders including the men, women themselves and the leaders of various market associations to achieve this change.

Furthermore, it is advised that pertinent agencies and ministries, including the Ministry of Women Affairs and the Ministry of Agriculture, offer substantial support to women participating in IGAs in the form of extension services and other training programs. The goal of this support should be to enhance the financial contributions that these women make to their households. Business training and financing options should also be provided to women who are already participating in IGAs or who would like to join; these policies will contribute to the expansion of women's economic opportunities and financial access.

Moreover, it is imperative to implement policies that aim to improve women's educational attainment. Accordingly, the Ministry of Education can introduce adult literacy initiatives and grants targeted specifically at women involved in IGAs.

The results of this study indicate that improving economic resources is a priority for the government and other development organizations, as they are essential to improving revenue-generating activities. These include financial services, extension services, technical know-how, marketing platforms, and transportation resources.

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HEALTH, TELE-THERAPY AND DEVELOPMENT

Challenges of Conducting Ethnographic Research on Zoonotic Transmission in a Livestock Market in Ibadan, Oyo State, Nigeria

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Abstract

Livestock markets have been identified as one of the major hotspots of zoonotic disease transmission. Social science disciplines such as Sociology and Anthropology are crucial disciplines that can provide deeper insights in to how transmission can occur in such spaces, adopting ethnographic method as a tool to understand practices within the market. However, little has been documented on the challenges of conducting ethnography in such a highly social and culturally sensitive environment. The objective of this paper is to provide insights in to the challenges of conducting ethnographic study on zoonotic transmission in a livestock market, and how the challenges were navigated.

The paper leverages a six-month PhD field work experience on the social organization of livestock market, and zoonotic transmission in Ibadan which was conducted in a large livestock market at Akinyele, Ibadan, Nigeria. The study objectives were to explore the structure of the market and practices that can facilitate zoonotic transmission, perception of zoonotic transmission, protective measures, and pathway to healthcare utilization for zoonotic infections among the market actors. The method adopted for the study included non-participant observation, key informant interviews, and in-depth interviews. The study obtained necessary ethical approval as well as the consent of the market leadership.

Gaining trust of the market actors was highly challenging at the early phase of the research as some market actors perceived the researcher to be a government spy who will leak market secrets, social media content creator who will reveal market practices to the public, and a researcher who will make promises without fulfilling them. Market actors were also reluctant to discuss zoonotic diseases at first, and to reveal some market practices. These challenges were eventually navigated through social skills such as patience, persistence, informal conversations with market actors to build relationship and trust, leveraging on influence of key market actors, as well as willingness to learn and not just to collect data.

The paper concludes that while social science disciplines are crucial in providing substantial knowledge on zoonotic diseases, trust which is highly essential to the research process and willingness to discuss the topic among animal dealers can be challenging at the early phase of the research but could be navigated with social skills. The paper recommends that research social skills should be included and well emphasized in social science research methodology classes at postgraduate levels.

Keywords: Social skills, zoonotic diseases, livestock market, ethnography, Nigeria

Introduction

Livestock markets are one of the identified hotspots of zoonotic transmission. The World Health Organization (2020) identified live animal markets such as agricultural livestock markets as one of the environments of concern where diseases may spread from animals to people. The possible origin of some disease outbreaks that have occurred in human history have been traced to such markets. For instance, severe acute respiratory syndrome (SARS) that occurred between 2003-2004 as well as the recent severe acute respiratory syndrome 2 (SARS-COV 2) were traced to live animal markets in Southern China and Hubei Province of China respectively (Webster, 2004; Wu et al., 2020).

Africa has been identified as one of the continents with many livestock markets, and zoonotic diseases that can spread from animals to humans (Ahmad et al., 2018; Otu et al., 2021). West and Eastern African countries are particularly the largest traders of livestock species such as cattle, goat and sheep (Erdaw, 2023) which have been identified as reservoirs of some zoonotic diseases such as Tuberculosis, Anthrax, Brucellosis, Rift valley disease and Q fever (Rahman et al., 2020). While biomedical science fields are crucial in understanding disease outbreaks (Opayele et al., 2018; Ukwueze et al., 2020), social science fields such as Sociology and Anthropology are crucial disciplines that can provide in-depth knowledge of social dynamics associated with disease outbreaks (Shah, 2020).

More recently, the crucial role of social scientists in understanding zoonotic pathogens have been emphasized, and they have been engaged along side biomedical science professionals to conduct multidisciplinary studies on zoonotic transmission under the frame work called One Health where they have provided crucial insights on some zoonotic infections such as Ebola, and Monkeypox in African countries (Schmidt-Same et al., 2024; Mari Saez et al., 2015). Social science disciplines such as Sociology and Anthropology can help to understand the social and cultural context of zoonotic transmission in hotspot settings using a qualitative methodology called ethnography to further understand how humans and animals coexist and the processes through which zoonotic transmission can occur (Woldehanna and Zimicki, 2015). However, little has been documented on the challenges of conducting such studies in Africa especially in a highly sensitive environments such as livestock markets where market actors may think that ethnographic research may have impact on their business. The objective of this paper is to discuss these challenges.

Methods

The paper leverages a six-month PhD field work research experience titled “Social Organization of Livestock Market, and zoonotic transmission in Ibadan” which was conducted in a large livestock market at Akinyele, Ibadan, Nigeria. The study objectives were to: explore the structure of the market and practices that can facilitate zoonotic transmission, perception of zoonotic transmission, protective measures, and pathway to healthcare utilization for zoonotic infections among the market actors. The method adopted for the study included non-participant observation, key informant interviews, and in-depth interviews. The study obtained necessary ethical approval as well as the consent of the market leadership.

Before the study began, the researcher visited the market leaders at the cattle, goat and abattoir sections to obtain their consent to conduct the research in the market. They were informed about the study objectives, the mode which the study will take and the timing. They were asked if they will be willing to accept the researcher in the market. The cattle and the abattoir head immediately granted approval noting that it is common for researchers from University of Ibadan to come to the market especially veterinary researchers. However, the goat and sheep section leader had to seek for the consent of other market executives before approval. However, there was a challenge presenting the researcher to the market association at both cattle and the abbaattir sections because the members only meet occasionally when there is something important to discuss. This was only possible at the goat section of the market. Regardless, the researcher had to still move around all the market sections to meet the market actors individually to seek their consent to participate.

Observation and Findings

This section discusses the description of the market and the challenges experienced during the ethnographic field work in the market.

Description of the Market

Akinyele livestock market is located between two peri-urban communities namely Akinyele and Moniya and also maintains a close proximity to a rural community called Onidundun. The market is separated by species of livestock with goats and sheep market maintaining its own space from the cattle section. The goat market is locally called “Elewure and Cattle section called “kara” both organizations are located along the road side linking Ibadan to the left and Oyo town to the right.

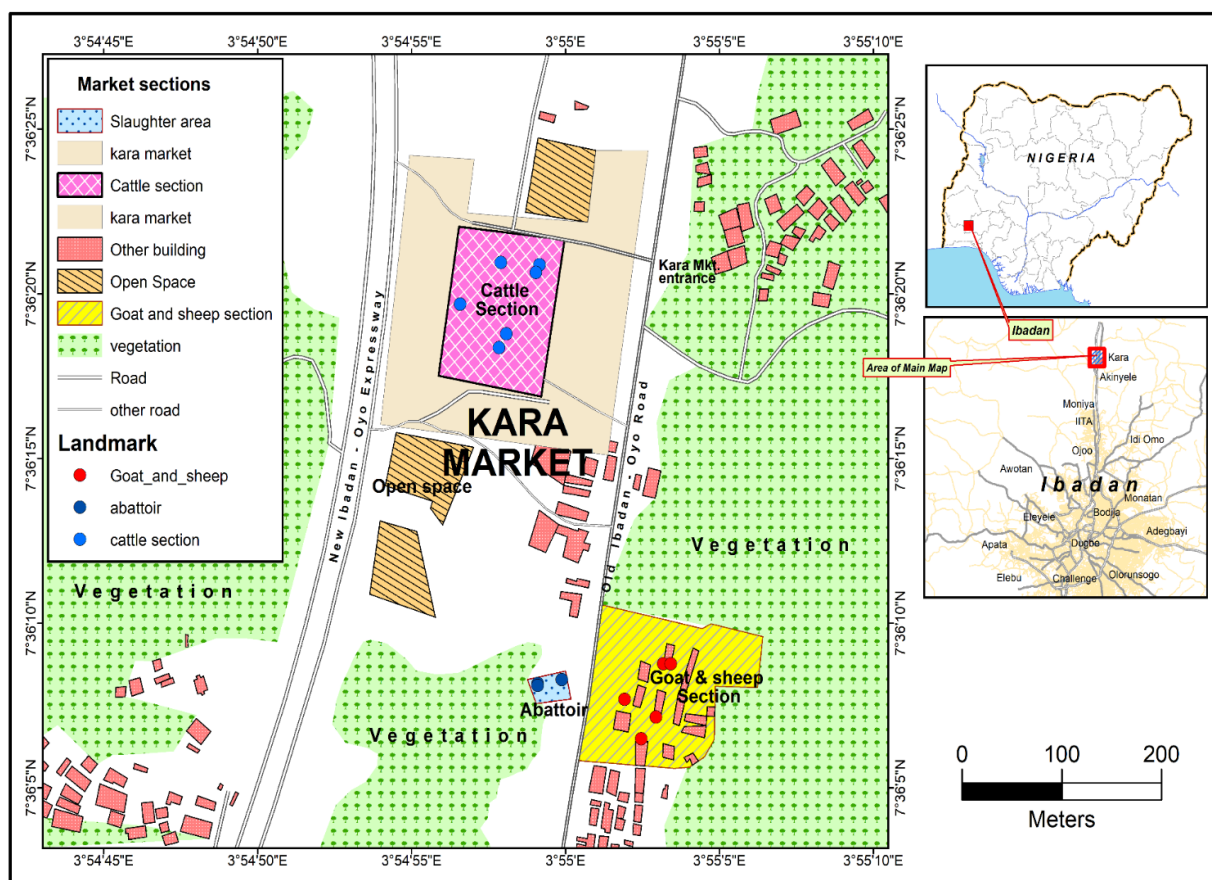


Figure 1: Map of Akinyele Livestock Market showing market sections

The market is ethnically diverse as it comprises of two major ethnic groups which are the Yorubas and Hausas-Fulanis and other nationalities who constitute minority in the market. The market is an offshoot of other livestock markets that have existed in Ibadan as it was opened in the year 2002 during the administration of former Governor of Oyo State, Late Governor Lam Adesina to serve as the main agricultural livestock hub for Ibadan.

Challenges experienced during the research

Two key challenges were experienced during the research which are highlighted and discussed below including how they were navigated.

i. Gaining trust of market actors for participation

In the market, there was the challenge of earning the trust of the market actors at the early phase of the research. This problem manifest in different ways and also differ by ethnicity in the market. The Yoruba market actors perceived the researcher to be a government spy who will reveal market information to the government which may lead to the closure of the market. Such market actors made references to previous cases of how animal markets were closed in Ibadan, and even discouraged market participants who were interested in participating. Some other Yoruba animal dealers declined participation due to failed promises of past researchers in the market who promised to bring their problem to the government especially in the area of water, and road construction in the market.

At the abattoir, the frequent visit of the researcher to the market raised some curiosity. Some of the butchers who were Yorubas were of the view that the researcher was a social media content creator who

will reveal some of the practices of the abattoir to the public on internet. Some of the butchers called the attention of the abattoir leader to review his decision due to the harm that it may cause them. Some other actors in the market also perceived the researcher as benefitting financially from the researcher due to frequent visit to the market inspite of the cost of transportation and requested financial inducement before participating in the study.

Trust with Yoruba actors in the market was eventually navigated through the following social skills:

- i. **Patience:** The researcher was very much patient to explain the research to the market actors at every time the problem of trust arose. They were assured many times that the research would not do any harm to them and the goal of the research was not to spy for government or reveal their practices on social media.
- ii. **Persistence:** The researcher was not discouraged by the claims of some market actors. The researcher kept visiting the market frequently to hold conversations with the market actors. In that process, the researcher met some animal dealers who informed the researcher that they have children pursuing post graduate education which deals mostly with research. As a result, they avail themselves to the researcher for conversation and they also connected the researcher with some other animal dealers and even butchers.
- iii. **Informal Conversation to build trust:** After the researcher had established relationship with some of the market actors, informal conversation which does not involve formal interviews was used to solidify trust. For instance, the researcher sometimes ask questions like how they develop interest in animal trade, the number of years they have spent trading, and the role the trade has played In their life, how profitable the trade is and if they will be willing to hand over the trade to their children. The traders were eager to discuss these nature of questions which made them become more comfortable with the researcher. These set of market actors were also visited more often as they also provided much more information about the market. Other market actors began to observe the cordial relationship between these market actors and the researcher and they also started showing interest to participate.

Among the Hausa-Fulanis, Language differences affected trust especially that the researcher is a Yoruba. Even when an interpreter was engaged among Yoruba dealers who could speak Hausa to facilitate discussion, the conversation was not in-depth as it is necessary for ethnographic research. This challenge was discussed with the Yoruba livestock dealers whom the researcher had established relationship with. It was mentioned that ability to speak Hausa is a major way to establish trust with Hausa-Fulanis as they may not feel comfortable to have close rapport with people who do not speak their language. Secondly, they made it known that recruiting an interpreter among Yoruba livestock dealers may create a suspicion that perhaps the Yoruba dealers in the market and the researcher might be planning something against them especially that the market has had history of ethnic conflict. Thirdly, it was mentioned that the Hausa-Fulanis believe in the supreme leadership of the Serki and may want to be careful about saying what will contradict that of their leader. Key Yoruba leaders in the market then helped the researcher to identify Hausa-Fulani dealers who have spent a considerable number of years in Ibadan and who also understand and speak Yoruba. They also mentioned that they have established close business relationship with such individuals which could facilitate close rapport since they will be acting as intermediary. Through this arrangement, the opinions of Hausa-Fulanis were able to be captured in the market.

ii. Reluctance to discuss zoonotic diseases and to reveal market practices

Although the researcher ensured that discussions on zoonotic diseases were not held until a close rapport was established with the market actors. Nevertheless, some participants were still reluctant to discuss the issue. For instance, one of the dealers at the goat section mentioned that it is a taboo for animals dealers to reveal secrets of animals in the market to outsiders or customers. He added that anyone who does that would not have his secret covered in life therefore he declined to discuss anything that has to do with animal health

To navigate this challenge with other livestock dealers in the market, the researcher showed the willingness to learn and not just to collect data in the market which also helped to further solidify trust and to have in-depth discussions with the market actors on animal health. For instance, at both goat and cattle sections, different breeds of animals were observed. At the goat section there are local goats locally called "eran ibile" in the market and Northern breed called eran Hausa" at the cattle section, cow breeds such as bukkolo, budalle were also identified which also differ by colour. Further questions were asked about the differences in all of these breeds especially immunity and resistance to diseases. Here, the animal dealers spoke extensively on the resistance on each of those breed to diseases. For instance, local goats were identified as strong breeds that do not easily fall sick unlike Northern breeds. And in fact, mentioned that there is a high demand for local breeds among Hausa goat breeders from the Yorubas which are taken to the North to be further developed. Here, the researcher was able to initiate discussions on zoonotic infections such as how sick animals are managed, perception of zoonotic transmission in the market, and protective practices against animal diseases in the market without raising any suspicion.

At the abattoir section, the researcher also expressed willingness to learn about slaughtering practices especially the religious rites performed before animals are slaughtered. The butchers were eager to enlighten the researcher about these guidelines and why they adopt such slaughtering method. At the end of the discussion which initially held informally, they invited the researcher to come the abattoir early in the morning to have practical experience of how it is done. Having participated in the early morning slaughtering of animals for some days in the market, the researcher requested to take pictures of the slaughtering methods and they consented to it so far, their faces are not shown in the picture.

Discussion

The objective of this paper was to identify and discuss the challenges associated with conducting ethnographic research on zoonotic transmission in a livestock market especially that such contexts have been identified as a potential hotspot for zoonotic diseases. Social science scholars have noted that trust is an essential social element that contributes to the success of ethnographic research and that can also impact the quality of information garnered in such studies (Pugh et al., 2023).

Trust was one of the challenges encountered in the research and its manifestation differ by ethnicity of market actors. For instance, while Yoruba actors in the market were concerned with the fact that market practices maybe exposed to government or revealed on social media and that the researcher might be gaining financially from the research, cultural and language differences were challenges associated with establishing trust with Hausa-Fulani as the market participants mentioned that the market has previously experienced ethnic conflicts. This necessitates that issues that underpin trust might vary across categories of actors that constitute animal markets especially in contexts where the market actors are ethnically diverse. Nevertheless, social skills such as patience, persistence, using informal conversation to build rapport are vital in navigating the challenge of trust in such contexts as it was employed to ensure trust with Yoruba market actors. Furthermore, local market actors can also serve as vital agents in navigating the problem of trust especially in diverse spaces where ethnic sentiments already exist and the researcher's ethnicity may create suspicion of been loyal to one ethnic group. Market actors whom the researcher had established relationship with can help identify liberal minded actors who might not consider the researcher's cultural background to determine if they will participate. Hamal (2020) also documented based on an ethnographic research among secondary school students in Nepal that trust in ethnographic research can be challenging and can be further impacted by researcher's identity but also averred the importance of patience and persistence in such research.

Reluctance of market participants to discuss zoonotic transmission was also another challenge experienced in the market even when the researcher tried not to initiate the discussion early in the market due to the sensitivity of the topic. However, this was navigated as the researcher presented himself as someone who was just not interested in collecting data on diseases in the market but learning about the trade itself which made the market actors comfortable and gave the opportunity to introduce other sensitive topics like perception of zoonotic transmission, protective measures and case transmission of zoonotic

diseases in the market. Scholars have also noted that qualitative research on sensitive health topics requires flexibility and innovation to approach (Pinto et al., 2023).

Conclusion and Recommendation

The paper concludes that while social science disciplines are crucial in providing substantial knowledge on zoonotic diseases, trust which is highly essential to the research process and willingness to discuss the topic among animal dealers can be challenging but could be navigated with social skills such as patience, persistence, informal conversation to build trust, and willingness to learn and not just to collect data. Ethnographers should also consider local actors as vital agents that can help to navigate challenges encountered in such studies. Therefore, research social skills should be included as part of course contents for social science research methodology classes at postgraduate levels.

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Knowledge and Utilisation of Loan Apps among Undergraduate Students in University of Ibadan, Nigeria: An App-Based Financial Stress Relief and Management

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Abstract

Loan Apps (LAs) represent global digital financial arrangement that facilitate accessibility to loans in financial institutions. However, existing studies on LAs have focused on its risks and technological infrastructure challenges, little is known about the knowledge and utilisation of LAs, particularly among undergraduate students in University of Ibadan (Nigeria) in relation to financial stress relief and management. This paper bridges this gap in knowledge. Actor-Network Theory (ANT) provided the framework, while a mixed-methods design was utilised. Using a multistage sampling procedure, a structured questionnaire was administered to 388 undergraduate students. Key informant and in-depth interviews were purposively conducted with two bank officials and eight students, respectively. The data were analysed using descriptive statistics and thematic analysis method. The respondents' age was 23.13 ± 2.30 years. Despite 97.4% of the respondents were aware that LAs are used without physical visits to financial institutions, only 77.8% were familiar with its operations. Of the 74.7% who indicated that they utilised LAs, only 48.7% of them agreed that they were used for emergency situations. Palmpay, Fairmoney, Palmcredit, Flexiapp, Okcash, Easemoni, Kia Kia and Soko loan, among others, were commonly used to obtain loans from the banks. The opportunity mobile technology afforded students to source loans from multiple financial institutions and the ease of repayment, enhance their coping mechanisms with financial and academic stress. These results underscore the need for students' sensitisation on the use of LAs to mitigate the negative effects of financial and academic stress on them by the guidance and counselling units of universities.

Keywords: Stress relief, Loan apps, Digital financial arrangement, Undergraduate students in University of Ibadan

Introduction

Loans have existed since time immemorial, with people consistently needing to borrow money for various reasons in the past. Money plays an indispensable role in human life, serving as a transactional medium for everyday business operations (Oluwatayo, 2023). Historically, borrowing money may or may not have involved interest, but there has always been a fixed date for repayment. Loans can be either secured or unsecured, depending on whether collateral is required or not (Oluwatayo, 2023). In essence, a loan is a financial arrangement in which a lender gives money or other assets to a borrower, who then agrees to repay the loan over a predetermined period of time with interest.

As the human race developed over the years, the mix of financial practices with technological advancements, fueled by the transition into a more technologically-driven society, has led to a growing reliance on mobile applications for easy access to financial resources. Among all service industries, the financial services industry is recognized as the one that uses technology most extensively and is at the forefront of innovation (Iman, 2014). Among these technological advancements is the emergence of loan apps. The emergence of mobile loans, which are made available through credit platforms like mobile loan apps and websites tailored for mobile devices, is one of the many advances in the *FinTech* industry (Ayanyemi and Adeboje, 2020).

Mobile loans have become the new frontier in lending and borrowing money, especially in developing nations, due to their accessibility and their provision of loans to users, in contrast to conventional establishments like banks, which typically require established customer relationships and collateral. Many Nigerians find loans exorbitant and inaccessible due to banks' high interest rates, service fees, and collateral requirements (Ayanyemi and Adeboje, 2020). In Nigeria, the use of mobile loan applications has increased significantly in recent years, particularly among students who are turning to these apps for financial support. Furthermore, a lot of young people gravitate to simple, quick and convenient digital loans as they cannot provide suitable collateral for these kinds of loans (Vaidya and Roy, 2018).

Loan apps have emerged as prominent tools that offer financial assistance and benefits to people, and students in particular. They are digital mobile applications that allows users of mobile phones and gadgets to apply for and receive loans with convenience and ease. These applications can be easily downloaded on various platforms such as Play Store, Google, Phoenix and others. There are numerous existing mobile loan apps platforms commonly used by students including, Palmpay, Soko loan, Fairmoney, New credit, Easemoni, Branch loan app, Flexi app, Paylater, OKash, Palmcredit, among others. Ayanyemi and Adeboje (2020) list QuickCheck, Paylater, Renmoney, Branch, Kiakia, CreditVille, and SnapCredit as some of the mobile lending apps and services that are now available in the Nigerian market.

Loan apps provides access to funds for people irrespective of age, gender, cultural backgrounds, and occupations. It is significant to note that consumers utilize loan apps for a variety of purposes, including quick access, funding for enterprises, crises, maintenance, health requirements and education. Gubbins and Totolo (2018) conducted an analysis of demand-side survey responses to determine the reasons behind and applications of mobile loans based by demographic group, wealth, source of income and lenders of the most recent loans. When comparing digital loans to loans from other sources, the top three most popular reasons to use them were convenience (71.9%), disbursement speed (40.2%) and interest rate (12.7%). Payment offers accounted for the least number of responses (1.4%). Regarding the reasons for taking out the loans, 36.7% indicated that they were for use in running their businesses or farms, 34.7% said they were for meeting daily needs, 20.2% said they were for paying for their schooling and 2% said they were for other emergencies (Gubbins and Totolo, 2018).

Students' family financial status differs from one to another and due to these differences, the rate at which they tend to turn to the use of loan apps for one reason or the other also differs. Research indicates that low-to-moderate income households and continuing generation students are equally likely to take out student loans, even while there are differences in total debt between minority groups and the majority (Chan, Kwon, Nguyen, Saunders, Shah and Smith, 2020). For example, students from wealthy households were more likely to modify and cut back on their student loan borrowing while in college (Mangrum, 2021). These students are exhibiting a conscientious attitude to considering the ramifications and effects of student loan repayment by proactively regulating their usage of student loans in this manner.

Loan apps have grown prominently in Nigeria because of how tough it is to get a bank loan, and as a result, many Nigerians have had to turn to loan apps to quickly access credit (Jaiyeola, 2023). While loan Apps offers numerous financial benefits to people, they also put them at risks such as accumulation of debts, financial distress and long-term financial instability due to lack of appropriate knowledge of them. Meanwhile, awareness of the existence of loan apps, especially among students goes a long way when it comes to making use of these apps for money needs. According to Abdinoor, Mbamba, and Ardito (2017), a person's level of knowledge has a substantial impact on the factors influencing Tanzanian consumers' intentions to use mobile banking. The tendency to download and eventually use a technology is dependent on the degree of knowledge one has about it. Loans are based on terms and conditions, which are generally outlined in a loan agreement between the lender and borrower and it usually include the sum, interest rate, repayment schedule and any other fees. Ismail, Ezaili Alias, Koe, Othman, and Mahphoth (2018) found that media awareness and religious/ethical beliefs are significant factors influencing the borrowing of personal loans. Also, their advertisements appear when opening various phone apps with the intention of grabbing people's attention.

The knowledge and the usage of loan apps among students varies due to factors such as lack of trust in mobile lending apps, breach of personal security and information and high interest rates. Studies have indicated that customers inclination to use and acceptance of online banking is largely determined by their level of trust (Montazemi and Qahri- Saremi, 2015; Jansen and Van Schaik, 2018; Yuan, 2019). Chaouali and Hedhli (2019) assert that consumers typically view online banking procedures as somewhat riskier than more conventional banking activities. A considerable amount of the people do not feel safe enough with online lending apps and this has made some people not to adopt nor use them. Thus, the utilization of online banking systems is significantly contingent on trust (Yousafzai, 2009; Budimir, 2019).

Several research investigations have demonstrated a relationship between loan repayment and loan knowledge. For instance, studies have implicated that education has a positive impact on debt payback (Angaine and Waari, 2014; Abu, Domanban, and Issahaku, 2017; Salifu, Tofik-Abu, Rahman, and Sualihu, 2018). Sevim, Temizel, and Sayılır (2012) conducted a study that intended to establish a correlation between Turkish financial consumers' borrowing practices and their financial literacy. The outcomes of their investigation uncovered noticeable variations in borrowing behavior among individuals with varying levels of financial literacy.

More specifically, borrowers are more likely to use online banking services when they feel secure and confident in their online transactions (Yousafzai, 2009). According to Sadekin, Mukta and Shaikh (2019), trust contributes positively to the e-banking system's success in Bangladesh. This serves as a significant explanation on why people may not want to use them and by not using them, they do not have knowledge of them. This helps explain the varying degree of knowledge about these apps. Hasan, Baten, Kamil and Parveen, S (2010) has revealed that certain customers are hesitant to adopt online banking services because they lack trust. People are more likely to learn about and utilize these apps for their financial requirements as long as they can be trusted (Chaouali and Hedhli, 2019). Despite this, there is a deficiency in financial literacy with reference to the utilization of student loans and alternative funding sources (Ducoff, 2019). However, Jaiyeola (2023) believed that one of the things that needs to be studied as part of awareness is the fact that some of these activities are written in their privacy policies, but many people do not read them because they want quick access to money.

Loan applications are becoming more and more popular worldwide, especially among those who lack easy access to traditional banking or credit facilities (Munyendo, Acar and Aviv, 2022; Ali and Marisetty, 2023). Aron and Muellbauer (2019) report revealed that over the past seven years, there has been a notable surge in the use of mobile loans across Latin America, Asia, the Middle East and most notably, Africa. People who operate small businesses hardly want to go through rigorous traditional lending and banking that often require them to have collateral and they may or may not often offer small loans as the mobile loans. Obtaining loans via mobile loan applications is thought to be the most important source of funding for small businesses in Africa. According to research conducted in 2016 by Mpogole, Tweve, Mwakatobe, Mlasu, and Sabokwigina, there are around 150 million mobile loan applications in Africa.

These apps have become increasingly popular due to their convenience and accessibility. The ease that comes with the use of these loan apps has been one of the accounted factors for their adoption as well as usage. Flannery (2017) argued that traditional financial institutions and their rules determines the problem of lack of relative advantage compared to mobile loan applications. Most people and businesses that do not have bank accounts may not be able to get loan through traditional banking system. Micro and Small Enterprises were able to receive financial services without relying on banks thanks to mobile loans. In their study, Eze, Awa, Chinedu-Eze and Bell (2020) argued that mobile loans help the unbanked and under banked populations reduce their financial risks and gain access to more secure financial services. This shows that people resort to mobile loan apps to address their personal financial needs when traditional banking services are unavailable.

The influence of mobile loan acquisition on the performance of commercial banks in Nigeria is further demonstrated by Flannery's (2017) findings when he concluded that most requirement solicited by formal financial institutions such as collateral requirements like land are not necessary for the individual with low-income level in applying for a loan. Unlike traditional lending institutions, loan apps do not require an individual to have collaterals. Tchouassi (2012) also carried out studies to evaluate how well mobile loan apps work to provide financial services to unbanked individuals in sub-Saharan African nations. The investigation made it clear that many low-income and vulnerable households in the region lacked access to financial services and faced high transaction costs. In his research, he found out that mobile loans offered a promising solution for providing financial services to the unbanked, which is particularly relevant for people that often face difficulties accessing loans from traditional banks and resort to mobile apps due to their accessibility. Nopper (2020) noted that the use of mobile loans is high among users due to its low operating costs and expedited approval process to satisfy client demands (Sidhu, 2018; Nopper, 2020). This

means that the loan apps is seen as the alternative means of borrowing money which provides a quick accessibility to funds with convenience (Langley, Anderson, Ash and Gordon, 2019). This is attributed to Kathuo, Rotich and Anyango (2015) submission that customers are no longer needed to wait in lines to be serviced or even to complete other financial transactions. People can conveniently apply and access funds at the comfort of their homes without having to be physically present at any location.

In Kenya, it has increased financial inclusion, while in Uganda, it has improved private sector credit (Nampewo, Tinyinondi, Kawooya and Ssonko, 2016; Financial Sector Deepening, 2019). Students continuously make use of these loan apps to access funds due to perceived benefits such as the convenience and quick availability of funds that comes with them. According to Ajzen's (1991) theory of planned behavior, an individual's attitude which is shaped by their behavioral beliefs and the subjective norms of their sphere directly influences their intention to take a particular action. According to Sussman and Gifford (2019), students are more likely to intend to get a loan if they believe it will be straightforward to implement.

Fry (2012) stated that money is a major issue in pursuing a college degree, and individuals with less access to financial resources may find it more difficult to enroll in classes and incur higher debt loads. They often engage in peer-to-peer lending amongst them in order to meet these needs. According to Wang, Greiner, and Aronson (2009), there are a number of factors that could contribute to peer-to-peer (P2P) borrowing, such as the need for loans for education by students, the need for loans for individuals with disabilities, and the need for capital or startup funding by entrepreneurs in developing nations. There is, however, variation in the needs of students and so the borrowing patterns indicate that loan amounts vary widely. While some students borrow small sums for immediate needs, others obtain larger loans for more substantial expenses. Given their own financial means, people from low-income families are frequently more prone to take out student loans (Baker, Andrews, and McDaniel, 2017; Luna-Torres, McKinney, Horn, and Jones, 2018). Students who are economically handicapped may have little or no choice but to turn to these loan apps for their financial needs. For example, Huu and Kar (2000) discovered that in Singapore, students give significant weight to product aspects such as quick service and the presence of ATMs close to the campus, as well as pricing factors like reasonable interest rates and minimal service fees.

Additionally, it has been noted that loan quantity and successful loan repayment are positively correlated (Acquah and Addo, 2011; Abu, Domanban, and Issahaku, 2017). For example, Acquah and Addo (2011) explain that borrowers with higher loan amounts are better equipped to make the anticipated investments, which ultimately aids in meeting payback commitments. This could be due to the fact that larger loans attract small interest rates as opposed to smaller loans that have bigger interest rates. Loan apps offer access to funds for individuals regardless of their age, gender, cultural backgrounds, or occupations. Loan apps are designed to cater to a wide age range, accommodating both younger individuals, such as students and young professionals, as well as older borrowers, including retirees. Jackson and Reynolds' (2013) research, Black students' enrollment and college completion rates rise when they utilize student loans. However, despite the wide range of benefits of the loan apps, there is a dearth of empirical study documenting the knowledge and utilization of loan apps as well as how it serves as financial stress relief and management among undergraduate students in University of Ibadan, Nigeria. This paper examines the knowledge and utilisation of loan apps as it serves as financial stress relief and management among undergraduate students.

Theoretical Framework: Actor-Network Theory

Latour and Michel Callon's Actor-Network Theory (ANT) was adopted as the theoretical framework for this study as it seeks to incorporate technology into social processes (Latour, 1987; McBride, 2003). It highlights the web of actors, both living and non-living, and the relationships among them resulting in their capacity to influence and shape outcomes. Actors in regards to this study encompass not only borrowers and lenders but also the loan apps and the smartphones on which these applications are downloaded. According to Carroll, Richardson, and Whelan (2012), these actors can be both human and non-human (for instance, software, execution codes, and forests). Through careful understanding of this complex interplay reveals the dynamic processes by which knowledge about loan apps is constructed, disseminated, and

utilized. Students, loan apps and other actors aiding the utilisation of loan apps constantly influence one another and thereby shaping the world of mobile lending. In other words, there is a form of continuous interactions as students download these apps on their smartphones through trusted sources, facilitating their access to financing. These continuous interactions help to broaden their knowledge as well as awareness of loan apps for efficient and effective use.

The utilisation of loan apps also reveals a network teeming with actors, each contributing to distinct utilisation patterns. Borrowers are naturally central human actors in this network. Their motivations, needs and experiences are key drivers that determines their utilisation of loan apps with the aid of android and smartphones. Students, most times, rely on loan apps to manage their allowances and emergency needs, thereby relieving them of financial stress and management while avoiding long bank bureaucracies in processing bank loans. This depicts the real interaction between human and non-human actors.

Methodology

A cross-sectional survey design was adopted to sample 388 undergraduate students at the University of Ibadan (Nigeria) main campus for the quantitative aspect of the study, while key informant and in-depth interviews were conducted with two bank officials and eight undergraduate students to gather qualitative data. While the respondents were drawn using a multistage sampling technique as determined by Yamane's (1967) sample size determination formula, the participants were purposively selected to gather data respectively.

A structured-questionnaire was randomly administered to respondents, while key informant and in-depth interview guides were used to collect the data from the respondents and participants. Face and content validity were used to validate the instruments, descriptive statistics was used to summarize and describe the characteristics of the study population. For the qualitative data, thematic analysis method was used following Braun and Clarke's (2006) six steps data analysis method. In terms of the ethical considerations of the study, permission to carry out the study in each of the selected faculties was obtained from Deans of each the faculty. The study's purpose, potential risks and benefits, and participants' ability to discontinue participation at any time were explained to participants. The study also upheld the principle of anonymity, confidentiality, voluntary participation, non-maleficence, beneficence and justice by allowing for gender equality and equal chance for all students from different faculties to be represented.

Results and Discussion

Socio Demographic Characteristics of Respondents

Table 1 presents the socio-demographic characteristics of the respondents. The gender variable to showcase variations in responses of the respondents. The data shows that the sample is predominantly female, comprising 57.5% of respondents, while males represent 42.5%. The socio-demographic age of respondents with students aged 25 years and below forming the majority at 59.5%, and those aged 26 years and above making up 40.5% of the total sample. The research was able to ascertain three ethnic groups of respondents. The largest ethnic group among the respondents is Yoruba, accounting for 62.6%, followed by Igbo at 35.3% and Hausa ethnic group at 2.1%.

Across the selected faculties, it was discovered those in the Faculty of Education have the highest representation at 24.2%, followed by Science (21.6%) and Economics (17.0%), Arts (15.5%), Law (8%), The Social Sciences (3.4%) and Technology with a percentage of 2.6%. The frequency degree of religions of respondents with Christianity being the dominant religion among respondents, comprising 58.8% of the sample, while Islam represents 41.2% of respondents' religion. Regarding academic levels, data shows that the majority of students are at the 300 level (33.8%), followed by the 200 level (22.7%), 100 level (15.7%), 400 level (17%), 500 level (8%) and 600 level (2.3%). The marital status data indicates that the majority of students are single (70.9%), followed by married students at 22.9%, with a smaller percentage falling under the "Others" category (6.2%). Also, the frequency differences of residence of respondents, with most students (60.6%) living on campus, while 39.4% reside off-campus.

Table 1: Distribution of Respondents by Socio-demographic Variables

Demographic characteristics	Frequency	Percentage %
<i>Gender</i>		
Male	165	42.5
Female	223	57.5
<i>Age (mean age =23.13±2.30 years)</i>		
≤25 years	231	59.5
≥26 years	157	40.5
<i>Level</i>		
100	61	15.7
200	88	22.7
300	131	33.8
400	66	17.0
500	42	10.8
<i>Faculty</i>		
Arts	60	15.5
Agriculture	30	7.7
Economics	66	17.0
Education	94	24.2
Science	84	21.6
The Social Science	13	3.4
Technology	10	2.6
Law	31	8.0
<i>Ethnicity</i>		
Yoruba	243	62.6
Igbo	137	35.3
Hausa	8	2.1
<i>Religion</i>		
Christianity	228	58.8
Islam	160	41.2
<i>Marital status</i>		
Single	275	70.9
Married	89	22.9
Others	24	6.2
<i>Resident</i>		
On campus	235	60.6
Off campus	153	39.4
<i>Monthly income/Stipend</i>		
<#10, 000	250	64.4
≤#10,000	138	35.6
<i>Source of Income</i>		
Parents	269	69.3
Part time job	89	22.9
Others	30	7.7

Knowledge and Awareness Among Undergraduate Students on the Use of Loan Apps

Figure 1 demonstrates that most respondents (97.4%) are aware of the fact that loans can be applied for without visiting a physical bank branch through loan apps, which depicts a high degree of awareness of applying for loans without needing to visit a banking establishment in person. Figure 2 also shows that a considerable number of respondents are knowledgeable about how loan apps operate. It was found that 77.8% of respondent signified that they were familiar with how loan apps operate, indicating a reasonable level of understanding about the functionalities and processes involved in using these platforms.

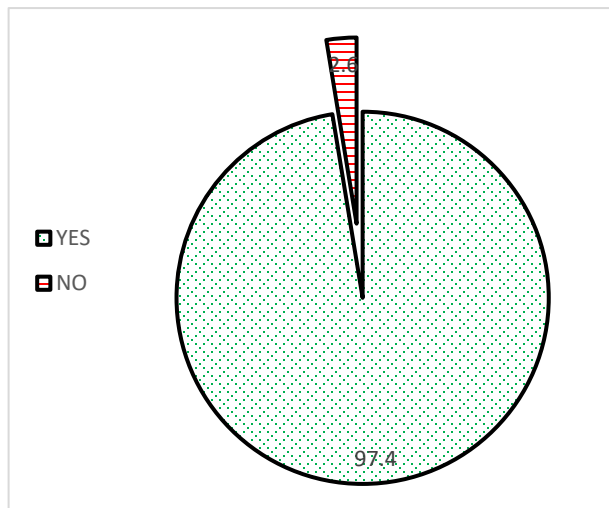


Figure 1: Awareness about applying for a loan without visiting a physical bank branch through loan apps

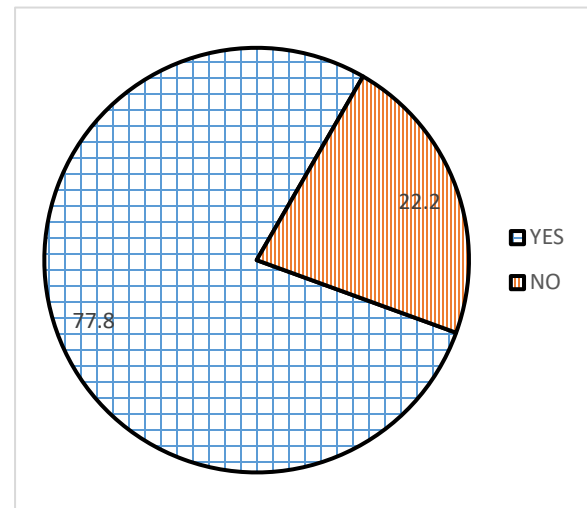


Figure 2: Familiarity with how loan apps operate

Figure 3 displays how the respondents became aware that loan applications existed. The majority of respondents (60.0%) provided affirmative responses of learning about its awareness from online advertisements, followed by family members (35.0%) and educational institutions (5.0%).

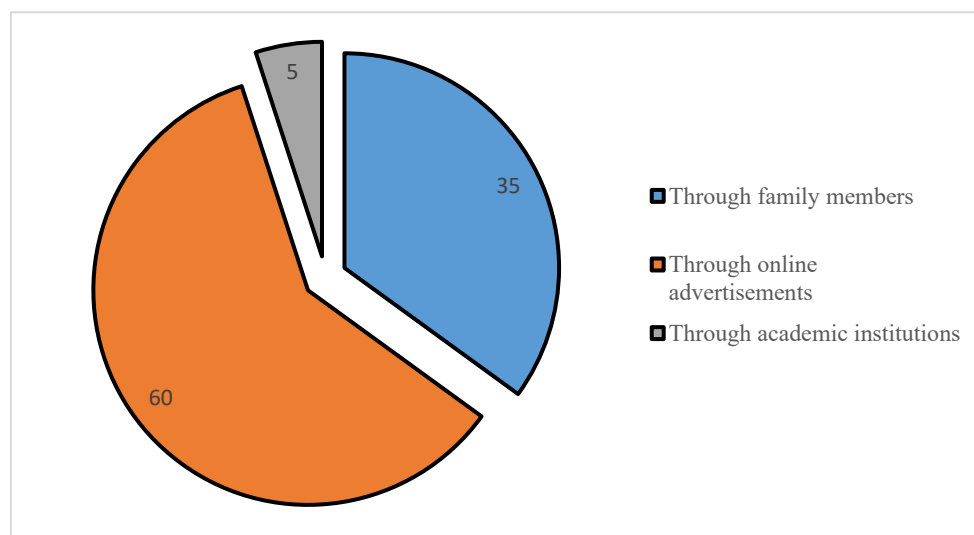


Figure 3: Ways of getting to know about loan apps

This highlights the importance of understanding the various channels through which students acquire information about loan apps, which can inform targeted marketing and outreach strategies to increase awareness and adoption among the student population. These findings affirm Bayuk and Altobello's (2019) earlier study that many students may not fully understand how these apps operate, including aspects such as interest rates, repayment terms and potential fees associated with borrowing.

From the qualitative aspect of the study, participants were asked about their knowledge of loan apps. One of the participants described it as financial organisations that help people who are in need when they do not have any other source to get money. For example, this participant stated that: *"They are financial organizations that help people who are in need when they don't have any other source to get money. I know some of these loan apps like Palmpay and FairMoney"* (IDI/Female/21years/2024). Another participant shared that: *"Loan apps are new innovations to give out little or substantial amount to aid them and collect back later with interest. Like Fairmoney, Branch, Opay and Palmpay"* (IDI/Male/23years/2024).

In the statements of one of the participants interviewed, it was stated that loan apps does not only provide information on its usage through advertisements or word-of-mouth, but also provide important instructional resources without undergoing stress. Precisely:

Our app provides several tools and instructional resources to assist people in making wise financial decisions without stress. Among these attributes are educational tools that provide users with current and pertinent financial information within the application, keeping them informed about various aspects of personal finance. (KII/Male/28years/Branch Manager/2024)

In addition to this, the sources of information through which students become aware of loan apps play a crucial role. Advertising campaigns, both online and offline, are common avenues through which students are exposed to loan apps. These advertisements often highlight the convenience and speed of borrowing money through apps, appealing to students' immediate financial needs with less stress. In contrary to Odu and Omini's (2017) argument that advertisements may not always provide a complete picture of the terms and conditions associated with borrowing, which potentially lead to misconceptions or uninformed decisions, a participant noted that through the use of loan apps, the terms and conditions are stated while providing step-by-step direction on its usage. In the statement of the participant:

Our company ensures that users fully understand the terms and conditions of loans provided through the loan apps by incorporating easily accessible links within the application. Most of the time, these links direct users to the instructions and terms and conditions of the loans, which are stated plainly. This proactive approach allows users to easily access and review the terms and conditions even before they apply for the loan, ensuring full comprehension and transparency. (KII/Male/28years/Branch Manager/2024)

This implies that students' knowledge on loan apps can influence and shape their attitudes towards borrowing and financial responsibility thereby facilitate managing financial and academic stress. While those who have experienced the burden of debt or have witnessed the financial struggles of friends or family members may adopt a more conservative approach to borrowing, prioritizing financial stability and avoiding unnecessary debt, students who have had positive experiences with loan apps may be more inclined to view borrowing as viable solution to financial stress and challenges (Akinwale and Kyari, 2022). It is also possible that students may be influenced by posts or reviews that highlight only positive aspects of loan apps while overlooking potential risks and drawbacks (Adeyalo and Ogunniyi, 2020). A participant stated: *"I was using it as a mobile bank at first and started seeing notifications of how I can use their app to borrow money. After a while, I just decided to try it out and it worked out. It really relieved me of stress"*

(IDI/Female/24years/2024). This means that personal experiences with loan apps can influence students' decision-making processes and risk assessment abilities. Students who have encountered challenges with loan repayment or have been caught off guard by hidden fees may develop a heightened awareness of the potential risks associated with borrowing through these platforms. As a result, they may take a more cautious and discerning approach when evaluating loan offers and assessing their capacity to pay back debt (Adedoyin *et al.*, 2016).

Utilisation of Loan Apps Among Undergraduate Students

Figure 4 represent data on Loan apps that have been used by the respondents. It demonstrates that most respondents (97.4%) have used loan apps, indicating widespread adoption of digital borrowing platforms among undergraduate students. However, there are variations in the usage of those loan apps with Palmpay being the most used (32.2%), followed by OKcash (9.0%), Soko loan, Aella and Fairmoney (7.0%), Easemoni (6.4%) and others with low percentages. Figure 5, on the other hand, indicates the frequency of loan apps usage for financial assistance by the respondents, which shows that among those who used loan apps, there were varied usage frequencies, with weekly (26.0%) and monthly (26.5%) usage being the most common, followed by rare usage (23.2%), daily (11.9%) usage and never using loan apps (12.4%).

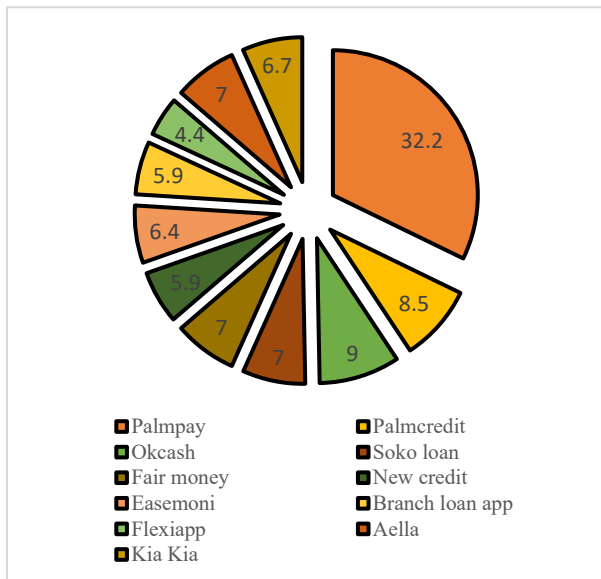


Figure 4: Loan Apps Used

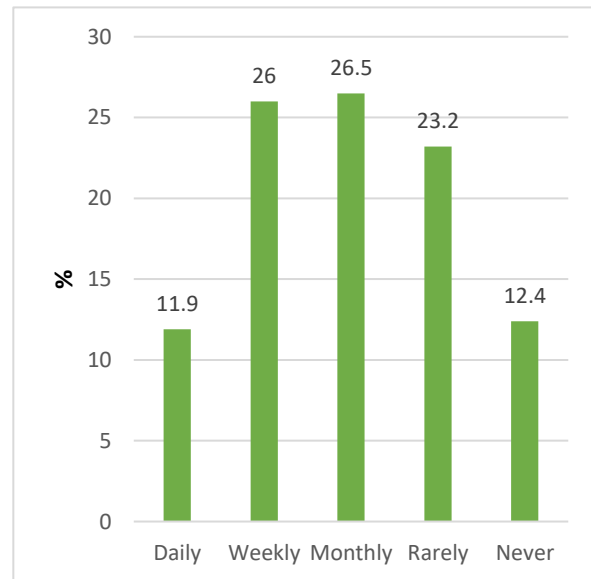


Figure 5: Frequency usage of Loan Apps for Financial Assistance

Figure 6 presents the timing of usage of various loan apps by the respondents. The Figure shows that a considerable number of respondents used loan apps most frequently at the start of the semester (43.3%), followed by during emergencies (38.7%) and exam periods (18.0%), reflecting the timing of financial needs and pressures throughout the academic calendar. This helps to showcase differences in their timing of usage in a semester. Figure 7 further reveals the reasons why most students would use loan apps to borrow. The primary reasons for borrowing money through loan apps were accommodation (18.8%), daily living expenses (19.3%), expenses (15.5%), and textbooks (13.1%), indicating a diverse range of financial needs being addressed through digital borrowing.

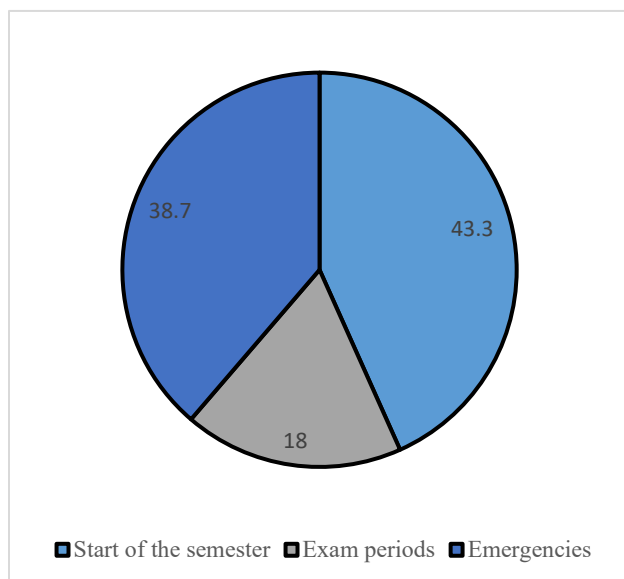


Figure 6: Timing of Usage

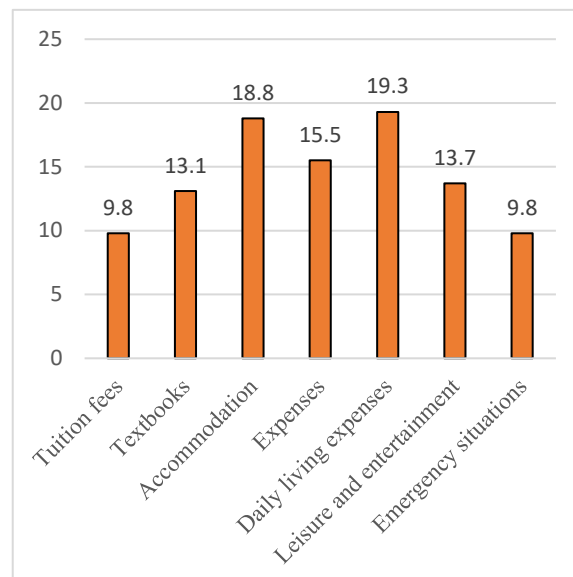


Figure 7: Reasons for Borrowing

Figure 8 shows the distribution of respondents by borrowing from multiple loan apps. It was discovered that most of the respondents (74.7%) borrowed from multiple loan apps, while only 25.3% showing negative response of not borrowing using multiple. Figure 9 presents the reasons for students using multiple loan apps for loans. The data indicates that there was a low percentage of respondents (0.5%) having borrowed from multiple loan apps using it for health, with emergencies (48.7%) and small businesses (50.8%) being the primary reasons for doing so.

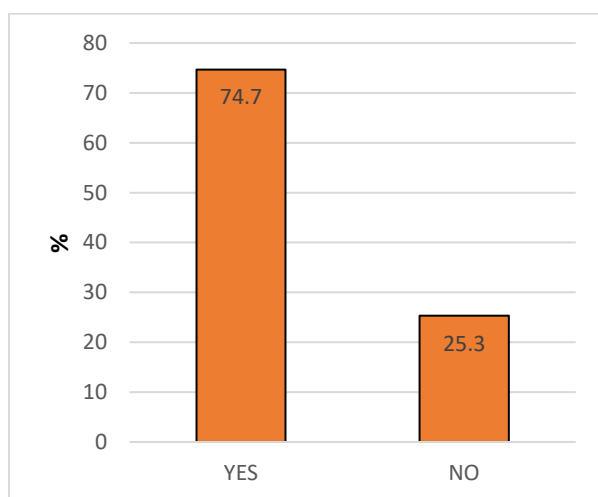


Figure 8: Borrowing from Multiple Apps

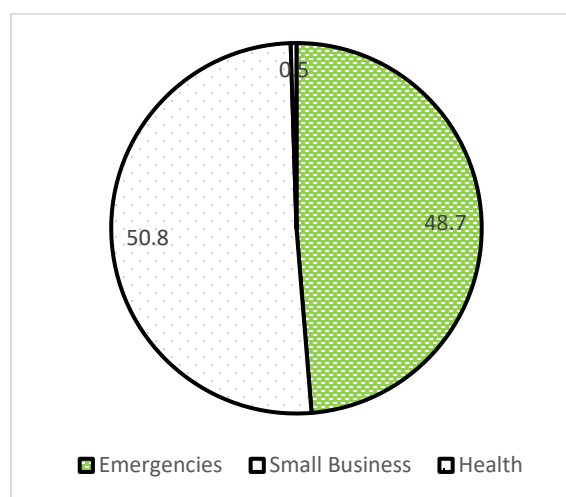


Figure 9: Reasons for Borrowing from Multiple Apps

Figure 10 shows the impact of loan apps often has on respondents' financial stability and academic progression. It was revealed that the highest proportion (41.8%) of the respondents believe that loan apps have a positive on financial stability and academic progression, others perceive it as negative (18.6%) or no significant impact (39.7%) on financial stability and academic progression. This suggests that the highest proportion of the respondents agreed that loan apps facilitate their relief of financial stress and help them

to manage their finances. Figure 11 shows factors students would consider before using a loan app to apply for loan. Data obtained shows that when choosing a specific loan app, students consider various factors such as repayment terms (30.4%), loan limits (26.8%), reputation and reviews (17.5%), interest rates (10.3%), ease of use (9.8%), and customer support (5.2%).

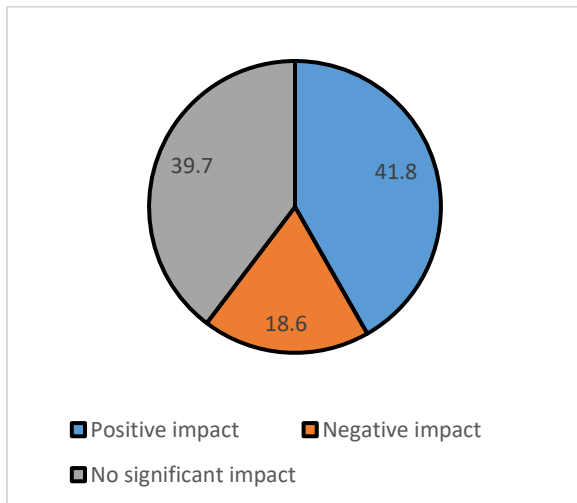


Figure 10: Impact of Financial Stability and Academic Progression

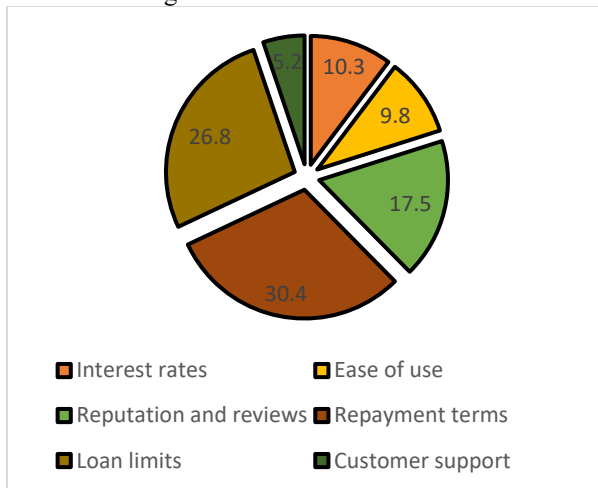


Figure 11: Factors Influencing Choice

Balancing academic commitments with funding is critical to students' successes through the utilisation and management expenses (Tella *et al.*, 2018). This is consistent with the assertion of one of the participants, who stated that:

Most students use it (loan apps) for some funds when they are broke and need something they or their parent cannot provide. Most of the time I have used it when I was in dire need of money to feed on campus or when I want to get some things I urgently need like data to download educational materials or read online. It relieves me of academic stress.
(IDI/Male/23years/2024)

Another participant also stated:

I used it for a business. I got a wrong order for a customer and because I didn't want to disappoint her, I had to borrow money to get a right order for her. Things are hard in the country and being a student is costly. I actually believe that most students use loan apps to borrow so that they can meet up deadline due to financial instability of their parents.
(IDI/Female/22years/2024)

The use of loan apps helps in diverse ways. Participants stated that it is useful for them to meet *impromptu* needs thereby relieving them of so much stress and enhance their coping strategies with academic stress. In the words of these participants: *"I think the need to quickly get some necessities on campus would make anyone borrow from them. So, they most likely borrow to meet their impromptu needs and to borrow money for emergency"* (IDI/Male/24years/2024). As another participant added: *"With the rate at which feeding is getting more costly, most students borrow just to feed themselves especially when their allowances have finished or not enough, then they borrow some money using loan apps to get by till the next allowance comes"* (IDI/Female/26years/2024).

These findings corroborate preferences Akinwale and Kyari's (2022) study that loan apps utilization reflect broader societal and cultural norms surrounding borrowing and financial management. This implies that while loan apps relieve students of some stresses, other face pressure to borrow from loan apps to maintain a certain standard of living or keep up with their peers, leading to unsustainable borrowing practices and financial stress.

Conclusion

This study have exhibited varying knowledge and awareness regarding the use of loan apps. Despite the increasing popularity of these digital borrowing platforms, many students lack comprehensive understanding of the terms, conditions and potential risks associated with borrowing through loan apps. This deficiency in awareness leaves students vulnerable to uninformed decision-making and exploitation. Despite this, students still utilize loan apps for a variety of purposes, ranging from covering tuition fees and living expenses to addressing emergencies and financing discretionary spending. These patterns reflect students' diverse financial circumstances and challenges, as well as their reliance on loan apps as a convenient source of credit. Fundamentally, findings have demonstrated that the effective use and access to digital borrowing platforms impact positively on students' financial well-being and academic success by relieving them of financial stress while coping with academic stress. In consideration of the potential financial stress relief loan apps provide, there is a need to improve financial literacy initiatives among students that will help to mitigate the risks associated with utilizing loan apps. We also advocate for regulatory reforms and consumer protection measures in the loan app industry such that transparency in lending practices and imposing limits on interest rates and fees that will protect students from deceptive marketing tactics, hidden charges and predatory lending practices could be implemented by the authorities concern.

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Knowledge, Attitudes, and Perception of Students on Tiship Service Delivery at the University Of Ibadan

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Abstract

In Nigeria, the Tertiary Institution Health Insurance Program (TISHIP) aims to provide accessible healthcare without financial hardship. However, out-of-pocket payments persist. This study examines TISHIP, part of the National Health Insurance Scheme (NHIS), and its acceptance and usage among students.

Adopting Gidden's Structuration Theory (1984) and Lipsky's Street-Level Bureaucracy Theory (1980) to explain healthcare policy implementation among students, a sequential transformative design was employed to combine both quantitative and qualitative data collection. A survey of 250 students and in-depth interviews with five insurance administrators were conducted. The findings revealed that only 32% of students were aware of the insurance scheme, and 20% understood how it worked. While 31.9% confirmed the scheme's effectiveness, 46% believed it had not eased their access to healthcare.

The study concluded that students' knowledge, attitudes, and awareness significantly shape their willingness to seek insurance-based healthcare services. Satisfaction and efficiency of the scheme are influenced by interactions with administrators.

Furthermore, the study highlights the need for policy reforms and implementation strategies to address the challenges facing the TISHIP. To stifle the growing preference for out-of-pocket payments, and achieve a universal health coverage through health insurance, targeted awareness campaigns, improved communications about the program's benefits, improving the quality of healthcare services provided and strengthening stakeholder collaboration among the insurance administrators are necessary to fully maximize the insurance coverage.

Keywords: Health insurance, out-of-pocket payments, NHIS, TISHIP, service delivery

Introduction

Since the adoption of the Alma-Ata Declaration in 1978 and the International Plan of Action at the World Health Assembly in 1982, healthcare financing has emerged as a key area of concern within global health systems (World Health Organization, 2023). These international efforts, which underscored health as a fundamental human right, have catalyzed policy and academic discourse on the need for equitable access to healthcare, particularly in low- and middle-income countries (LMICs). Over the past few decades, escalating healthcare costs, demographic shifts, and evolving disease burdens have underscored the necessity of sustainable healthcare financing models that are inclusive, efficient, and resilient (Osareme et al., 2024). The World Health Organization (WHO, 2019) emphasizes that healthcare financing is not merely a component of health system structure but the very foundation upon which the accessibility, quality, and sustainability of healthcare delivery depend.

The concept of healthcare financing encompasses various processes through which financial resources are generated, pooled, and allocated to ensure the provision of health services (WHO, 2019). These include government funding, social and private health insurance schemes, donor support, and out-of-pocket (OOP) payments by individuals. Over time, healthcare financing has evolved from a predominantly informal, household-based system to one increasingly characterized by institutional oversight and public-private collaboration (Onwujekwe et al., 2019). Historical analysis reveals that most early healthcare systems operated with minimal government involvement; however, the rapid increase in the cost of healthcare services, technological advancement, population growth, and epidemiological transitions have necessitated a greater role for state intervention (Aaron, 1991). As such, many nations have transitioned toward mixed models of financing that combine public and private funding strategies to ensure risk protection and universal access to healthcare services (Mwachofi, Heinemann, & Al-Assaf, 2010).

The global response to rising healthcare costs and inequities has led to diverse financing strategies tailored to national contexts. In the United States, government-led programs such as Medicare and Medicaid were developed to protect vulnerable populations, including the elderly and low-income households. These were later augmented by broader policies like the Children's Health Insurance Program and the Affordable Care Act, aimed at reducing the uninsured population and curbing catastrophic healthcare expenditures (Aaron, 1991; Béland et al., 2018; Straube, 2013). Similarly, China's Urban Employees Basic Medical Insurance

system demonstrates a co-financing approach involving both government subsidies and employee/employer contributions, thereby achieving broader population coverage (Fang, 2020). The United Kingdom's National Health Service (NHS), one of the earliest examples of a universal public healthcare model, operates through tax-based financing and remains a globally recognized template for publicly funded healthcare (Grosios et al., 2010; Darrudi, Khoonsari & Tajvar, 2022).

Despite these efforts, healthcare financing remains a pressing concern in many parts of the developing world, especially in sub-Saharan Africa. The region continues to grapple with systemic challenges such as limited fiscal space, high dependency on external aid, poor insurance penetration, and a heavy reliance on OOP payments. The United Nations (2023) reports that approximately 672 million Africans lack access to essential health services, a figure that is projected to rise if comprehensive reforms are not implemented. Several studies, including those by Barasa et al. (2021) and Houeninvo et al. (2023), have linked inadequate healthcare financing mechanisms in Africa to poor health outcomes, underutilization of health services, and high rates of preventable mortality. Furthermore, these studies highlight that socioeconomic disparities significantly influence households' ability to finance their health needs, thereby exacerbating inequality within the healthcare system.

Nigeria, Africa's most populous country, reflects a critical case in understanding the challenges of healthcare financing within sub-Saharan Africa. Although the government has historically funded healthcare through budget allocations and donor partnerships, the Nigerian healthcare financing landscape remains fragmented, inefficient, and heavily dependent on OOP payments. As of 2024, out-of-pocket expenditure accounted for approximately 76.24% of total health spending in the country (SASU, 2024). While tax revenues, subsidies, and international aid contribute to financing public health programs, studies reveal that the burden of healthcare payment disproportionately falls on individuals and families. This financial burden has been associated with catastrophic health expenditures, impoverishment, and a decline in healthcare-seeking behavior (Aregbeshola & Khan, 2018; Ogbodo, 2023).

In response to these issues, the Nigerian government established the National Health Insurance Scheme (NHIS) in 2005 to accelerate progress toward Universal Health Coverage (UHC). The scheme was designed to pool resources and provide financial risk protection for all Nigerians. However, the implementation of the NHIS has been hindered by low enrollment rates, limited coverage of the informal sector, and insufficient public awareness about the scheme. Current statistics suggest that only about 5% of Nigeria's population is enrolled in the NHIS, with the majority of enrollees concentrated in the formal sector (Eze, Iseolorunkanmi & Adeloje, 2024; Adewole et al., 2017).

To expand coverage, the Tertiary Institution Social Health Insurance Program (TISHIP) was launched to target students in higher institutions. However, its performance has been suboptimal due to limited knowledge among the student population, weak enforcement mechanisms, and poor sensitization efforts. While Uguru et al. (2022) argue that the low uptake of TISHIP is primarily due to the failure of institutional actors to engage students effectively on the benefits and procedures of enrollment. Alawode and Adewole (2021) assert that inadequate health literacy and communication gaps have prevented the realization of the program's objectives. These challenges underscore the need for a more inclusive and responsive approach to healthcare financing, especially in a context where socioeconomic vulnerabilities heighten exposure to health-related financial shocks.

Problem Statement

In many low- and middle-income countries, health insurance schemes have been introduced with the aim of improving access to affordable healthcare and reducing out-of-pocket expenditures. In principle, Nigeria's National Health Insurance Scheme (NHIS), and its student-targeted subcomponent—the Tertiary Institution Social Health Insurance Programme (TISHIP), were established to provide subsidized healthcare to enrollees in formal and organized sectors. However, despite these intentions, challenges persist in both access to and quality of services rendered, especially within the student population.

Studies have reported that systemic issues such as poor funding, weak institutional structures, corruption, and insufficient accountability mechanisms continue to undermine the operational effectiveness of the scheme (Uguru et al., 2024; Mkperedem et al., 2023). Although researchers have examined healthcare service quality and administrative lapses, there has been limited effort to understand how students (major stakeholders) in

TISHIP, perceive, access, and experience these services in tertiary institutions (Adefolaju, 2014; Adewole et al., 2022).

While civil servants in the formal sector have received considerable attention in existing literature, students remain largely absent from the empirical discourse. This is especially troubling given that the success of health insurance schemes depends not only on institutional performance but also on enrollees' awareness, attitudes, and satisfaction with available services. Recent findings highlight issues of drug unavailability, long waiting times, poor provider responsiveness, and lack of trust, all of which affect user uptake and satisfaction (Osungbade, 2014; Ilesanmi, Adebisi and Fatiregun, 2014)).

The increasing disillusionment among student enrollees, coupled with insufficient research into their perspectives, leaves a gap in understanding how user-level factors intersect with systemic constraints to shape service outcomes. It is against this background that this study investigates the knowledge, attitudes, and perceptions of undergraduate students and administrators regarding TISHIP at the University of Ibadan.

The Literature

Healthcare service delivery involves providing services through inputs such as workforce, financing, and policies (WHO, 2018). A strong health workforce and adequate financing are critical for quality care (Liu & Eggleston, 2022). Financing ensures accessibility and sustainability, especially in low- and middle-income countries (Kruk et al., 2019).

In Nigeria, the National Health Insurance Scheme (NHIS) was introduced to improve healthcare access amid economic strain and inequality (Obalum & Fiberesima, 2012). Despite a low average income, wealth disparity forces many to rely on out-of-pocket payments, leading to poor health outcomes (Edeh, 2022).

The NHIS, formalized in 2005, includes schemes such as the Tertiary Institution Social Health Insurance Program (TISHIP), which began in 2009. TISHIP provides affordable healthcare to students in tertiary institutions via pooled student contributions. It covers outpatient care, diagnostics, emergency care, and referrals to accredited facilities (NHIS, 2013). While designed to reduce financial barriers and improve student health, implementation remains inconsistent, with budget constraints and delays from Health Maintenance Organizations (Cashin et al., 2017). Additionally, issues like bureaucracy and low awareness affect access (Abubakar et al., 2022). Nonetheless, TISHIP aims to protect students from high healthcare costs and support their academic performance through improved well-being.

The Tertiary Institutions Social Health Insurance Programme (TISHIP) was introduced as a subset of the National Health Insurance Scheme (NHIS) to promote accessible, affordable healthcare for students in Nigerian tertiary institutions. However, evidence from the literature consistently reveals a disconnect between policy intentions and practical realities. This section critically examines existing studies on three key dimensions of TISHIP engagement— student attitudes, perceptions and satisfaction, and barriers to access, altogether highlighting recurrent implementation failures, methodological limitations, and conceptual gaps.

Student Attitudes Towards TISHIP Utilization

While existing literature often identifies awareness as a prerequisite for utilization, this link is neither straightforward nor sufficient. Anetoh et al. (2017), in a study of students at Nnamdi Azikiwe University, report relatively high awareness of TISHIP among undergraduates, yet document a markedly low level of utilization. This finding undermines simplistic assumptions that knowledge automatically translates into behavioural change. The study identifies other mediating variables such as service quality and trust but fails to account for institutional and contextual factors that shape how awareness is formed and how it translates into healthcare-seeking behaviour.

Ibe et al. (2017) focus on enrollees in the Formal Sector Social Health Insurance Programme (FSSHIP) and identify institutional inefficiencies, including poor stakeholder engagement and a lack of accountability mechanisms within Health Maintenance Organizations (HMOs), as major barriers to participation. Though their findings may hold some relevance for TISHIP, the generalizability is limited. The study lacks a student-specific focus and does not investigate how institutional dynamics manifest within tertiary institutions. Moreover, its qualitative design, while valuable for contextual depth, precludes broad generalization. These limitations reduce the explanatory power of the study regarding TISHIP-specific attitudes.

In contrast, (Inyang, Asuquo and Charlie, 2024) link students' attitudes to both user-level factors (e.g., awareness, trust) and system-level issues (e.g., poor student-provider relationships, unavailability of essential

drugs). The study's attempt to bridge the micro-macro divide is commendable, yet it stops short of interrogating structural variables such as funding mechanisms or the governance structure of university health centres. This absence reproduces a pattern across the literature, where proximate factors are privileged over deeper systemic drivers.

Perceptions and Satisfaction with TISHIP Services

Student satisfaction is often posited as a proxy for effective implementation, yet existing studies treat it as a self-evident construct without interrogating its underlying assumptions. Oriolowo et al. (2022) define satisfaction narrowly in terms of service fulfilment but do not address how student expectations are formed, shaped, or potentially manipulated by institutional messaging. Moreover, studies such as those by Uja et al. (2024) adopt a correlational approach, linking satisfaction to variables such as marital status, proximity to facilities, and waiting time. However, these variables are treated as isolated rather than embedded in broader institutional logics. The result is an overly individualised model of satisfaction that obscures structural determinants such as underfunding, policy ambiguity, and weak accountability.

Garba et al. (2018) introduce a potentially valuable insight by reporting higher satisfaction among uninsured patients compared to insured ones. This paradox challenges conventional assumptions and underscores the need for more rigorous comparative analysis. However, the study does not explore why insured students might feel more dissatisfied. Without a deeper analysis of policy design, implementation challenges, or institutional culture, the study remains descriptive.

Meanwhile, Akosu et al. (2023) highlight significant dissatisfaction among students due to fund mismanagement and perceived exploitation. This study begins to uncover the political economy of student health insurance but lacks quantitative rigour and relies heavily on anecdotal evidence. The link between governance failures and negative perceptions is asserted rather than systematically demonstrated. Furthermore, while the study critiques the misuse of TISHIP funds, it does not situate this within broader trends of corruption and fiscal mismanagement in the Nigerian public sector, thereby missing an opportunity for deeper critique.

Barriers to Accessing TISHIP Services

Barriers to access are frequently framed in terms of awareness, availability, and administrative bottlenecks. Gerald et al. (2024) report that 61.3% of students at the University of Calabar were unaware of TISHIP despite being eligible. This statistic is often cited as evidence of communication failure. However, such interpretations are limited unless they are situated within broader institutional cultures of opacity, weak accountability, and bureaucratic inertia. While increasing awareness is often proposed as a solution, studies such as Oriolowo et al. (2022) correctly caution that awareness alone does not guarantee engagement.

The literature also identifies infrastructural and logistical constraints as access barriers. Sule (2020) points to delayed HMO capitations, inadequate medical supplies, and weak monitoring as systemic failures undermining access. Importantly, the study notes that some access barriers are user-induced. For example, students failing to register properly or requesting drugs not covered under the scheme. While this introduces complexity into the discussion, it risks moralizing individual behaviour without adequately considering the institutional constraints that shape such behaviours.

Additionally, the financial sustainability of TISHIP is a recurrent concern. While funding is often cited as insufficient, Anetoh et al. (2017) caution against viewing the problem purely in quantitative terms. They argue for effective fund management rather than mere financial injection. However, this argument is not empirically substantiated, nor does it explore how university bureaucracies manage or mismanage health insurance funds. Consequently, there is a missed opportunity to link funding challenges to governance failures and institutional capacity deficits.

The reviewed literature identifies key variables shaping TISHIP engagement to include awareness, satisfaction, quality of care, and access, but tends to treat these in isolation rather than as interrelated components of a dysfunctional implementation system. Moreover, much of the literature fails to engage critically with the institutional and political economy contexts in which TISHIP operates. Studies often adopt a deficit model, locating the problem within students (lack of awareness, poor attitudes) or service delivery (delays, unavailability), while ignoring how institutional design and governance structures mediate these outcomes.

Furthermore, the dominant reliance on cross-sectional and survey-based designs limits the explanatory depth of most studies. There is a marked absence of longitudinal studies that could track the impact of policy reforms or institutional changes over time. Equally, few studies employ mixed-methods approaches that could triangulate quantitative findings with qualitative insights.

Methodology

The study adopted a cross-sectional mixed-method design. Data were collected through semi-structured questionnaires and in-depth interviews (IDIs). The survey targeted undergraduate students of the University of Ibadan who were registered users of the NHIS scheme at the university clinic (Jaja), while the interviews involved NHIS staff under the Department of Social Work at the University Health Services.

A total of 250 questionnaires were distributed and completed by full-time undergraduates across 18 faculties in the university. Stratified and convenience sampling techniques were used to ensure representation from students who actively used health services under the TISHIP scheme. For the qualitative aspect, five NHIS administrative staff members were interviewed using a purposive sampling approach. These interviews explored the challenges, perceptions, and experiences of NHIS service providers.

The use of both quantitative and qualitative methods allowed the researcher to gather broad data on students' knowledge, attitudes, and perceptions of NHIS, while also gaining deeper insights into the perspectives of service providers. Data collection spanned December 1 to January 13. Quantitative data were analyzed using SPSS Version 28.0, while qualitative interviews were transcribed verbatim and analyzed thematically.

All interviews were tape-recorded with consent, transcribed, and analyzed based on emerging themes.

Findings

Demographic Variable	Category	Frequency (n)	(%)	Mean $\pm$ SD
Gender	Male	134	53.6	
	Female	116	46.4	
Age			22.07	22.07 $\pm$ 2.47
Ethnicity	Yoruba	142	56.8	
	Igbo	56	22.4	
	Hausa	30	12.0	
	Others	22	8.8	
Residence	On-Campus	107	42.8	
	Off-Campus	143	57.2	
Religion	Christianity	166	66.4	
	Islam	72	28.8	
	Traditional	6	2.4	
	Others	6	2.4	
Monthly Stipend (₦)	10,000 - 50,000	128	51.2	
	51,000 - 100,000	73	29.2	
	101,000 - 300,000	34	13.6	₦82,806.93 $\pm$ ₦78,559.92
	301,000 and above	15	6.0	

Source: Field Survey, 2024

The study sample comprised 250 undergraduate students from 18 faculties. The gender distribution was fairly balanced, with **53.6% male** and **46.4% female** participants. The **mean age** was **22.07 years** (SD = $\pm$ 2.47).

In terms of **ethnicity**, the majority were **Yoruba (56.8%)**, followed by **Igbo (22.4%)**, **Hausa (12.0%)**, and **other ethnic groups (8.8%)**. Most respondents were **never married (89.2%)**, while smaller proportions were **engaged (5.2%)**, **married (4.0%)**, **divorced/separated (1.2%)**, or **widowed (0.4%)**.

Respondents were drawn from various faculties which offered undergraduate programmes within the university.

For the qualitative data collection, 5 insurance administrators in the university clinic medical social welfare department were interviewed to capture the lived experiences with providing the health insurance to the student populace. The subsequent section examines the results of the findings in both data collection phases.

Knowledge and Awareness of NHIS/TISHIP at Jaja University Health Services

This section explores students' knowledge and awareness of the National Health Insurance Scheme (NHIS) and its subset, the Tertiary Institution Social Health Insurance Program (TISHIP), as implemented through Jaja University Health Services at the University of Ibadan. It also evaluates how such knowledge influences their engagement with and utilization of these health services.

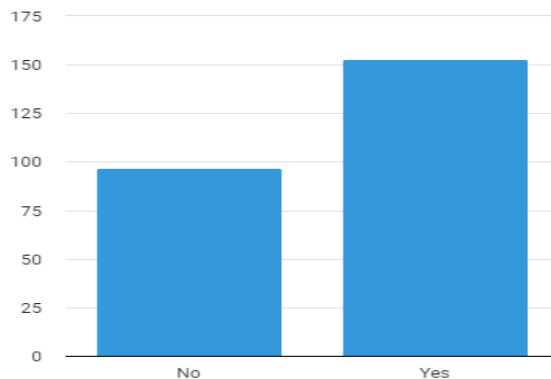


Figure 1: Student Utilization of Jaja University Health Services
Source: Field Survey, 2024

Out of 250 respondents, 61.2% reported using Jaja University Health Services, while 38.8% indicated they did not. On a binary scale (1 = "No," 2 = "Yes"), the mean response was 1.61 (SD = 0.49), suggesting a majority engagement with some variability in responses. This indicates that although most students use the university clinic, a significant minority abstains, potentially due to lack of awareness, dissatisfaction with services, or preference for alternative healthcare providers. This usage variable also acts as a predictor: students unfamiliar with the health services may also lack awareness of NHIS/TISHIP benefits.

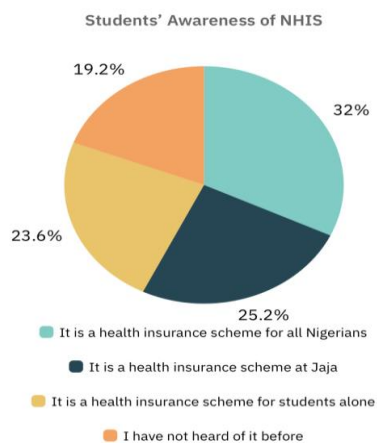


Figure 2: Awareness of NHIS Among Students
Source: Field Survey, 2024

Awareness of NHIS was varied:

- 19.2% had never heard of the scheme.
- 23.6% mistakenly believed it was exclusive to students.
- 25.2% associated NHIS only with Jaja Health Services.
- 32% correctly identified NHIS as a national program for all Nigerians.

This distribution highlights considerable misconceptions and knowledge gaps among students. While nearly one-third understood the scheme’s national scope, the remaining two-thirds either lacked awareness or held inaccurate beliefs. These findings underscore the urgent need for targeted educational efforts to promote accurate and comprehensive understanding of NHIS.

Table 1: Awareness of NHIS and TISHIP

Awareness Level	Frequency	Percentage
I have not heard of it before	138	55.2%
I have heard about it but don’t know how it works	22	8.8%
I have heard about it but think it’s hospital-related	77	30.8%
It is a health insurance scheme for tertiary students	13	5.2%
Total	250	100.0%

Source: Field Survey, 2024

The data reveals that over half (55.2%) of students had never heard of TISHIP, while only 5.2% correctly identified it as a health insurance scheme for tertiary students. These findings suggest that awareness of TISHIP is significantly low, with widespread misconceptions about its nature and purpose. Students either confuse it with general hospital services or lack detailed understanding of its operation. These results call for enhanced communication strategies to increase awareness and correct misinformation.

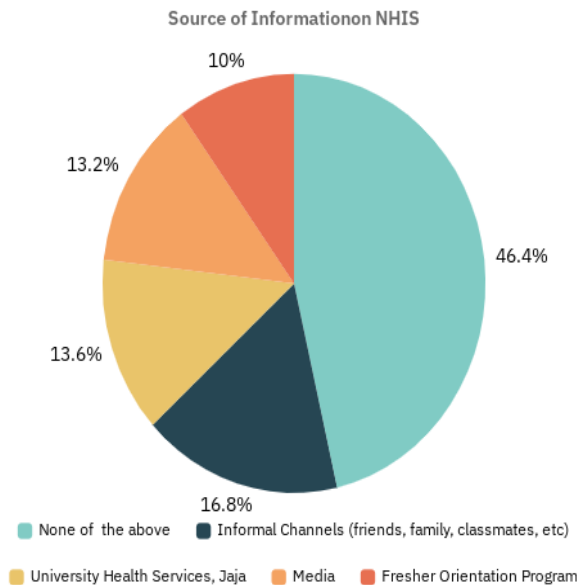


Figure 3: Sources of NHIS/TISHIP Information

Source: Field Survey, 2024

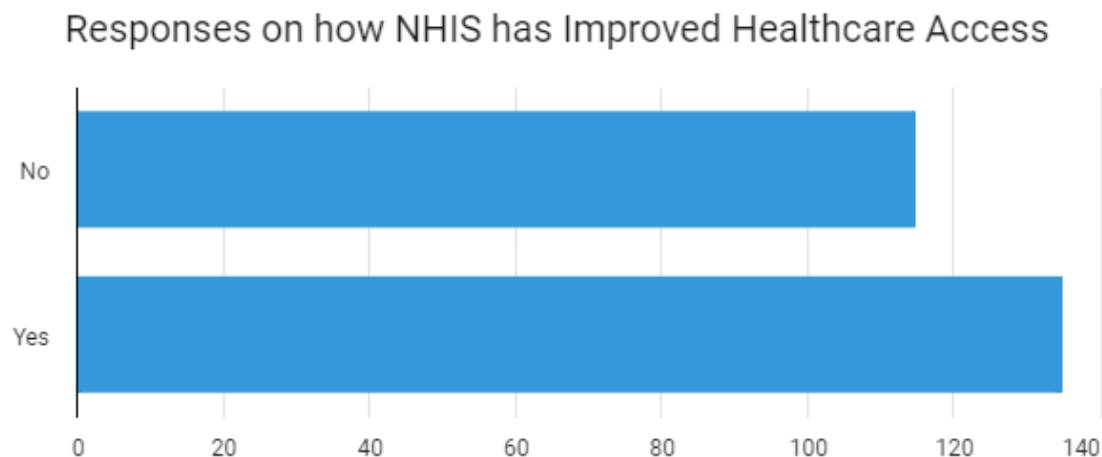
The most cited source was “None of the above” (46.4%), indicating many students lack a reliable source of information. Informal channels (16.8%) and institutional sources such as Jaja Health Services (13.6%) and media (13.2%) followed. Only 10% cited orientation programs as a source. These trends emphasize a communication gap and suggest the potential benefit of institutionalizing NHIS education within student orientation and campus communication platforms.

Table 2: Understanding of NHIS/TISHIP payment structure

Variables	Frequency	Percentage
I don't know about how it works	60	24.0
It is my money that pays for all my health needs	52	20.8
It is the students and the government joint contribution that helps pay for some health needs	88	35.1
<i>NHIS is my money that pays for some of my health needs</i>	50	20.0
Total	250	100.0

Source: Field Survey, 2024

This table reflects the students' understanding of the payment structure of the National Health Insurance Scheme (NHIS) and the Tertiary Institution Social Health Insurance Program (TISHIP). A notable 24% of respondents (60 students) indicated that they do not know how the payment structure for health insurance schemes works. This suggests a significant knowledge gap, which could hinder students from effectively maximizing the benefits of the services they pay for. Approximately 20.8% (52 students) incorrectly believe that their personal funds cover all of their health needs, which may stem from a misunderstanding of the coverage structure of NHIS/TISHIP. The largest group of respondents, 35.1% (88 students), correctly recognized that NHIS/TISHIP is funded through a combination of student and government contributions. Though not fully correct, this response indicates a relatively better understanding of the collaborative nature of the funding mechanism, although there could still be confusion about how the funds are managed or the extent of the coverage. Only 20% (50 students) correctly selected that NHIS covers some health needs and know that it is entirely funded by their own money. This lower distribution suggests a partial understanding of the funding model among the majority of the students, which may cause students to overlook the actual healthcare support they receive from the health insurance scheme. Also, this could limit their engagement with the schemes, as they may not realize that they are actually benefiting from contributions made by themselves.



Source: Field Survey, 2024

The bar chart represents students' responses regarding whether the National Health Insurance Scheme (NHIS) has improved access to healthcare at Jaja University Health Services. "No" (46.0%, n = 115) suggests that a substantial proportion of students feel NHIS has not enhanced their access to healthcare.

Association Between Awareness, Knowledge, and Utilization

The data suggests a paradox: while detailed knowledge about NHIS/TISHIP is limited, utilization of Jaja Health Services remains relatively high. This indicates that students may access services despite incomplete understanding of what the insurance covers.

IDI 4, a seasoned medical social worker, noted:

“They know about it, but I cannot say they totally know what it covers. But for them to come here means they know.”

This highlights a pattern of partial awareness, akin to knowing one has a bank account but not the specifics of the account terms. Consequently, students may experience frustration when their expectations—often shaped by incomplete or inaccurate information—are unmet.

IDI 5 confirmed this pattern, stating:

“The NHIS is working fine... they see the doctor... we liaise with HMOs to secure a code for treatment... It has really been a lot of relief for the students. They understand its value.”

However, expectations are not always realistic. Students often assume comprehensive coverage and are disillusioned when confronted with service limitations or waiting times.

“When students come to the facility, they sometimes get frustrated with waiting in line. Sometimes, they might think, ‘Why wait in line for malaria treatment when I can easily buy the drugs elsewhere?’” – **IDI 5**

Despite these frustrations, cost savings and perceived reliability of NHIS motivate continued utilization. Students feel reassured by the financial security the scheme offers, even without a full grasp of its benefits.

“Beyond cost savings, there is a sense of security... The scheme may not cover heart transplants, but for routine and secondary care, it does the job.”
– **IDI 5**

Moreover, knowledge of operational realities such as clinic hours and emergency response procedures also influences satisfaction.

“Emergency periods are usually around 4 pm, and Tuesdays, we attend mental health clinic requests. If students understand that, maybe it will lessen the waiting periods.” – **IDI 4**

This reinforces the need to complement health insurance education with information on service logistics to better manage expectations and improve the student experience.

Student Expectations and Perceptions of Value

While most students value the financial relief NHIS-TISHIP offers, perceptions of effectiveness vary. Some regard it as a lifeline; others see it as inefficient due to long wait times and service limitations.

“It is a very good initiative because students do not have to worry about treatment costs.” – **IDI 4**

“Faced with a long queue, students often weigh their options—wait for hours or opt for a pharmacy. For those who see time as money... the latter is often more appealing.” – **IDI 2**

Despite this, students continue using the services, largely due to the financial benefits:

“Whether they complain or not, they still come. They know it helps them financially.” – **IDI 4**

However, a key issue is misaligned expectations stemming from limited awareness:

“A lot of them assume NHIS covers everything, so they get frustrated when they have to pay for certain things.” – IDI 3

As emphasized by one respondent:

“We need more sensitization. Students should be informed from their first year about how the scheme works... appointment scheduling and streamlined processes could ease some of the frustration.” – IDI 1

The findings in this section reveal that while NHIS-TISHIP utilization is relatively high among University of Ibadan students, comprehensive awareness and understanding of the scheme are lacking. Misconceptions, unrealistic expectations, and poor communication channels contribute to student dissatisfaction. Addressing these issues through targeted awareness campaigns, service transparency, and student education on scheme logistics could significantly enhance the program’s impact and student experience.

Attitudes Towards NHIS/TISHIP at Jaja University Health Centre

Students’ attitudes towards NHIS/TISHIP at the University of Ibadan are shaped by their knowledge of the scheme, personal healthcare experiences, and perceptions of system efficiency. While some students recognise its benefits, others express frustration or disengagement due to operational bottlenecks. This section presents findings on students’ and staff attitudes, drawing from both survey data and qualitative interviews.

Table 3: NHIS/TISHIP Effectiveness in Providing Healthcare Needs at Jaja

Variables	Frequency	Percentage	Mean ± S.D
Pharmaceutical benefits alone	56	22.3	
Diagnostic/laboratory examinations alone	47	18.6	
Consultation alone	68	27.2	
All of the above	79	31.9	
			19.38 ± 11.41

Source: Field Survey, 2024

A survey of students' perceptions of NHIS/TISHIP healthcare services at Jaja showed varied responses. 22.3% believed only pharmaceutical benefits were effective while 18.6% thought only diagnostic/lab exams were covered and about 27.2% believed only consultation was guaranteed, only 31.9% correctly identified all services as covered

The mean score (19.38) indicates a reasonably positive attitude, but a high standard deviation (11.41) suggests substantial variability in perceptions, highlighting the need for improved service provision and awareness.

Communication Gaps and Negative Attitudes

Students’ negative attitudes are often rooted in inadequate communication about the scheme’s benefits and procedures. Although TISHIP is designed to provide accessible healthcare, many students remain unaware of their entitlements or how to navigate the system. This leads to confusion, unrealistic expectations, and dissatisfaction.

According to a health worker:

"Actually, here at Jaja, we handle both the staff-based insurance scheme and the student-based insurance scheme. But the processes are similar. What the insurance covers and does not cover is the same everywhere and we tell them this when they come." — IDI 1, Female, Volunteer, Social Work Unit, 2024

Despite this initial explanation, students' understanding remains limited. They often attempt to access services not covered by the scheme, leading to frustration and delayed care. A student who requires a referral may face long waits due to approval delays, especially during holidays when HMO representatives are unavailable. These delays further reinforce the perception that TISHIP is unreliable.

One respondent noted:

"The TISHIP provides primary healthcare services, but the limitations are usually the same. For instance, if there is a need for referring a student, which my work entails, I may send a request to the respective HMO, and such a request may not be attended to on time."
— IDI 1, Female, Volunteer, Social Work Unit, 2024

Limited understanding also leads to students making inappropriate service requests, reflecting a lack of clarity about what the scheme actually covers.

"I think they are aware to some extent, although some of them bring in requests that are not covered—for example, they cannot use insurance for major surgeries." — IDI 2, Female, Medical Social Worker, 1 year, 2024

Where awareness exists, it is often fragmented. The lack of continuous, structured orientation contributes to the perception that the scheme is difficult to use. Consequently, some students view TISHIP as a complicated and bureaucratic system rather than a helpful support service.

"Sometimes the challenges that I have listed may cause long waiting times for the users or in case the drugs or whatever they need is not available, they are referred to the pharmacy." — IDI 3, Male, Medical Social Worker, 12 years, 2025

Delays, unavailability of services, and lack of feedback further reinforce negative attitudes. For some students, the scheme is simply not worth the inconvenience.

"The only thing I can talk about in their attitude is that due to the delays we experience with HMOs approving our requests, sometimes, they get frustrated and agitated." — IDI 4, Male, Medical Social Worker, 15 years, 2025

These findings suggest that poor communication, unclear referral processes, and service delays foster dissatisfaction and a lack of trust in TISHIP among students.

Payment Preferences and Attitudinal Patterns

Students' attitudes toward the use of health insurance versus out-of-pocket payments offer further insight into their perceptions of the scheme's efficiency. Survey data revealed that while some students prefer using TISHIP, a considerable number still opt to pay directly for care. This choice is often influenced by perceived speed, simplicity, and reliability of direct payments compared to insurance claims.

As shown in **Figure 5**, preferences were split:

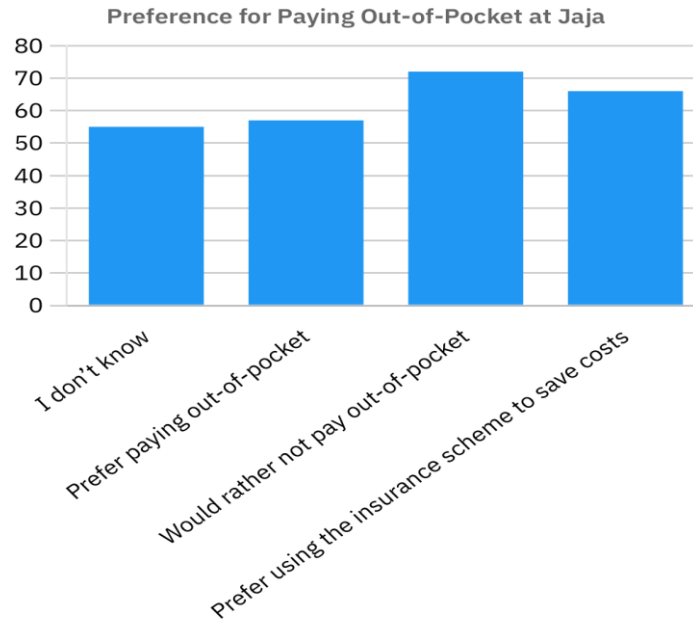


Figure 5: Source: Field Survey, 2024

- 71 respondents (28.4%) preferred not to pay out-of-pocket, indicating a desire to avoid financial stress.
- 66 respondents (26.4%) preferred using the insurance scheme to save costs.
- 58 respondents (23.0%) preferred paying out-of-pocket.
- 55 respondents (22.0%) were unsure, reflecting uncertainty or lack of awareness.

This data reflects a mixed attitudinal landscape. Those who prefer insurance typically recognise its potential for financial relief. However, others view the system as too slow or unreliable, and prefer the immediacy of out-of-pocket payments, especially in urgent situations.

The mean score of 18.47 (± 11.04) further reflects this variation in preference, underscoring the influence of individual experience on attitudinal orientation.

These results align with interview data indicating that service delays and poor communication drive students toward alternatives outside the scheme. In essence, students' payment preferences reflect both a cost-benefit analysis and their underlying trust in the system's responsiveness.

Divided Attitudes Among Healthcare Providers

Attitudes among healthcare providers at Jaja University Health Centre also reflect a lack of consensus. While some professionals view the NHIS/TISHIP scheme as potentially beneficial, others are critical of its current implementation.

One health worker highlighted the scheme's conceptual value but criticised its delivery:

"The NHIS is an ideal initiative for ensuring that students get access to affordable healthcare, but honestly, it hasn't lived up to expectations yet. I think the problem lies in how it's implemented; too many students are unaware of how it works or think it's too complicated to use." — IDI 1, Female, Volunteer, Social Work Unit, 2024

Others remain more optimistic, suggesting that improvements in student orientation could shift perceptions positively:

"I truly believe NHIS can be beneficial if there's a more structured orientation and awareness campaign. From my perspective, students just don't know enough about it. If we could clear up some of that confusion, I'm sure more students would use it." — IDI 2, Female, Medical Social Worker, 1 year, 2024

However, more experienced staff expressed frustration with the system's inefficiencies:

"While the NHIS is supposed to be a safety net, it often feels like a complicated system that students don't trust. I've seen students who sign up but end up seeking care outside the system because they can't get timely appointments or there are too many restrictions." — IDI 3, Male, Medical Social Worker, 12 years, 2025

This view was echoed by others who emphasised the disparity in access and outcomes among students:

"There's definitely a lot of potential with NHIS, but it's currently falling short. Some students benefit from it, but others are left frustrated. There's a clear divide: those who can navigate the system and those who feel completely left out." — IDI 4, Female, Medical Social Worker, 15 years, 2025

These perspectives indicate that even among implementers, the scheme elicits a mix of hope and disappointment. The inconsistency in service delivery has a direct impact on how both staff and students relate to the scheme.

Overall, the findings highlight a range of attitudes toward NHIS/TISHIP at Jaja University Health Centre. Students' attitudes are shaped by their level of awareness, experiences with service delivery, and perceived responsiveness of the system. Many students remain sceptical due to poor communication and delays, while others accept the scheme conditionally—valuing it for cost-saving but questioning its reliability. Among healthcare professionals, opinions are also divided, with some recognising its potential and others criticising its inefficiencies.

Improving attitudes toward the scheme requires better communication, simplified processes, and more consistent service delivery. Addressing these issues could enhance students' trust in the system and encourage more widespread participation.

Perceptions on the Tertiary Institutions Social Health Insurance Programme (TISHIP)

This section presents and analyses data on students' and staff perceptions of the Tertiary Institutions Social Health Insurance Programme (TISHIP), with a focus on its perceived efficiency and effectiveness in improving health outcomes at the University of Ibadan. Drawing from both survey results and in-depth interviews (IDIs), the findings reveal a mixture of optimism, skepticism, and practical concerns that shape engagement with the scheme.

General Sentiment Among Active Users

A substantial proportion of students who actively use TISHIP at Jaja Clinic expressed generally positive sentiments about the scheme. Their responses reflect a recognition of the financial and practical benefits that TISHIP offers in a university setting where out-of-pocket expenses can be prohibitive.

IDI 3 (female, medical social worker, 12 years' experience) emphasised the preventive and financial protection value of the scheme:

"TISHIP is a brilliant concept... when you compare it to what you'd pay for private healthcare, it's a game-changer. Students need to understand its value... as a means to prevent financial hardship."

Similarly, IDI 2 (female, medical social worker, 1 year experience) noted a growing awareness of TISHIP among students who were previously skeptical:

“I’ve seen a real shift in students’ perceptions... they realize how much it helps, especially with health emergencies. It’s less about theory and more about seeing real benefits.”

IDI 1 (female, volunteer, 2024) captured the psychological impact of the scheme, stating:

“It gives peace of mind... The mental relief of not having to worry about expensive healthcare costs is something every student can benefit from.”

These views highlight a convergence around the idea that TISHIP plays a meaningful role in providing financial relief and psychological assurance, even if engagement with the scheme remains inconsistent. These respondents speak to a core group of users who see TISHIP not only as a healthcare mechanism but as a strategic financial buffer in an economically challenging environment.

Mixed Perceptions on Insurance Efficiency

Despite the generally positive sentiment, a substantial proportion of responses revealed ambivalence and reservations about the efficiency of TISHIP in delivering timely and adequate services. These concerns were particularly pronounced among administrative staff and healthcare professionals involved in the scheme’s implementation.

Variable	Frequency	Percentage
Strongly Agree	72	28.8
Agree	85	34.0
Neutral	47	18.8
Disagree	32	12.8
Strongly Disagree	14	5.6

As shown in Table above, 62.8% of respondents agreed or strongly agreed that the insurance scheme was efficient, suggesting a majority endorsement. However, 18.8% were neutral, and 18.4% disagreed or strongly disagreed. The mean score of 3.41 (SD = 1.24) reflects an overall leaning toward agreement, albeit with notable variation in individual perceptions.

IDI 4 (female, medical social worker, 15 years’ experience) reflected this cautious endorsement:

“The idea is great, but I’m not sure how many actually know how to access or use it when the time comes.”

Similarly, IDI 2 remarked:

“A lot of students are just not thinking about healthcare in the moment, they’re dealing with tuition, books, and other stresses.”

These responses underscore the perception that while the scheme may be beneficial in principle, its effectiveness is undermined by operational and informational barriers. For some, TISHIP appears abstract or bureaucratic, especially when juxtaposed with more pressing academic and financial concerns.

IDI 3 provided further insight into the psychological cost of navigating the system:

“There are too many unclear aspects... the process itself can be a bit overwhelming.”

Thus, even among those who recognise the value of TISHIP, doubts about its practical execution persist. These reservations are grounded not only in logistical shortcomings but also in a mismatch between the scheme’s long-term benefits and students’ immediate needs.

Divergent Views on Health Outcomes and Service Delivery

In evaluating the perceived impact of TISHIP on health outcomes, the findings indicate general support for its role in facilitating access to basic care, albeit with concerns about service quality and financial barriers.

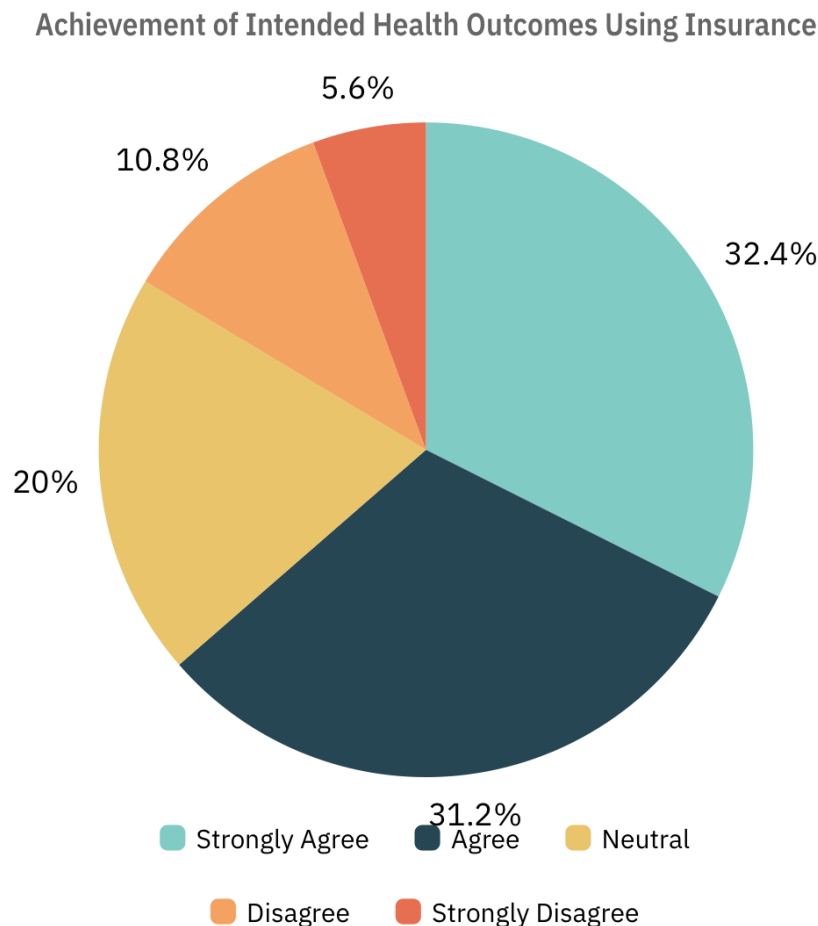


Figure 6

Source: Author, 2024

The pie illustrates that 63.6% of respondents agreed or strongly agreed that TISHIP helped achieve intended health outcomes, while 20% remained neutral and 16.4% disagreed. The mean score of 3.45 (SD = 1.24) indicates modest approval, albeit tempered by a significant portion of ambivalence or dissatisfaction.

IDI 1, however, highlighted systemic inefficiencies:

“TISHIP is often a great idea on paper, but... the waiting times and bureaucratic hurdles leave many patients frustrated.”

IDI 4 echoed this sentiment, critiquing the hidden financial burdens:

“People are still expected to contribute additional funds... which creates unnecessary financial burdens.”

Nevertheless, not all responses were negative. IDI 3 acknowledged that the scheme, while flawed, still plays an essential role:

“It’s just that the system needs a lot of improvement... to fully achieve the health outcomes it promises.”

IDI 2 expressed cautious optimism about the scheme’s future potential:

“If the system were to streamline operations... TISHIP could truly fulfill its role in ensuring better health outcomes.”

The contrasting perspectives reveal that while TISHIP is generally viewed as a beneficial intervention, its full impact is constrained by implementation challenges. Delays, lack of transparency, and inconsistent service quality reduce trust in the system and affect utilisation. These shortcomings have led to frustration among users and providers alike, which in turn diminishes the scheme’s ability to deliver on its promises.

Summary of Key Themes

The data from both survey and qualitative interviews converge on several key themes:

- **General support for TISHIP:** Most students and staff recognise TISHIP as a potentially transformative tool for reducing healthcare costs and improving access, especially in emergencies.
- **Barriers to engagement:** Ambiguities in the process, limited information, and administrative delays contribute to a perception of TISHIP as inefficient or inaccessible.
- **Financial dissonance:** Many respondents express concern over out-of-pocket payments despite insurance coverage, undermining the purpose of financial protection.
- **Demand for reforms:** Both students and professionals call for improvements in communication, service quality, and transparency to enhance the effectiveness of TISHIP.

In conclusion, while TISHIP garners general approval for its aims and some of its outcomes, these are tempered by frustrations over execution. For the scheme to truly fulfil its potential, concerted efforts must be made to address operational weaknesses and rebuild user confidence. With proper reforms, TISHIP can evolve from a promising but flawed policy into a reliable pillar of student healthcare delivery.

Discussions

The findings from this study reveal a worrying gap between the intended goals of the National Health Insurance Scheme – Tertiary Institution Social Health Insurance Programme (NHIS-TISHIP) and the actual experiences and perceptions of students at the University of Ibadan. While the policy is designed to improve healthcare access for students, this research uncovers a notable lack of awareness about the scheme, widespread dissatisfaction with service delivery, and limited student participation in monitoring or evaluation processes.

This disconnect can be attributed to the interplay between institutional structures and human agency, as explained by Giddens’ Structuration Theory. The university environment, including its healthcare services, exists as a structured system, yet it is continually produced and reproduced by the actions of students, health personnel, and administrators. The observed deficiencies—such as students’ poor knowledge of the scheme and negative attitudes towards its services—reflect not only structural gaps (like inadequate information dissemination and poor funding) but also the agency of students who may choose to disengage from the scheme altogether due to past negative experiences or lack of trust.

Similarly, the relevance of Lipsky’s Street-Level Bureaucracy Theory is evident in how frontline healthcare workers at the university health centre become the face of TISHIP for many students. Their discretionary practices, ranging from how they communicate with patients to how quickly they attend to complaints, significantly shape the implementation of the policy. It was found that some students considered

the attitudes of the healthcare staff to be unfriendly and dismissive, which erodes confidence in the scheme. This shows how public policy is not only shaped at the top but also deeply influenced by the day-to-day decisions of those tasked with its implementation.

This study finds that institutional neglect and weak accountability structures contribute to a decline in the perceived usefulness of TISHIP among students. The failure of the policy to gain full traction within the university setting mirrors the way the traditional mechanisms of social support can collapse when they are not adapted to fit the needs of the population they intend to serve.

In light of these findings, it becomes important to acknowledge that meaningful transformation of the health insurance scheme on campus requires a collective reorientation. There is a need to empower students through effective sensitization, while also strengthening the structural and relational aspects of the policy implementation process. Health insurance, especially for the young and mobile university population, must be responsive, reliable, and inclusive if it is to fulfill its objectives.

Recommendations

Based on the findings of this study, the following recommendations are offered:

There is an urgent need for university authorities and the NHIA to intensify awareness campaigns on NHIS-TISHIP. Orientation programmes, faculty sensitizations, and student-led forums should be adopted to inform students about their rights, entitlements, and procedures under the scheme. Knowledge is a necessary precursor to utilisation. The structure of service delivery at the university health centre also needs to be re-evaluated. Frontline health workers should undergo periodic training not only in clinical skills but also in communication and patient relations. When healthcare providers display empathy and professionalism, students are more likely to trust and engage with the system. Also, the NHIA should work more closely with student bodies and faculty associations to establish feedback and complaint mechanisms. These platforms should be student-friendly and allow for prompt responses to grievances, thereby improving accountability and service quality.

Efforts must also be made to ensure the steady availability of essential drugs and medical personnel at the university clinic. Without adequate resources, no health insurance scheme can operate effectively. Finally, health insurance for students should be treated as an integral part of national health and education policy. Efforts should be made to mainstream youth health coverage within broader social protection and human development strategies to ensure long-term sustainability and impact.

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BEHAVIOUR CHANGE AND MENTAL HEALTH

Influence of Attitudes Toward Disabilities and Previous Interactions on the Psychological Well-Being of Physically Challenged Persons in Ibadan, Oyo State

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Abstract

Many studies have examined how discrimination and social exclusion by significant others negatively impact the mental health and overall well-being of physically challenged persons without a corresponding attention to how physically challenged persons themselves constitute a hindrance to their psychological wellbeing. This study examines the roles of previous interaction with persons with disabilities and attitudes toward disabilities in the psychological well-being of persons living with disabilities in Ibadan, Oyo State. Data were collected from a purposive sample of 119 participants in disability homes and special education institutions in Ibadan using standardized scales for previous interaction with persons with disabilities ($\alpha = 0.98$), attitudes toward disabilities ($\alpha = 0.91$) and psychological well-being ($\alpha = 0.94$). Findings revealed that physically challenged persons with higher levels of previous interaction with persons with disabilities exhibited significantly greater psychological well-being than those with lower levels [$t(117) = -7.35$; $p < .001$]. Similarly, those with positive attitudes toward disabilities demonstrated significantly higher psychological well-being compared to those with negative attitudes [$t(117) = -9.25$; $p < .001$]. Further analysis showed that previous interactions and attitudes toward disabilities had a significant joint effect on psychological well-being [$R^2 = 0.58$, $F(2,116) = 80.86$; $p < .001$], accounting for 58 percent of its variance. Type of disability significantly influenced psychological wellbeing while all other demographic variables were non-significant. The practical implications of findings, recommendations for policy intervention as well as future research directions are discussed.

Keywords: Psychological well-being, previous interactions, attitudes, disability, social integration, stigma reduction

Introduction

Psychological well-being is a holistic theory that encompasses different traits of a person's mental and emotional health, including positive relationships, personal growth and development, positive self-esteem and self-acceptance, and a feeling of being in charge of one's life (Dhanabhakym and Sarath, 2023). Psychological well-being is a critical component of overall health, encompassing emotional stability, self-acceptance, and a sense of purpose. Persons with disabilities, however, often face unique challenges that can negatively impact their mental well-being, including social isolation, discrimination, and limited access to resources. In many societies, including Nigeria, persons with disabilities experience exclusion, which can lead to lower self-esteem, increased stress, and poorer psychological health outcomes.

One of the key determinants of psychological well-being among persons with disabilities is the nature of their social interactions. The Contact Hypothesis (Allport, 1954) suggests that increased exposure to and engagement with individuals from marginalized groups can reduce prejudice and foster positive intergroup relationships. Applying this theory to disability, it is expected that individuals who have had more frequent and meaningful interactions with persons with disabilities will develop greater understanding, empathy, and acceptance, ultimately leading to improved psychological well-being for the disabled individuals themselves.

This study aims to examine whether previous interactions with persons with disabilities influence their psychological well-being in Ibadan, Nigeria. It seeks to answer the following key research questions:

1. Will previous interaction significantly affect the psychological well-being of persons with disabilities in Ibadan, Oyo State?
2. Will attitudes toward disabilities significantly affect the psychological well-being of persons with disabilities in Ibadan, Oyo State?
3. Will previous interaction and attitudes toward disabilities have a significant joint and independent influence on the psychological well-being of persons with disabilities in Ibadan, Oyo State?
4. Will demographic variables (gender, age, type of disability, ethnicity, marital status, and academic qualification) have a significant independent and joint influence on the psychological well-being of persons living with disabilities?

Theoretical Framework

In order to establish how previous interactions and attitudes toward disabilities influence the psychological well-being of people with disabilities, this study draws upon several established psychological theories, namely, The Contact Theory, Social Cognitive Theory, and Self-determination Theory.

Contact Theory

The contact theory, also known as contact hypothesis or intergroup theory, was developed by Gordon Allport in 1954. The contact theory was explained in his book “Nature of Prejudice” published in 1954. It states that under appropriate conditions, interpersonal contact can be an effective way of reducing prejudice between majority and minority groups. He proposed that the positive effects of intergroup contact situations were characterized by four major conditions: equal status, intergroup cooperation, common goals, and support by authorities, law, or custom. The contact theory explains the effects of personal contact between ethnic, racial, or other minority groups on their prejudiced, unjustified, and discriminatory behaviour (Forbes, 2004).

The contact theory explains the positive impact of direct interactions on people’s attitudes toward members of different social groups. It explains that positive interactions with persons with disabilities will reduce prejudice and foster more positive and inclusive behaviors. Furthermore, when interactions occur under appropriate conditions, that is, equal status, common goals, cooperation, and institutional support, they are more likely to make positive lasting behaviours.

Social Cognitive Theory

Social Cognitive Theory (SCT) is a psychological theory developed by Albert Bandura in 1986, known for his work in observational learning, self-efficacy, and reciprocal determinism (Nickerson, 2024). The theory explains that several important factors account for the behaviours people display. Bandura was a major proponent of observational learning. He argued with behaviourists that behaviour is as a result of 10 learning by experience. In his view, environmental stimuli shaped and controlled human behaviour automatically and mechanically. Bandura highlighted four ways to strengthen self-efficacy: mastery experience, modelling, social persuasion, and physiological states.

- **Mastery experience:** This is the most effective, and it states that success in performance leads to increased self-beliefs of capability. Individuals who had successful interactions with persons with disabilities would be more likely to develop positive attitudes toward disability.
- **Modelling:** It explains that people judge or assess their capabilities in relation to other people’s capabilities. Positive and negative attitudes toward disability can be formed by observing other people’s attitudes toward disability.
- **Social persuasion:** If individuals receive approval from others, they are more likely to perform better in their jobs. If individuals receive positive verbal feedback on their attitudes toward disability, they are more likely to adopt and maintain such attitudes.
- **Physiological states:** People judge their successes on their emotional arousal, such as fatigue, aches, pain, and others. Positive physiological states can reinforce positive attitudes toward people with disabilities.

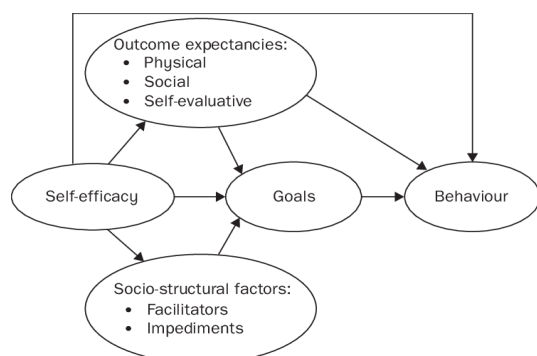


Figure 1: Illustration of the social cognitive theory. Retrieved from Measuring autonomy, competence, and relatedness of users’ needs’ satisfaction on the use of reference sources and services by undergraduates. Igbinovia et. al (2016)

The Social Cognitive Theory explains that human behavior and attitudes toward people with disability are a continuous interaction between cognitive, behavioral, and environmental influences.

Self-Determination Theory

The Self-Determination Theory is a psychological theory that was developed by Richard Ryan and Edward Deci in 1985. The SDT assumes humans are inherently active and intrinsically motivated. It focuses on the environment's influences in shaping values, attitudes, motivations, and behaviours and how psychological needs relate to well-being (Deci and Ryan, 2012). Research on how extrinsic rewards affect intrinsic motivation gave rise to SDT (Deci, 1971). The SDT has implications for performance, engagement, and psychological health.

It outlines six mini-theories, which explain how intrinsic motivation and supportive environments can enhance mental health. The theory is relevant to disability studies as it underscores the importance of social inclusion and autonomy for psychological flourishing.

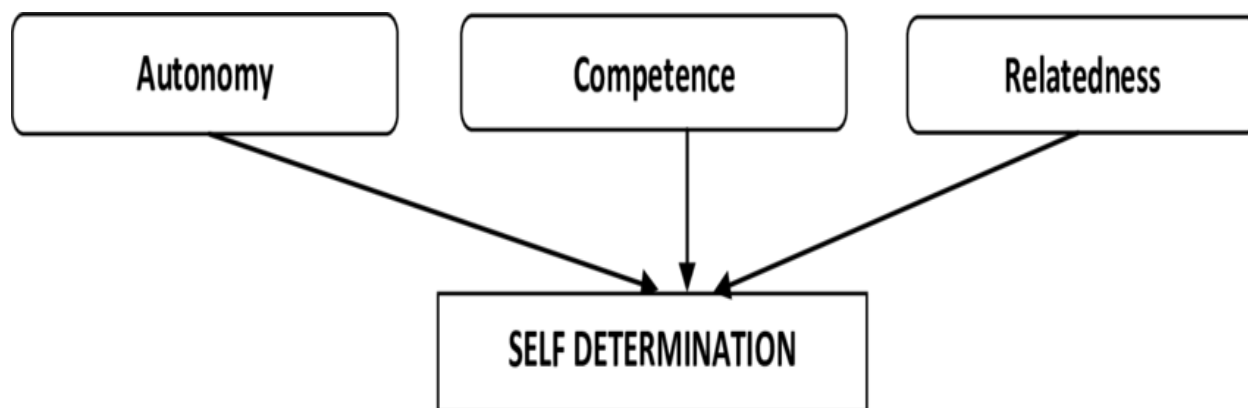


Figure 2: Illustration of Self-determination theory. Retrieved from Social Cognitive Theory. Predicting Health Behaviour. 127-169. Luszczynska et. al (2015)

Psychological Well-being

Psychological well-being is a complex concept that can be understood from two perspectives: hedonic and eudaimonic. The hedonic view, as described by Cívico (2021), focuses on the relationship between happiness and well-being, where happiness is marked by positive emotions and the absence of negative ones. In contrast, the eudaimonic perspective, rooted in Aristotle's philosophy, sees happiness as the fulfillment of one's potential and living a meaningful life (Hernandez et al., 2017). An individual with high psychological well-being experiences life as satisfying and meaningful, regardless of the presence of positive or negative emotions (Tong et al., 2018). It encompasses both low-activation emotions like calm or satisfaction and high-activation emotions like excitement (Hernandez et al., 2017). According to Ryff (1989), psychological well-being involves the development of one's true potential, which can be assessed through six key aspects: self-acceptance, positive relations, autonomy, environmental mastery, purpose in life, and personal growth. Psychological well-being is not just about happiness or life satisfaction, but also about minimizing negative life experiences while fostering enabling ones (Adler et al., 2017). This holistic view emphasizes long-term fulfillment and personal development as essential components of well-being, beyond transient emotions.

Previous Interaction and Well-being

Previous interactions have a significant impact on the psychological well-being of individuals with disabilities, with negative experiences often leading to poorer well-being. For instance, a review of studies revealed that 68% of participants reported stronger negative effects on well-being from negative interactions compared to positive ones. A systematic review published in BMC Public Health in 2021 found that prior contact and familiarity were linked to more positive perceptions of people with disabilities (Wang Z et al., 2021). The American Psychological Association (APA, 2020) also highlighted that personal, equal-status interactions could improve attitudes toward people with disabilities, supporting intergroup contact theory.

Additionally, a 2014 study in *the Journal of Relationships Research* found that increased contact with individuals with specific disabilities led to more positive attitudes toward people with other disabilities (Jason and Brachitta, 2014). Social support, relationship quality, and the frequency of interactions also influence the psychological well-being of persons with disabilities. Positive social interactions are associated with lower levels of depression and improved general well-being (Tough et al., 2017). However, physical disabilities can limit social opportunities, contributing to feelings of loneliness and depression (Anderson, 2018).

Attitudes Toward Disability

Attitudes toward disability, whether positive or negative, significantly influence the psychological well-being of individuals with disabilities. Positive societal attitudes can promote inclusive environments, such as the development of inclusive schools (Gonzalez et al., 2016). However, despite progress in political and social realms, people with disabilities still face discrimination and negative attitudes in various areas of life (Friedman and Owen, 2017). For example, walking is often valued more highly than using a wheelchair, reflecting societal prejudices (Hehir, 2007). Additionally, attitudes toward disability vary depending on the type of disability, with individuals having emotional, behavioral, or multiple disabilities often viewed more negatively than those with physical disabilities (McCoy and Banks, 2012).

Negative attitudes may lead to social exclusion and feelings of loneliness, limiting opportunities for people with disabilities and making it harder for them to access public services, work, or education. Conversely, positive attitudes foster inclusion, boost self-worth, and enhance overall psychological health (Babik, 2021). Research indicates that negative attitudes, rooted in stigma and discrimination, diminish psychological well-being by restricting access to educational, economic, and social opportunities.

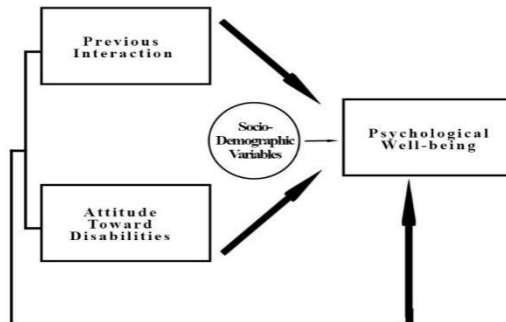
Cultural norms and individual experiences also influence attitudes toward disability (Bongwong and Fangnwi, 2019). People with disabilities often report social and psychological harm due to discrimination (Bell, 2010; Campbell, 2008; Palombi, 2012), with negative attitudes leading to exclusion and avoidance (Berry and Meyer, 1995). Studies show that individuals with disabilities generally experience lower psychological well-being compared to those without disabilities (Freedman et al., 2012), with visual disabilities, for instance, leading to lower well-being (Pinquart and Pfeiffer, 2011). Women with disabilities tend to have higher well-being indicators than men, particularly in happiness and life satisfaction (Emerson et al., 2020). Difficulty in performing daily activities can also reduce psychological well-being (Hsieh and Waite, 2019), as disability may lead to negative evaluations of happiness and life satisfaction. Negative preconceptions further hinder the social integration of people with disabilities, exacerbating adverse psychological outcomes (Dunn, 2022). Thus, positive attitudes, such as inclusion, are crucial for improving the psychological health of people with disabilities.

Impact of Disability in Nigeria

In Nigeria, approximately 25 million people live with some form of disability, with 3.6 million experiencing functional impairments (World Report on Disability, 2011). Unfortunately, negative cultural beliefs and derogatory terms still persist, with some individuals believing that disabilities are caused by perceived offenses or family wrongdoing (Maurya and Parasar, 2017). In the Yoruba culture, terms like Abirun (handicapped), Dindinrin (imbecile), Alawoku (mentally retarded), and Abami (strange person) are still used to refer to people with disabilities (Sambo, 2016).

People with disabilities in Nigeria face numerous challenges, particularly in education. Access to education is crucial for their societal participation, yet significant barriers remain (Sambo, 2016; Ingstad and Grut, 2007). Employment is another area of difficulty, with people with disabilities having fewer opportunities compared to those without disabilities (Mizuonya and Mitra, 2012). Employment provides social interaction, engagement, and financial support, all of which are vital for personal well-being (Aiyeloso, 2016). Additionally, people with disabilities encounter barriers in accessing public services, such as healthcare, banking, transportation, housing, and marriage (Smith, 2011; Haruna, 2017). The lack of a dedicated government ministry to address the needs of people with disabilities exacerbates these issues. Establishing a department to specifically handle disability-related affairs could help mitigate the challenges of marginalization, discrimination, and stigmatization (Adeworan, 2019).

Conceptual Framework



Methodology

Design

For this research, a cross-sectional survey design was adopted. This was used in exploring the role of two independent variables, specifically previous interaction, attitudes towards disabilities, and a dependent variable - psychological well-being of persons living with disabilities in Ibadan, Oyo state. Persons with disabilities cut across the various individuals with disabilities that were found in Ibadan, Oyo State. For the purpose of this study, purposive sampling technique was used to select participants who have disabilities in Ibadan, Oyo State.

Participants

A total of 119 participants were used for this research study. However, only data obtained from 112 participants were considered valid. This research study focused on participants across Ibadan, Oyo State. Among the 112 valid responses, individuals categorized as Physically Challenged constitute the majority, accounting for 76% of the valid sample. Participants identified as Deaf/Hard of Hearing represent 25% of the valid responses, positioning them as the second most represented group. Smaller proportions of participants are observed in the Blind category (8) and the Intellectual Disability category (3%).

Instruments

This study obtained data from the participants utilizing a 58-item questionnaire. The questionnaire contains four (4) sections:

Section A: Demographic Variables

This section comprises socio-demographic variables such as sex, age, type of disability, ethnicity, marital status, and highest academic qualification.

Section B: Contact with Disabled Persons (CDP) Scale

The Contact with Disabled Persons Scale was developed by Yuker and Hurley in 1987. The CDP scale was created to offer a valid and reliable way to measure how much and how well someone has previously interacted with people with disabilities. The CDP scale consists of 20 items and five response categories. The CDP response format operates on a 5-point Likert scale: 1 = never, 2 = once or twice, 3 = a few times, 4 = often, and 5 = very often. In this study, the Cronbach's alpha coefficient was established to be 0.98. The scale is reliable for measuring the intended construct, and its items exhibit strong internal consistency.

Section C: The Attitudes and Perspectives toward Persons with Disabilities (APPD) Scale

The Attitudes and Perspectives toward Persons with Disabilities (APPD) Scale was developed by Myong et al. (2021) to assess societal attitudes toward persons with disabilities (PWD). The APPD Scale consists of 14

items, categorized into four subdomains: Community Integration – Measures beliefs about the inclusion and participation of PWD in society; Discomfort – Assesses feelings of unease or uncertainty in interactions with PWD; Charitability – Captures the extent to which respondents view PWD as requiring sympathy or special support; Sense of Burdening – Evaluates perceptions of PWD as a societal burden. The APPD uses a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores indicating more negative attitudes toward PWD. In this study, the Cronbach’s alpha coefficient was established to be 0.91. This scale is highly reliable, meaning it can be trusted to produce consistent results when applied to similar populations or settings.

Section D: Ryff Psychological Well-being Scale

The Ryff Psychological Well-Being Scale (PWB), originally developed by Carol Ryff (1989), is widely used to assess psychological well-being based on six core dimensions of positive functioning. These dimensions include self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth. The scale is designed to measure an individual's perceived well-being across these domains, providing insights into their overall psychological health. The PWB Scale consists of 18 items, with each of the six dimensions represented by three items. The scale employs a 7-point Likert response format, ranging from 1 (strongly disagree) to 7 (strongly agree). Higher scores indicate greater psychological well-being, while lower scores reflect potential difficulties in personal growth and life satisfaction. In this study, the Cronbach’s alpha coefficient was established to be 0.94. This indicates excellent reliable and is suitable for research and practical applications.

Research Procedure

The participants for this research were recruited from disability homes in Ibadan, Oyo State, and the Department of Special Education, Faculty of Education in the University of Ibadan, Ibadan, Oyo State. One hundred and nineteen (119) copies of questionnaires were prepared for this research study. The purpose of the study was explained to participants so as to get informed consent. Those who consented were then given the questionnaires or had the questionnaires read to them, and answers were supplied based on their responses. Those who gave their consent were assured of anonymity and confidentiality of their responses. The questionnaires administered were retrieved for statistical analysis.

Results

Hypothesis One: Previous interaction will significantly affect the psychological well-being of persons living with a disability in Ibadan, Oyo State. This hypothesis was tested using independent samples t-test analysis. Results of this analysis are shown in Table 4.1.

Table 4.1: Independent Samples t-test Showing the Influence of Previous Interaction with People with Disability on Psychological Well-being among Persons Living with a Disability in Ibadan

Interaction with People with Disabilities	N	Mean	SD	df	t	P
Low Interaction	55	45.16	16.93	117	-7.35	<.001
High Interaction	64	66.56	14.81			

Table 4.1 shows that there is a significant influence of previous interaction with people with disabilities on psychological well-being of persons living with a disability in Ibadan ($t_{(117)}=-7.35$; $p<.001$). Furthermore, the results also indicate that participants reporting a high level of interaction with people with disabilities scored significantly higher on psychological well-being (Mean=66.56; SD=14.81) than participants who reported a low level of interaction with people with disabilities (Mean=45.16; SD=16.94). The stated alternative hypothesis is therefore confirmed and accepted.

Hypothesis Two: Attitudes toward disabilities will significantly affect the psychological well-being of persons with disabilities in Ibadan, Oyo State. This hypothesis was tested using independent samples t-test analysis. Results of this analysis are shown in Table 4.2.

Table 4.2: Independent Samples t-test Showing the Influence of Attitude towards Disabilities on Psychological Well-being among Persons with Disabilities in Ibadan

Attitude towards Disabilities	N	Mean	SD	df	t	P
Negative	53	42.91	16.33	117	-9.25	<.001
Positive	66	67.73	12.93			

Table 4.2 shows that there is a significant influence of attitudes toward disabilities on psychological well-being of persons living with a disability in Ibadan ($t_{(117)}=-9.25$; $p<.001$). Furthermore, the results also indicate that participants reporting a positive attitudes toward disabilities scored significantly higher on psychological well-being (Mean=67.73; SD=12.93) than participants who reported a negative attitudes toward disabilities (Mean=42.91; SD=16.33). The stated alternative hypothesis is therefore confirmed and accepted.

Hypothesis Three: Previous interaction and attitudes toward disabilities would have a significant joint and independent influence on the psychological well-being of persons with disabilities in Ibadan, Oyo State. This hypothesis was tested using multiple regression analysis and the results are presented in Table 4.3.

Table 4.3: Multiple Regression Analysis Showing the Joint and Independent Influence of Previous Interaction with People with Disabilities and Attitude towards Disabilities on Psychological Well-being among Persons with Disabilities in Ibadan

Appearance Pressures	B	T	P	R	R ²	F	P
Previous Interaction with People with Disabilities	.24	2.91	<.01	.76	.58	80.86	<.001
Attitude towards Disabilities	.57	6.88	<.001				

The results in Table 4.3 show that there is a significant joint influence of previous interaction with people with disabilities and attitude towards disabilities on psychological well-being among persons with disabilities in Ibadan ($R=0.76$; $R^2=0.58$; $F_{(2,116)}=80.86$; $p<.001$). Further, the results indicate that previous interaction with people with disabilities and attitude towards disabilities account for 58 percent of the variance in psychological well-being. In terms of independent influence, both factors significantly influenced psychological well-being among persons with disabilities in Ibadan. From the results, it is shown that previous interaction with people with disabilities has a significant independent influence on psychological well-being ($\beta=0.24$; $t=2.91$; $p<.01$). This indicates that higher levels of previous interaction with people with disabilities influences higher amounts of psychological well-being. Similarly, attitude towards disabilities has a significant independent influence on psychological well-being ($\beta=0.57$; $t=6.88$; $p<.001$). This shows that having more positive attitude towards disabilities influences higher amounts of psychological well-being. The stated alternate hypothesis is therefore confirmed and accepted.

Hypothesis Four: Demographic variables (gender, age, type of disability, ethnicity, marital status, and academic qualification) will have a significant independent and joint influence on the psychological well-being of persons living with disabilities. This hypothesis was tested using multiple regression analysis and the results are presented in Table 4.4:

Table 4.4: Multiple Regression Analysis Showing the Joint and Independent Influence of Gender, Age, Type of Disability, Ethnicity, Marital Status, and Academic Qualification on Psychological Well-being among Persons with Disabilities in Ibadan

Appearance Pressures	B	T	P	R	R ²	F	P
Gender	.02	.13	>.05				
Age	.03	.22	>.05				
Type of Disability	.28	2.48	<.05				
Ethnicity	.07	.62	>.05	.36	.13	1.81	>.05
Marital Status	-.12	-.86	>.05				
Highest Educational Qualification	.16	1.34	>.05				

The results in Table 4.4 show there is no significant joint influence of gender, age, type of disability, ethnicity, marital status, and academic qualification on psychological well-being of persons living with disabilities ($R=0.36$; $R^2=0.13$; $F_{(6,72)}=1.81$; $p>.05$). Further, there was no significant independent influence of gender ($\beta=0.02$; $t=0.13$; $p>0.05$), age ($\beta=0.03$; $t=0.22$; $p>0.05$), ethnicity ($\beta=0.07$; $t=0.62$; $p>.05$), marital status ($\beta=-0.12$; $t=-0.86$; $p>0.05$), and academic qualification ($\beta=0.16$; $t=1.34$; $p>0.05$) on psychological well-being of persons living with disabilities. However, type of disability has a significant independent influence on psychological well-being of persons living with disabilities ($\beta=0.28$; $t=2.48$; $p<.05$). The stated alternate hypothesis is therefore partially accepted.

Conclusion

The findings of this study lead to several important conclusions regarding the roles of previous interaction and attitudes toward persons with disabilities in shaping the psychological well-being of individuals living with disabilities in Ibadan, Oyo State. Out of the four hypotheses tested, three were fully supported, while one was only partially supported by the data.

The study revealed that individuals with a high level of previous interaction with persons with disabilities exhibited significantly higher psychological well-being than those with low levels of interaction. This finding underscores the importance of social integration and interpersonal relationships in enhancing psychological well-being. It suggests that meaningful interactions can foster a sense of belonging, reduce stigma, and create supportive environments that contribute positively to mental health outcomes among persons with disabilities.

The results showed that individuals with positive attitudes toward disabilities reported significantly higher psychological well-being compared to those with negative attitudes. This finding highlights the powerful role of societal perceptions and personal beliefs in shaping psychological health. It suggests that fostering positive attitudes toward disabilities—both at the individual and societal levels—can create an environment that supports the well-being of persons with disabilities and reduces the psychological distress often associated with discrimination and marginalization.

The study found that previous interaction with persons with disabilities and attitudes toward disabilities jointly influenced psychological well-being. Additionally, both factors had independent effects on well-being, with attitudes toward disabilities emerging as the stronger predictor. This emphasizes the complex interplay between personal experiences and societal attitudes in determining psychological well-being. The findings suggest that interventions aimed at improving well-being among persons with disabilities should focus not only on increasing social interaction but also on fostering positive attitudinal change.

The study discovered that demographic factors such as gender, age, ethnicity, marital status, and academic qualification did not jointly or independently influence psychological well-being among persons with disabilities, with the exception of the type of disability, which had a significant independent effect. This suggests that while social and attitudinal factors play a crucial role in determining well-being, broader demographic characteristics may not be as influential within this particular population and context.

The findings of this study strongly emphasize the need for fostering inclusive interactions and promoting positive attitudes toward disabilities to enhance psychological well-being among persons with disabilities.

Recommendations

Since the study revealed that previous interaction with persons with disabilities significantly improves their psychological well-being, it is essential to promote social inclusion initiatives. Government agencies, educational institutions, and non-governmental organizations (NGOs) should develop and implement community engagement programs aimed at increasing meaningful interactions between persons with disabilities and the broader society. These initiatives could include social integration programs, peer mentorship schemes, disability awareness campaigns, and inclusive workplace policies. Schools and workplaces should also incorporate disability sensitivity training to encourage open-minded and empathetic interactions with persons with disabilities.

The study demonstrated that individuals with positive attitudes toward disabilities exhibit higher psychological well-being. To address the issue of negative perceptions and stereotypes, it is crucial to introduce public awareness campaigns aimed at changing societal attitudes. Government and media organizations should work together to create content that normalizes disabilities, highlights the achievements of persons with disabilities, and combats stigmatization. Additionally, inclusive education should be encouraged at all levels to help children develop positive attitudes toward disabilities from a young age. Training programs for healthcare professionals, educators, and employers should also emphasize the importance of fostering positive attitudes in order to create an inclusive and supportive society.

Given the joint and independent influence of previous interaction and attitudes toward disabilities on psychological well-being, it is important to recognize the role of social environments in shaping mental health outcomes. Workplaces, educational institutions, and communities should foster inclusive cultures by implementing policies that promote accessibility, equal opportunities, and social support systems for persons with disabilities. Employers should provide disability-friendly workspaces, flexible work arrangements, and mentorship programs that encourage professional growth and psychological well-being. Additionally, social networks, peer support groups, and counseling services should be established to provide emotional and psychological support for persons with disabilities.

Regular assessments and feedback mechanisms should also be put in place to evaluate the impact of these interventions. Conducting surveys, focus groups, and community discussions can help organizations understand the specific challenges faced by persons with disabilities and refine their support strategies accordingly.

Since demographic factors such as gender, age, ethnicity, marital status, and academic qualification did not significantly influence psychological well-being—except for the type of disability—future research should explore other potential predictors of well-being among persons with disabilities. Psychological traits such as self-efficacy, resilience, emotional intelligence, and social support systems should be examined to gain a more comprehensive understanding of well-being determinants. Additionally, longitudinal studies should be conducted to assess how social interactions and attitudinal changes influence psychological well-being over time.

Furthermore, future research should explore the impact of different types of disabilities on psychological well-being, as this was the only demographic factor found to have a significant influence. Understanding the unique challenges faced by individuals with various disabilities can inform the development of tailored interventions and support systems that address specific needs.

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Drug Use, Peer Pressure and Gender Differences in Risky Sexual Behaviour among In-School Adolescents in Lagos, Nigeria

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Abstract

More than half of the world population is made up of young people less than 25 years old, and majority of this population live in developing country. Young people are at high risk of practicing high risk sexual behaviors. However, the role of Drug abuse and peer pressure has not been fully investigated among secondary school students. This study helped to fill the gap by investigating the influence of Drug abuse and peer pressure on risky sexual behaviour among secondary school students. Using an ex post facto research design, a total of 211 adolescents, who were students in selected secondary schools in Badagry, Lagos state were purposively selected and participated in this study. Their mean age was $x = 15.27 \pm 1.73$. Participants completed standardized measures of drug abuse, peer pressure and risky sexual behaviour. Findings showed that both drug abuse ($\beta = .24, t = 4.25, p < .01$) and peer pressure ($\beta = .54, t = 9.58, p < .01$) were significant independent predictors of risky sexual behaviour among the participants. Further, male students scored significantly higher on the measure of risky sexual behaviour ($t(209) = 2.26, p < .05$) in comparison to their female counterpart. It was concluded that gender differences exist in risky sexual behaviour and that drug use alongside the peers adolescents keep were important contributors to this outcome. It was recommended that campaign must be intensified on the dangers of drug abuse and the long term effect of risky sexual behaviours.

Keywords: Drug use, risky sexual behaviour, gender, peer pressure

Introduction

Risky Sexual Behavior (RSB) means different things to different people. According to Centers for Disease Control and Prevention (2010), RSB is commonly defined as behavior that increases one's risk of contracting sexually transmitted infections and experiencing unintended pregnancies. They include having sex at an early age, having multiple sexual partners, having sex while under the influence of alcohol or drugs, and unprotected sexual behaviors. The youths in Nigeria account for 32.0% of Nigerian's over 200 million people and nearly half (48.6%) of adolescents aged 15-19 are sexually active. About 1 in 5 of sexually active females and 1 in 12 sexually active males had already engaged in sexual intercourse by the age of 15. Findings from National AIDS and Reproductive Health Survey show that the median age of sexual debut among youths is 17 years in females and 21 years in males.

A common feature of young people in Nigeria is their potential vulnerability to Sexually Transmitted Infections (STI) including HIV. Physiologically, the changes in reproductive organs that occur in the life of adolescents often serve as a motivating force in their quest to experiment with sex. Some naturally explore and take risks in many aspects of their lives, including sexual relationships. Those who have sex may change partners frequently and have more than one partner in the same time period or engage in unprotected sex. These risky sexual activities make this group disproportionately affected by reproductive morbidities including STI/HIV, unwanted pregnancies and their complications. In Nigeria, researches have confirmed that risky sexual behavior is associated with young people.

These risky behaviors include: early debut in sexual activities, sex with many partners, low and inconsistent use of condoms, use of drugs and alcohol, anal sexual intercourse and mouth to genital contact. It is of concern that many of these young people do not perceive their high-risk status in spite of indulging in these unsafe sexual practices. It is therefore no surprise that the Joint United Nations Programme on AIDS (UNAIDS) reported that the rate of newly acquired HIV infections are the highest in the 15-25 years age-group and that this group accounts for about 60.0% of the global total of HIV infected persons. Similarly, the highest sero-prevalence rate of HIV in Nigeria is in this age-group.

More than half of the world population constitutes of young people's less than 25 years old, and majority of these populations live in developing country. Young peoples are at high risk of practicing high risk sexual behaviors, because of the risk taking behavior during this age group. In developing countries, the rate of risky sexual behaviors including unprotected sexual intercourse and early sexual initiation is increasing. Studies have showed that more than 50% of new sexually transmitted diseases (STDs) every year are due to young peoples aged 5 to 24. Young peoples are engaged in high risk behaviors like smoking cigarettes, drinking

alcohol, use of drugs, and gender based violence. These behaviors in turn lead them to engage in sexual risk behaviors.

In Ethiopia and many other developing countries, the epidemic of HIV is high among young peoples which is mainly due to the risky sexual behavior. The United Nation's Program on HIV/AIDS (UNAIDS) report on the Global AIDS Epidemic showed that sub-Saharan Africa accounts for 60% of all peoples living with HIV/AIDS. Risk sexual behavior is a behavior related to sexuality which increases the susceptibility of an individual to problems related to sexuality and reproductive health like sexually transmitted disease (STIs), human immune deficiency virus (HIV), unwanted and unplanned pregnancy, abortion, and psychological distress. Risk behavior includes having more than one sexual partner, early sexual initiation, inconsistent use of condom, and having sex with commercial sex workers.

Additionally, the use of substances during sex may engage young peoples in risky sexual behaviors since it affects their judgment. Alcohol use is cited by several studies as it is one of the common factors which increases the risk of HIV acquisition. Such risky sexual behaviors increase the risk of youths to acquire HIV. Addressing the issue of sexual and nonsexual risk behaviors among young peoples is important in reducing the risk of HIV and other STI diseases.

Alcohol and drug use have lifelong consequences in adolescents (Berk, 2001). They influence not only the physical health of adolescents, but also their taught patterns and subsequently their behaviours. Alcohol which is also a drug is a depressant that clouds judgement and decreases social inhibition (Gabhainn and Francois, 2000). Adolescents are naturally less in control of their emotions and alcohol use may worsen the situation by reducing their ability to make rational decisions. Hence alcohol and other drugs of abuse such as Indian hemp increase adolescents' risk-taking behaviours especially with regard to their sexuality (Strunin and Hingson, 1992; Unachukwu and Nwankwo, 2003). Sexuality has been conceived by Insel and Roth (Insel and Roth, 2004) as a dimension of personality that is shaped by biological, psychological and cultural forces which concerns all aspects of sexual behaviour. Samuel (Samuel, 2010) went on to elaborate that human sexuality involves behaviour and processes, including the physiological, social, cultural, political and spiritual or religious aspects of sex and human sexual behaviour. In this study, sexual behaviour is seen as synonymous with sexuality and adolescent sexual behaviours are seen as all those behaviours which adolescents engage in which are fallouts of their sexual development and desires.

Adolescents are typically experimenters. They experiment with lots of human behaviours including drug use and sex. Several factors are capable of influencing alcohol and drug use among adolescents. Availability of alcohol is a factor that enhances its use and abuse (Amonini and Donovan, 2006) even among adolescents. Alcohol has been observed to be the most important problem drug for most secondary school students (Hahn and Payne, 1997). The use of alcoholic beverages is very common in most social occasions and gatherings. Kloeppel et al. (Kloeppel et al., 2001) observed that alcohol is readily available to adolescents by direct purchase and by pub—going which seems to peak in the late teens. Alcohol, tobacco (including cigarettes and cigars) and Indian hemp have been shown to be the most commonly abused drugs in most societies (Berk, 2001; Makenjuola et al., 2007). Other substances such as glue, thinner, petroleum products among others have been abused by young people (Anochie and Nkanginieme, 2000). Alcohol and these substances are capable of changing individuals' perception influencing their behaviour.

Rayne (Rayne, 2009) noted that such behaviours as having drunken sex might be easier, but it is more likely to result in sexually transmitted infections and unwanted pregnancies. Rayne (Rayne, 2009) reasoned that this is so because when someone is drunk enough to override his or her personal issues, he or she will be far less likely to be able to use contraception correctly. This is even truer with adolescents. Hence Ilo (Ilo, 2004) found out that there is high unsafe sexual activities among a greater percentage of teenagers. This could be associated with the increase in the number of young people who abuse drugs (Bamaiyi, 1998; United Nations Office on Drug Abuse and Crime—UNDOC, 2007). Regrettably alcohol and drug use have lifelong consequences in adolescents; some of which arise from such anti-social behaviours often associated with alcohol and drug as sexual promiscuity and rape. Furthermore, Rayne (Rayne, 2009) observed that the incidence of date rape is highest when the victim is drinking or is on drug. There is, therefore, serious need to embark on intervention strategies to prevent alcohol and drug abuse among adolescents as this has several benefits including prevention of sexual promiscuity with its attendant problems. This is even more relevant regarding the persistent increase in HIV/AIDS among youths.

Empelem et al. (Empelem et al., 2001) noted that AIDS prevention campaigns have focused mainly on sexual behaviours and commitment to safer sex. Vlahor and Junge (Vlahor and Junge, 1998) however pointed out that although these interventions have proved to be effective in reducing needle sharing, they have failed to reduce risk-taking behaviours. Booth and Watter (Booth and Watter, 1994) corroborated the above statement by noting that drug users continue to practice unsafe sex to a great extent even when they know of the risks of such behaviours. Alcohol and drug use clouds the judgement of the user and hence the user goes on to take risk even when he or she is aware of the dangers of such risks.

Studies show that the influence of peer groups among student can boost their anxiety especially pertaining to their education (Kadir, Atmowasdoyo & Salija 2018). The relationship within the group with its peers are co-related with each other, hence the direction of this particular relationship should be monitored were these relationships should go considering all possible factors correlated within the groups outcome (Wilson, 2016). Peer pressure faced by many teenagers of the society, professionals understood the concept of peer influence that could affect teenagers in a negative way which can be prevented by educating and preparing teenagers to face the negative aspects caused by peer pressure (Temitope & Og0nsakin, 2015). Similarly, peer influence among teenagers does not directly affect them in a negative way but it varies in how much and how the students receive the climate of the peers coming from the group (Mosha, 2017).

When a student is influenced and motivated by peers he will perform excellent at school and got good grades in mathematics (Boechnke, 2018). Getting the support needed coming from the peer group, student tend to excel and exceed its capability and concentrate more pertaining to his studies and do good in the academic tasks in school (Olalekan, 2016). Adolescence gaining social support from its peers is an important factor to cope with different problems and illnesses by letting go of emotions by talking someone. Social support plays an important role for teenagers to lessen the effects of stressful situations and stressors through the support of the peers in the group (Esen & Gundogdu 2010). Despite the various studies conducted for understanding the effects of peer group in student's academic performance, no one has yet understood the nature of peer effects among students (Zhang, 2010).

Knowing how the teenagers interact with their peers and how they interact with each other and how presence of peer group affect student's academic achievement in school plays an important role for various categories and even the whole educational system (Leka, 2015). Peer pressure is commonly described as peers encouraging other teenagers to do things (Santor, Messervey & Kusumakar, 2000). Peer pressure is also caused by parent's lack of supervision towards their children during adolescence, children tend to enjoy their peers company and spend with their peers more during the adolescence period (Puligni, 1993). There are different factors that could affects student's academic performance in school whether it's their family is giving proper guidance and motivation to their children with the healthy and harmonies interaction with their surroundings (Ezzarrooki, 2016).

Students interactions with its peers could help enhance their capability and increase their academic performance in school because they could seek help from their peers that could serve as a motivation than working alone (Sotinis, Mirco & Michael, 2013). Student peer group in school plays as an in socializing teenager with the peers to socialize with each other that help should the child adolescents (Uzezi & Deya, 2017). Interaction of students between its peer are likely to influence the students and can be crucial for the student to determine their choice and could affect student performance (De Giorgi ,n.d.). Understanding peer influence towards teenagers is important for developing and understanding how to improve socioeconomic policies (Carman & Zhang, 2011). Peer among youth plays a vital role during the adolescence of a teenager. This is the time when teenagers develop deep friendship among their peers and become permanent during their adolescence (Guzman, 2017).

Methods

Design

This research used a cross-sectional survey, expost facto design. The study aimed to examine the influence of peer pressure and drug use on risky sexual behavior among teenagers in Badagry. The variables considered were peer pressure, drug use, demographic characteristics (age, gender, class) and risky sexual behavior.

Setting

The study was carried out in Badagry Grammar School, Badagry, Lagos State. The school was founded on February 5, 1955 as Badagry divisional grammar school by Egun Awori District Council with a model of 30 students. It was purely a boys school. The school later became mixed in 1962 with admission of 24 girls in class one. The school name was later change to Badagry grammar school with over 1000 students across the junior and senior arms.

Participants

Participants were students in secondary school from Junior class 3 and Senior class 1-3. Demographic description of their characteristic is summarized in the results section of the current study.

Sampling Technique

The sampling technique used in this research were both purposive and convenient sampling techniques were used.

Instrument

The instrument used for this study was a self-report questionnaire. The questionnaire was in four sections. Section A (Demographic Characteristics), Section B (Peer Pressure), Section C was SRS and it's used to assess sexual risk taking behavior (Risky Sexual Behavior), Section D was DAST (Drug Use).

Procedure

With appropriate permission and clearance from the school authority obtained, the researcher met with participants in classrooms and within the school premises. Researcher collected data from respondents using the sampling technique after obtaining their informed consents.

Analysis of Data

To analyze the collected data, the researcher utilized the descriptive statistics of simple frequency and percentage to describe the respondent's characteristics. The SPSS analytical tool was used to analyze the hypotheses. Pearson Product Moment Correlation (PPMC) was used to test hypothesis one, t-test for Independent Samples was used to test hypothesis two, while multiple regression analysis was used to test hypothesis three.

Results

A detailed demographic characteristics of the participants is summarized in table 1.

Table 1: Descriptive Analysis

Variables	N	%	Mean	S.D
Gender				
Male	102	48.3	9.50	8.57
Female	109	51.7	6.99	7.58
Total	211	100	8.20	8.15
ge			15.27	1.73
Class				
JSS 3	41	19.4	5.17	4.52
SSS 1	60	28.4	8.05	7.56
SSS 2	65	30.8	6.78	6.08
SSS 3	45	21.3	13.22	11.43
Total	211	100	8.20	8.15

The first hypothesis stated that there will be a significant relationship among peer pressure, drug use and sexual risky behaviour. The hypothesis was tested using pearson product moment correlation and the result is presented in table 2.

Table 2: Summary of Pearson product moment correlation showing the relationship among peer pressure, drug use and Risky Sexual behaviour of respondent

Variables	1	2	3	X	S.D
Peer pressure	--			22.51	6.22
Drug use	.419**	--		3.33	1.60
Risky Sexual behavior	.646**	.467**	--	8.20	8.15

***.* Correlation is significant at 0.01 (2-tailed)

The result from table 2 shows that there is a significant positive correlation between peer pressure ($r = .65$, $p < .01$) and risky sexual behaviour. This implies the more the peer pressure on the respondent, the higher the engagement in risky sexual behavior and vice versa. A significant positive relationship also exist between drug use and risky sexual behavior ($r = .48$, $p < .01$). This indicates that the more participants engage in drug use the more they engage in risky sexual behavior. In addition, peer pressure correlated positively with drug use and risky sexual behaviour ($r = .42$, $p < .01$). Therefore, the stated hypothesis was supported and confirmed.

The second hypothesis which states that males will score significantly higher on the measure of risky sexual behavior than their female counterparts was tested using t-test for independent measures and the result is presented in table 3.

Table 3: Summary of t-test of independence showing gender difference on Risky sexual behaviour of life of respondents

Variable	Gender	N	Mean	S.D	t	df	F	p
Risky behaviour Sexual	Male	102	9.50	8.57				
						2.257	209	.922 <.05
	Female	109	6.99	7.58				

Results from table 2 revealed that there was a significant difference between males and females on the measures of risky sexual behaviour ($t(209) = 2.26$, $p < .05$). In addition, the mean score of Male participants (Mean=9.50, SD=8.57) was higher than the mean score of Female participants (Mean=6.99, SD= 7.58) on risky sexual behaviour of respondents. Therefore, hypothesis two was accepted.

Hypothesis three stated that peer pressure and drug use will independently and jointly influence risky sexual behaviour of respondent. The hypothesis was tested using multiple regression and the result is presented in table 4.

Table 4: Summary of multiple regression showing the independent and joint influence of peer pressure and drug use on risky sexual behavior of respondent

Predictor	β	T	p	R	R ²	ΔR^2	F	p
Peer pressure	.541	9.575	<.01					
				.678	.460	.455	87.29	<.01
Drug use	.240	4.252	<.01					

The above result shown that peer pressure ($\beta = .54$, $t = 9.58$, $p < .01$) independently predict sexual attitude, while, drug use ($\beta = .24$, $t = 4.25$, $p < .01$) independently predict risky sexual behaviour. In addition, peer pressure and drug use jointly influence risky sexual behavior ($F(2,205) = 87.299$, $R = .68$, $R^2 = .46$, $p < .01$). This suggest that the multiple regression coefficients of the two model (Peer pressure and Drug use) shown the relationship strength 68% on risky sexual behaviour, also, these variables jointly accounted for 46% variance

on risky sexual behaviour while the remaining 54% variances are attributed to other alienated factors which are not considered in this study. Hence, the result support the stated hypothesis and was therefore accepted.

Discussion

Alcohol and drug use have lifelong consequences in adolescents (Berk, 2001). They influence not only the physical health of adolescents, but also their taught patterns and subsequently their behaviours. Alcohol which is also a drug is a depressant that clouds judgement and decreases social inhibition (Gabhainn and Francois, 2000). Adolescents are naturally less in control of their emotions and alcohol use may worsen the situation by reducing their ability to make rational decisions. Hence alcohol and other drugs of abuse such as Indian hemp increase adolescents' risk-taking behaviours especially with regard to their sexuality (Strunin and Hingson, 1992; Unachukwu and Nwankwo, 2003). Sexuality has been conceived by Insel and Roth (Insel and Roth, 2004) as a dimension of personality that is shaped by biological, psychological and cultural forces which concerns all aspects of sexual behaviour. Samuel (Samuel, 2010) went on to elaborate that human sexuality involves behaviour and processes, including the physiological, social, cultural, political and spiritual or religious aspects of sex and human sexual behaviour.

In this study, sexual behaviour is seen as synonymous with sexuality and adolescent sexual behaviours are seen as all those behaviours which adolescents engage in which are fallouts of their sexual development and desires. Adolescents are typically experimenters. They experiment with lots of human behaviours including drug use and sex. Several factors are capable of influencing alcohol and drug use among adolescents. Availability of alcohol is a factor that enhances its use and abuse (Amonini and Donovan, 2006) even among adolescents. Alcohol has been observed to be the most important problem drug for most secondary school students (Hahn and Payne, 1997). The use of alcoholic beverages is very common in most social occasions and gatherings. Kloep et al. (Kloep et al., 2001) observed that alcohol is readily available to adolescents by direct purchase and by pub—going which seems to peak in the late teens. Rayne (Rayne, 2009) noted that such behaviours as having drunken sex might be easier, but it is more likely to result in sexually transmitted infections and unwanted pregnancies. Rayne (Rayne, 2009) reasoned that this is so because when someone is drunk enough to override his or her personal issues, he or she will be far less likely to be able to use contraception correctly. This is even truer with adolescents. Hence Ilo (Ilo, 2004) found out that there is high unsafe sexual activities among a greater percentage of teenagers. This could be associated with the increase in the number of young people who abuse drugs (Bamaiyi, 1998; United Nations Office on Drug Abuse and Crime—UNDOC, 2007). Regrettably alcohol and drug use have lifelong consequences in adolescents; some of which arise from such anti-social behaviours often associated with alcohol and drug as sexual promiscuity and rape. Furthermore, Rayne (Rayne, 2009) observed that the incidence of date rape is highest when the victim is drinking or is on drug. Peer pressure could easily affect the self-esteem of students that an important factor adolescence. Individual adapt attitudes towards a certain aspect that they encountered or they are aware of (Uslu, 2013). In many events student fantasizing and visualizing what they dreamed to become through with their colleagues atmosphere. Eventually, they pursue their choices through with the influence of peer pressure (Owoyele & Toyobo, 2008). The pressure among peer group among its member may engage to do undesired things or negative behavior with the presence of a particular peer group leader who engage its member to do deviant acts or promote undesirable things to the group (Dumas, Ellis, & Wolfe, 2012).

Conclusion

There is no doubt that peer pressure and drug use influence risky sexual behavior among teenagers. This research studies the influence of peer pressure and drug use on risky sexual behavior among teenagers in Badagry, Lagos State. Result from this study shows that there is a significant positive correlation between peer pressure and risky sexual behaviour, male participants had higher mean score than Female participants on Sexual risky behaviour of respondents among teenagers in Badagry, Lagos State, peer pressure and drug use jointly influence sexual risky behavior.

Although sexually active adolescents seem to use contraceptives more consistently today than did adolescents growing up before the 1990s (Zimmer-Gembeck, in press), some reports note that only a small proportion of sexually active adolescents (i.e. 10-25%) use condoms consistently, and that younger teens are less likely to use condoms consistently than those in the middle teen years (Goodson et al., 1997).

Certain demographic variables have been documented to influence adolescents' sexual behaviors. Specifically, gender differences have been found for number of sexual partners (CDC, 2009) and sexual risk taking tendencies (Robinson, Holmbeck, & Paikoff, 2007) with males showing the riskier pattern in each case. Furthermore, older adolescents are more likely than younger adolescents to have had intercourse (Kincaid, Jones, Cuellar, & Gonzalez, 2011) and the frequency and prevalence of sexual intercourse increases with age throughout adolescence (CDC; Fergus, Zimmerman, & Caldwell, 2007).

Race/ethnic differences also have been noted in that African American youth are more likely than their European American peers to initiate sex before age 13, to have sex by the age of 18, to have more sexual partners, and to be currently sexually active (CDC). In addition, African Americans have more diagnosed sexually transmitted diseases than European Americans do (Centers for Disease Control and Prevention, [CDC] 2011), and higher rates of pregnancy, abortions, and births (Kost, Henshaw, & Carlin, 2010). Finally, past literature indicates that adolescents in homes with two biological parents are less likely to engage in risky sexual behavior than are adolescents in other family structures (Pearson, Mueller, & Frisco, 2006).

Recommendations

As noted on the findings of the study, it is important to create awareness of the consequences of negative peer pressure and drug use as it influences and increases risky sexual behavior among teenagers. Careless and nonchalant adolescents especially the males need to be well seen to and assisted by responsible adults, counseling psychologists, social workers, parents and teachers who are genuinely committed to their welfare.

Counseling services are needed in high schools and because adolescents constitute the higher majority and their attitude towards sex is dangerous, STIs are also spreading fast. Social medias, internet and peers are areas where adolescents get most of their sexuality education, and these means often give them misinformation. There is need for well structured formal and informal learning with programmes administered by trusted counselling bodies as well as responsible adults.

Finally, adolescents who have engaged in risky sexual behaviors should be advised to stay clear of things that influences them into it.

Limitations

This study was limited to Badagry Grammar School students in classes JSS 3 - SSS 3 in Badagry, Lagos State, because of inability and inconvienency to get all adolescent in the whole of Badagry. This study used a cross sectional survey design. This utilized a structured questionnaire to get information from the population of interests. It was used as the only survey method without considering other sub-types of survey method. Also, a probability sampling technique (Balloting) was used. Lastly, the researcher sampled two hundred and ten participants (210).

Suggestion for Further Studies

Based on the limitations of the study stated above, any investigator who wants to make further research on this study should endeavor to get more participants from different area in Badagry, Lagos State. This would enable there to be comparison among adolescents from different parts of Badagry, and not Badagry Grammar School students alone. On the variables of the issues relating to risky sexual behavior among teenagers in Badagry. The pattern of findings showed in this work can be used in other settings. To add value to our findings, the study can use objective data.

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Do Beliefs Drive Stigma? Investigating Healthcare Professionals' Attitudes towards Mental Illness

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Abstract

Stigma produces significant adverse effects for individuals with mental illnesses, serving as a barrier to seeking and receiving quality treatment. Healthcare professionals (HPs) in general hospitals often represent a first point of contact for individuals experiencing mental health issues. These professionals play crucial roles in fostering early identification and timely intervention, ensuring better outcomes for patients. As key links between individuals experiencing mental illness and access to quality care, stigmatizing attitudes among HPs can critically harm patients' well-being. This study aimed to identify the common beliefs among HPs influencing their attitudes toward mental illness, focusing on authoritativeness, benevolence, social restrictiveness, and community mental health ideology (CMHI). A cross-sectional survey design was employed, with data collected from 289 HPs attending a conference. The questionnaire included items on beliefs about mental illness and the Community Attitudes toward Mental Illness (CAMI) scale. Results showed that perception of danger and acceptance of friends or co-workers with mental illness significantly influenced authoritativeness. Benevolence was influenced by beliefs on the prevalence of mental illnesses, perception of sex-prevalence, and perceived danger. Social restrictiveness was influenced by perceptions of sex-prevalence, perceived danger, and acceptance of individuals with mental illnesses. CMHI was influenced by perceptions of sex-prevalence, danger and acceptance of individuals with mental illnesses. The study recommends targeted educational interventions, such as role-playing and contact-based training, to address stereotypes. Promoting empathy through outreach and gender-sensitive training, alongside integrative, person-centered care models, is essential. Further research is needed to evaluate long-term attitudinal changes and cultural influences on beliefs.

Keywords: Attitudes towards mental illness, stigma, belief, healthcare professionals

INTRODUCTION

Background Of The Study

Despite the universality of mental illness, it continues to pose a significant challenge to healthcare systems in two key ways: prevalence (Castaldelli-Maia & Bhugra, 2022) and stigma (Faleti & Akintola, 2024; Gangi, 2021). Stigma is regarded as a collection of negative attitudes, prejudice and discrimination towards individuals or groups based on certain attributes they possess (Perugino et al., 2022). With specific reference to mental illnesses, stigma is regarded as negative attitudes, prejudices and discriminative actions towards individuals with mental health issues (Chen, 2024). Stigma surrounding mental illness is a pervasive issue, with increased adverse outcomes added to the diagnosis itself, including exacerbation of symptoms (Gangi, 2021), decline in quality of life and self-esteem (Kasturkar et al., 2021), and loss of identity and isolation (Sawaf, 2022). Healthcare professionals are typically trusted and respected in the community (Greenberg & Schneider, 2024), with their opinions and beliefs often being regarded in high esteem (Green et al., 2023). When their beliefs about mental illness possess elements or traces of stigma, it could become more difficult for society to dismiss those misconceptions and faulty perceptions.

Such stigma may be expressed among healthcare practitioners in various mechanisms, including discrimination of patients with mental illness and delayed medical attention (Abdulla et al., 2022). The stigma surrounding mental illness is not only a mental health issues, but also one of the most limiting factors in the way of obtaining effective treatment (Gangi, 2021; Kasturkar et al., 2021). Attitudes to mental illness can be adequately captured by four domains, including authoritativeness, which depicts the belief that mental illnesses make people inferior and require control; benevolence, which represents the belief that individuals with mental health issues should be shown empathy, support and care; social restrictiveness, which represents the idea that people with mental illnesses are dangerous and deserve to be restricted from societal activities; and community mental health ideology, which represents the belief that individuals with mental illnesses should be integrated into community (Taylor & Dear, 1987; Kafami et al., 2023). Recent research indicates

that beliefs which predict healthcare professionals' attitudes towards mental illnesses usually have a cultural undertone (Ocho et al., 2023), indicating that those beliefs are culture-specific factors.

Research Gap

Stigma related to mental health remains a significant threat to effective treatment, while self-stigma and interpersonal stigma has been given critical attention in extant studies (Subu et al. 2021; Burwell and Bias, 2024) institutional stigma which manifest in form of discriminatory, exclusionary policies, laws and organizational culture has received little attention. In lieu of this gap, Koutra, Mavroeides and Triliva (2022) underscored the significance of investigating the stereotypical beliefs held by mental healthcare professionals regarding mental illness outcomes. Building on this premise, the present study extends the scope of inquiry by examining the broader spectrum of mental health beliefs commonly held by healthcare professionals in general hospital, rather than focusing solely on mental healthcare specialists as recommended by Koutra et al. (2022). This decision is supported by the assertion of Fatunbi et al. (2025) given the intricate relationship between physical and mental health, these professionals play a crucial role in recognizing early symptoms of mental illness and facilitating appropriate interventions.

Despite their frontline position in patient care, there remains a significant gap in understanding how the general healthcare workforce conceptualizes mental illness and how these beliefs shape their attitudes toward affected individuals. A more comprehensive exploration of their perspectives is essential, as their beliefs and biases albeit positive or negative can significantly influence diagnostic accuracy, treatment decisions, and patient recovery. By addressing this gap, this study aims to answer the critical research question: *Do healthcare professionals' beliefs about mental illness significantly influence their attitudes toward people with mental health issues?* Understanding this relationship is vital for informing interventions that promote stigma reduction, enhance mental health literacy, and ultimately improve healthcare delivery for individuals with psychiatric conditions.

Rationale of the Study

The global burden of mental illness continues to rise, with mental health conditions now recognized as a major contributor to years lived with disability (World Health Organization [WHO], 2022). Despite growing attention to the need for mental health services, stigma remains a substantial barrier to care particularly when it originates from healthcare professionals themselves. This stigma does not only influence the attitudes of providers, but also the quality, accessibility, and continuity of care available to individuals experiencing mental health challenges (Thornicroft et al., 2016; Henderson et al., 2016). This study seeks to explore how belief systems among healthcare professionals contribute to the perpetuation of stigma. Unlike research that focuses solely on stigma prevalence or knowledge deficits, this investigation examines the specific cognitive frameworks and common culturally held convictions that drive negative attitudes. By identifying the root beliefs underlying stigma, interventions can be better tailored to dismantle them at their core rather than merely addressing surface-level attitudes.

Furthermore, much of the existing literature stems from high-income countries, limiting the applicability of findings to diverse sociocultural contexts. In settings where spiritual and moral interpretations of mental illness are prevalent, such as many African and South Asian countries, stigmatizing beliefs may be more entrenched and resistant to change without a culturally grounded understanding. This study offers a contextualized analysis by focusing on healthcare professionals within such environments, thereby contributing to a more globally representative body of knowledge.

Novelty Of The Study

Stigma towards individuals with mental illness remains a persistent barrier to accessing quality mental health care, especially when such stigma is harbored by healthcare professionals themselves. While numerous studies have examined general attitudes toward mental illness, few have delved into the underlying belief systems that shape these attitudes within healthcare settings. Existing literature often focuses on broad self and public perceptions and stigma (Faleti & Akintola, 2024; Gangi, 2021) or the attitudes of mental health professionals specifically from studies conducted by Subu et al. (2021) and, Burwell and Bias (2024), with limited attention paid to the nuanced ways in which personal, cultural, or institutional beliefs may influence stigma among general healthcare workers.

This study distinguishes itself by probing deeper into the belief structures that may be driving stigmatizing attitudes among healthcare professionals. Unlike earlier works that primarily measured levels of stigma or knowledge gaps, this research explores the cognitive dimensions of belief systems, such as

prevalence, commonness of mental illness, its treatability, perceived dangerousness, legitimacy, and acceptability of co-workers with mental illness. Another novel aspect of this study lies in its unique research setting. While most prior research has been conducted in western countries with high-income, well-resourced and structured mental health systems, this study draws on data from healthcare professionals in Nigeria where cultural, religious, and systemic factors may uniquely shape stigma. This contextual difference provides fresh insights into how stigma manifests in such African setting.

Purposes/Hypothesis Of The Study

This study sought to investigate the extent to which healthcare professionals' common beliefs about mental illness influence their attitudes toward individuals living with mental health conditions. Based on the identified gap and the overarching research question (*Do healthcare professionals' beliefs about mental illness significantly influence their attitudes toward people with mental health issues?*), the study aims to achieve the following specific objectives:

- i. To examine the dominant beliefs held by healthcare professionals about mental illness.
- ii. To examine the extent and dimension to which the common beliefs held by healthcare professionals influenced the dimensions of attitudes (authoritativeness, benevolence, social restrictiveness, and community mental health ideology) towards mental illness.

METHODS

Research Design

This research employed a quantitative methodology, using a cross-sectional survey design. The design enabled the researchers collect necessary data across various age groups (cohorts) at the same time. The use of a cross-sectional design is important for establishing connections and relationships between variables without inferring cause and effect (Spector, 2019).

Sampling Technique And Research Sample

The participants consisted of 289 healthcare professionals (HPs) who were in attendance of the conference. Within the context of this research, healthcare professionals are defined as persons who apply scientific knowledge relating to the care of persons with illnesses (Daryanto et al., 2022). These HPs consisted of nurses, doctors, social workers, clinical psychologists, and medical interns. The participants comprised of 142 males, and 147 females, representing 49% and 51% of the sample respectively. These participants had an age range between 18 and 72 years of age, with a mean age of 37.58 and standard deviation of ± 11.70 . Most of the participants were of Yoruba ethnicity, with the total of 182 participants (63%), followed by other ethnicities with a total of 55 participants (19%), Igbo ethnicity with a total of 42 participants (15%) and Hausa ethnicity with a total of 10 participants (3%). The participants also varied by religion, with 230 participants (79%) indicating Christianity as their religion, 52 participants (18%) reported Islam as their religion, 5 participants (2%) indicated being of other religious groups, and the remaining 2 (1%) participants responded as traditional religion. University Postgraduate degree holders made up more than half the participants, with a total of 156 participants (54%), while those with only first degrees, certificates, and diplomas were 122 in number (42%), and the remaining 11 participants were secondary school certificate holders (first degree students). A total of 163 participants (57%) were legally married, 114 were single (40%), 8 participants were separated or divorced (3%), and 4 participants (1%) were widowed. In terms of nature of occupation, 95 participants reported that they were employed by the government (33%), 79 participants indicated that their source of employment was for a person, private institution or company (27%), self-employed participants were 74 in total (26%), and persons who were unemployed or students were 41 in total (14%).

Instruments Of Measurement

The instruments utilized in this research included self-constructed items for obtaining demographic information among participants, and assessing their common belief on mental health issues, alongside the Community Attitudes of Mental Illness (CAMI) scale. Prior to this instrument, demographic information was obtained from participants concerning: Sex; Age; Ethnicity; Religion; Highest educational qualification;

Marital status; Nature of occupation; Need for professional mental health services; and Access to professional mental health services.

Following this, information concerning beliefs on mental health issues was also sought, across multiple dimensions including beliefs about: Prevalence of mental health issues in the community; Gender-based prevalence; Treatability of mental health issues; Legitimacy of mental health issues; Danger of persons with mental health issues; and Acceptance of friends and co-workers with mental health issues. The response format for these items included categorical responses “Yes, No, Maybe, or “Don’t know” for most items, and “Men, Women, Both, or Don’t know” for one item which assessed the participants’ belief about gender prevalence of mental health issues. The descriptive findings of responses of the 289 participants on the beliefs about mental health issues are as follows in Table 1.

Table 1: Descriptive findings of participants’ common beliefs about mental health issues

<i>Beliefs</i>	Yes %	No %	Don’t Know %	
1. Commonness of mental health issues Do you think that mental health problems are common in your community?	84.1	6.6	9.3	
2. Belief on Sex prevalence <i>In general, mental health issues are more common in;</i>	Men %	Women %	Both %	Don’t Know %
	13.8	17.0	62.3	6.9
3. Treatability of mental health issues <i>Do you believe that mental health problems are treatable?</i>	Yes %	No %	Maybe %	Don’t Know %
	88.6	0.7	10.0	0.7
4. Legitimacy of mental health issues <i>Do you believe that the people with Mental health problems have a legitimate health issue?</i>	65.7	15.6	13.5	5.2
5. Danger of persons with mental health issues <i>Do you consider patients with mental health issues as dangerous?</i>	30.8	39.1	29.1	1.0
6. Acceptance of friends and co-workers with mental health issues <i>Would you accept a friend or a co-worker having a mental health problem?</i>	59.5	13.5	24.9	2.1

The CAMI scale is an instrument constructed by Taylor & Dear (1981) to measure community attitudes and stigma to mental health issues. There are various versions of the CAMI scale, including CAMI-40 (with 40 items) CAMI-10 (with 10 items), and CAMI-BR. However, CAMI-40 was used in this study, in order to capture all necessary aspects of attitudes and stigma to mental health issues, as well as its high reliability compared to other versions.

According to Taylor & Dear (1981), CAMI measures community attitudes and stigma to mental illness through four dimensions, including: authoritativeness (defined as a standpoint which views mentally ill persons as inferior and requiring coercive action against); benevolence (defined as a standpoint characterized by a sympathetic view of people with mental illnesses); social restrictiveness (defined as a perspective which believes that persons with mental illnesses should be avoided because they present a form of threat to the community); and Community Mental Health Ideology (CMHI, defined as the viewpoint which is accepting of people with mental illnesses, and mental health services in the community). The response format was on a five-point Likert scale, with responses ranging from strongly agree (5) to strongly disagree (1). Negatively worded items were reverse scored, with strongly agree having a rating of 1 and strongly disagree having a rating of 5. Internal consistency of this scale has been described to range from 0.59 to 0.80 across its subscales (Sanabria-Mazo et al., 2023). The internal consistency of the CAMI-40 scale in this study was within the range of 0.55 to 0.78 for the subscales.

This study focuses on healthcare professionals, whose attitudes significantly impact the quality of care provided to individuals with mental illnesses. The CAMI scale offers insight into both stigmatizing and

supportive attitudes, making it a robust tool for identifying areas where awareness interventions can be targeted to reduce stigma within healthcare settings.

Data Collection Technique

Data collection technique consisted the usage of an electronic survey (hosted on Google Form) to elicit responses from the participants. The link was shared among Healthcare Professionals who were in attendance of a conference (World Mental Health Day in 2022) hosted by the department of Clinical Psychology at Federal Medical Centre Abeokuta, Nigeria.

Data Analysis Technique

The chosen method for data analysis was the use of descriptive tools including frequencies, percentages, mean and standard deviation. Inferential analysis was done using Multivariate Analysis of Variance (MANOVA). This is because the dependent variable is a multidimensional construct measured on an interval scale of measurement, and the independent variables are categorical responses to items (on a nominal scale of measurement). Post hoc and t-test for independent sample analyses were also conducted where necessary to identify the extent of the difference between categories of participants that significantly differed.

Ethical Approval

After we sought approval to carry out the study from the conference organizers (Department of Psychology, Federal Medical Centre Abeokuta, Nigeria). Consent to participate in the study was sought after duly informing the participants of the intricacies of the study, the participants who agreed to participate thereafter provide consent through the submission of their respective e-mail addresses along responses on the electronic survey.

Results and Discussion

Research Results

Do HPs' beliefs of mental illness significantly influence their attitudes towards people with mental health issues?

This question was answered using MANOVA as a statistical tool of analysis. The results are presented in Table 2.

Table 2: Summary of MANOVA Showing Influence of HPs' Beliefs concerning Mental Health Issues on Attitudes toward People with Mental Health Issues

Attitudes toward Mental Illness	Beliefs concerning Mental Health Issues	Sum of Squares	Mean Square	F	df	Sig
Authoritativeness	Need for mental health service	6.96	3.48	0.22	2	.800
	Access to mental health service providers	0.11	0.05	0.00	2	.997
	Commonness of mental illness	36.33	18.17	1.17	2	.313
	Sex prevalence	74.28	24.76	1.59	3	.192
	Treatability	38.11	12.70	0.82	3	.485
	Legitimacy	98.32	32.72	2.11	3	.100
	Danger	266.37	88.79	5.71	3	.001
	Acceptance of friends/co-workers	402.30	134.10	8.63	3	.000
Benevolence	Need for mental health service	27.21	13.60	0.78	2	.460
	Access to mental health service providers	31.49	15.75	0.90	2	.407
	Commonness of mental illness	151.86	75.93	4.35	2	.014
	Sex prevalence	195.11	65.04	3.73	3	.012
	Treatability	23.92	7.97	0.46	3	.713
	Legitimacy	112.60	37.53	2.15	3	.094
	Danger	272.34	90.78	5.20	3	.002

Social Restrictiveness	Acceptance of friends/co-workers	87.69	29.23	1.67	3	.173
	Need for mental health service	22.49	11.24	0.63	2	.535
	Access to mental health service providers	84.28	42.14	2.35	2	.097
	Commonness of mental illness	41.54	20.77	1.16	2	.316
	Sex prevalence	180.60	60.20	3.36	3	.019
	Treatability	16.18	5.39	0.30	3	.825
	Legitimacy	22.20	7.40	0.41	3	.744
	Danger	453.27	151.09	8.43	3	.000
	Acceptance of friends/co-workers	625.17	208.39	11.63	3	.000
CMHI	Need for mental health service	75.33	37.67	1.85	2	.159
	Access to mental health service providers	15.26	7.63	0.38	2	.688
	Commonness of mental illness	30.64	15.32	0.75	2	.472
	Sex prevalence	258.52	86.17	4.24	3	.006
	Treatability	40.48	13.49	.664	3	.575
	Legitimacy	47.83	15.94	0.78	3	.504
	Danger	584.85	194.95	9.60	3	.000
	Acceptance of friends/co-workers	379.69	126.56	6.23	3	.000

Note: Significant factors are in **bold**.

CMHI = Community Mental Health Ideology

Authoritativeness (defined as a standpoint which views mentally ill persons as inferior and requiring coercive action against)

Belief of Danger and Authoritativeness Attitude

Table 3: Tukey's HSD Multiple Comparison Table Showing Differences in Authoritativeness according to HPs' Belief of Danger of People with Mental Illnesses

DV	Belief of Danger	Mean Difference (I – J)				Mean	SD
		Yes (J1)	No (J2)	Maybe (J3)	Don't know(J4)		
Authoritativeness	1. Yes (J1)	0.00	4.70***	2.40***	0.08	28.75	4.00
	2. No (J2)		0.00	2.30***	4.61	24.05	4.01
	3. Maybe (J3)			0.00	2.32	26.33	5.10
	4. Don't know (J4)				0.00	28.67	2.31

*** = p<.001

Note.

As seen in table 3, HPs with the belief that mentally ill patients are dangerous reported a significantly greater attitude of authoritativeness (Mean=28.75; SD=4.00) than HPs who believe that mentally ill patients are not dangerous (Mean=24.05; SD=4.01), and HPs who feel that mentally ill patients are “maybe” dangerous (Mean=26.33; SD=5.10). Further, HPs who had the belief that mentally ill patients are not dangerous scored significantly lower on authoritativeness attitude (Mean=24.05; SD=4.01) than those who believe mentally ill patients are “maybe” dangerous (Mean=26.33; SD=5.10).

Acceptance of Friends and Co-workers with Mental Illness and Authoritativeness Attitude

Table 4: Tukey's HSD Multiple Comparison Table Showing Differences in Authoritativeness according to HPs' Acceptance of Friends/Co-workers with Mental Illnesses

DV	Acceptance of Friends/Co-workers	Mean Difference (I – J)				Mean	SD
		Yes (J1)	No (J2)	Maybe (J3)	Don't know (J4)		
Authoritativeness	1. Yes (J1)	0.00	5.52***	3.71***	5.07**	24.43	4.29
	2. No (J2)		0.00	1.81	0.45	29.95	3.74
	3. Maybe (J3)			0.00	1.36	28.10	4.39
	4. Don't know (J4)				0.00	29.50	2.43

Notes: ** = $p < .01$; *** = $p < .001$

HPs who reported that they accept their friends and co-workers who have mental illnesses also reported significantly lesser authoritativeness (Mean=24.43; SD=4.29) than HPs who do not show acceptance (Mean=29.95; SD=3.74), and HPs who maybe show acceptance of friends and co-workers with mental illness (Mean=28.10; SD=4.39). The affirmed acceptance of friends and co-workers with mental illness also influenced lower scores on authoritativeness (Mean=24.43; SD=4.29) than HPs who don't know if they will accept friends or co-workers with mental illness (Mean=29.50; SD=2.43).

Benevolence (defined as a standpoint characterized by a sympathetic view of people with mental illnesses).

Belief of Commonness of Mental Illness and Benevolence

Table 5: Tukey's HSD Multiple Comparison Table Showing Differences in Benevolence according to HPs' Belief of the Commonness of Mental Illnesses in the Community

DV	Belief of the commonness of mental illness	Mean Difference (I – J)			Mean	SD
		Yes (J1)	No (J2)	Don't know (J3)		
Benevolence	5. Yes (J1)	0.00	1.20	3.10***	39.74	4.64
	6. No (J2)		0.00	1.90	38.53	3.63
	7. Don't know (J3)			0.00	36.63	3.79

Note: *** = $p < .001$

HPs' belief of the commonness of mental illness significantly influenced their benevolence attitude to people with mental illnesses. HPs reporting a commonness of mental illness in their community scored significantly higher on benevolence attitude (Mean=39.74; SD=4.64) than those who do not know the commonness of mental illnesses (Mean=36.63; SD=3.79).

Belief of Sex Prevalence and Benevolence Attitude

Table 6: Tukey's HSD Multiple Comparison Table Showing Differences in Benevolence according to HPs' Belief of the Sex Prevalence of Mental Illness

DV	Belief of sex Prevalence	Mean Difference (I – J)				Mean	SD
		Men (J1)	Women (J2)	Both (J3)	Don't know (J4)		
Benevolence	• Men (J1)	0.00	1.97	2.41**	0.77	37.58	4.96
	• Women (J2)		0.00	0.45	2.74	39.59	4.12
	• Both (J3)			0.00	3.19**	39.99	4.54
	• Don't Know (J4)				0.00	36.80	3.78

Note: ** = $p < .01$

The HPs belief of sex prevalence also significantly influenced Benevolence of HPs towards people with mental illness. According to Table 11, HPs who think mental illness is more prevalent among men showed less Benevolence (Mean=37.58; SD=4.96) than HPs who think mental illness is equally prevalent in men and women (Mean=39.99; SD=4.54). Further, these HPs who think mental illness is equally prevalent among both sexes show higher benevolence (Mean=39.99; SD=4.54) than those who do not know about the prevalence (Mean=36.80; SD=3.78).

Belief of Danger and Benevolence Attitude

Table 7: Tukey's HSD Multiple Comparison Table Showing Differences in Benevolence according to HPs' Belief of Danger of People with Mental Illnesses

DV	Belief of Danger	Mean Difference (I – J)				Mean	SD
		Yes (J1)	No (J2)	Maybe (J3)	Don't know (J4)		
Benevolence	1. Yes (J1)	0.00	3.38***	1.64	0.45	37.55	4.30
	2. No (J2)		0.00	1.75*	2.93	40.92	4.37
	3. Maybe (J3)			0.00	1.18	39.21	4.52
	4. Don't Know (J4)				0.00	38.00	3.46

Note: * = p<.05; *** = p<.001

HPs with the belief that mentally ill patients are dangerous showed significantly lesser benevolence (Mean=37.55; SD=4.30) than HPs who think that mentally ill patients are not dangerous (Mean=40.92; SD=4.37). HPs who believe that mentally ill patients are not dangerous are more benevolent (Mean=40.92; SD=4.37) than HPs who feel mentally ill patients are maybe dangerous (Mean=39.21; SD=4.52).

Social restrictiveness (defined as a perspective which believes that persons with mental illnesses should be avoided because they present a form of threat to the community

Belief of Sex Prevalence and Social Restrictiveness Attitude

Table 8: Tukey's HSD Multiple Comparison Table Showing Differences in Social Restrictiveness according to HPs' Belief of the Sex Prevalence of Mental Illness

DV	Belief of Sex Prevalence	Mean Difference (I – J)				Mean	SD
		Men (J1)	Women (J2)	Both (J3)	Don't know (J4)		
Social Restrictiveness	i. Men (J1)	0.00	1.75	2.33**	0.77	25.13	5.11
	i. Women (J2)		0.00	0.58	2.52	23.37	4.78
	i. Both (J3)			0.00	3.10*	22.80	5.31
	i. Don't Know (J4)				0.00	25.90	5.34

Notes: * = p<.05; ** = p<.01

HPs with the belief that men have a higher prevalence of mental illness scored significantly higher on social restrictiveness (Mean=25.13; SD=5.11) than HPs who feel that both sexes have equal prevalence of mental illness (Mean=22.80; SD=5.31). HPs who do not know the prevalence of mental illness in sexes scored significantly lower on social restrictiveness (Mean=25.90; SD=5.34) than those who believe that both men and women have equal prevalence of mental illness (Mean=22.80; SD=5.31).

Belief of Danger and Social Restrictiveness Attitude

Table 9: Tukey's HSD Multiple Comparison Table Showing Differences in Social Restrictiveness according to HPs' Belief of Danger of People with Mental Illnesses

DV	Belief of Danger	Mean Difference (I – J)				Mean	SD
		Yes (J1)	No (J2)	Maybe (J3)	Don't know (J4)		
Social Restrictiveness	1. Yes (J1)	0.00	5.42***	1.34	0.97	25.97	4.72
	2. No (J2)		0.00	4.08***	4.45	20.55	4.35
	3. Maybe (J3)			0.00	0.37	24.61	5.23
	4. Don't Know (J4)				0.00	25.00	3.00

Note: *** = $p < .001$

Social restrictiveness was influenced by the belief that people with mental illness are dangerous. HPs who believe that people with mental illness are dangerous have greater amounts of social restrictiveness (Mean=25.97; SD=4.72) than HPs who feel that people with mental illness are not dangerous (Mean=20.55; SD=4.35). HPs with the belief that people with mental illness are not dangerous show less social restrictiveness (Mean=20.55; SD=4.35) than those who feel that people with mental illness are maybe dangerous (Mean=24.61; SD=5.23).

Acceptance of Friends and Co-workers with Mental Illness and Social Restrictiveness Attitude

Table 10: Tukey's HSD Multiple Comparison Table Showing Differences in Social Restrictiveness according to HPs' Acceptance of Friends/Co-workers with Mental Illnesses

DV	Acceptance of Friends/Co-workers	Mean Difference (I – J)				Mean	SD
		Yes (J1)	No (J2)	Maybe (J3)	Don't know (J4)		
Social Restrictiveness	i. Yes (J1)	0.00	6.26***	4.86***	6.08**	21.26	4.60
	i. No (J2)		0.00	1.40	0.18	27.51	4.35
	i. Maybe (J3)			0.00	1.22	26.07	4.70
	i. Don't know (J4)				0.00	27.33	2.94

Notes: ** = $p < .01$; *** = $p < .001$

HPs who reported acceptance of friends/co-workers with mental illnesses exhibited lesser social restrictiveness (Mean=21.26; SD=4.60) than HPs who reported no acceptance of friends/co-workers with mental illnesses (Mean=27.51; SD=4.35), HPs who reported that they maybe accept friends/co-workers with mental illnesses (Mean=26.07; SD=4.70), and HPs who reported that they do not know if they accept friends/co-workers with mental illnesses (Mean=27.33; SD=2.94).

Community mental health integration (CMHI) defined as the viewpoint which is accepting of people with mental illnesses, and mental health services in the community.

Belief of Sex Prevalence and CMHI Attitude

Table 11: Tukey's HSD Multiple Comparison Table Showing Differences in CMHI according to HPs' Belief of the Sex Prevalence of Mental Illness

DV	Belief of Sex Prevalence	Mean Difference (I – J)				Mean	SD
		Men (J1)	Women (J2)	Both (J3)	Don't know (J4)		
CMHI	1. Men (J1)	0.00	2.12	2.92***	0.57	35.03	5.24
	2. Women (J2)		0.00	0.80	2.70	37.10	4.85
	3. Both (J3)			0.00	3.50**	37.95	5.65
	4. Don't Know (J4)				0.00	34.45	4.84

Notes: ** = $p < .01$; *** = $p < .001$; CMHI = Community Mental Health Ideology

HPs who have the belief that men have higher prevalence of mental illness score significantly lower on CMHI (Mean=35.03; SD=5.24) than HPs who believed that both men and women have equal prevalence of mental illness (Mean=37.95; SD=5.65). Similarly, HPs who believe that both men and women have equal prevalence of mental illnesses scored significantly higher on CMHI (Mean=37.95; SD=5.65) than HPs who do not know the sex-based prevalence of mental illness (Mean=34.45; SD=4.84).

Belief of Danger and CMHI Attitude

Table 12: Tukey's HSD Multiple Comparison Table Showing Differences in CMHI according to HPs' Belief of Danger of People with Mental Illnesses

DV	Belief of Danger	Mean Difference (I – J)				Mean	SD
		Yes (J1)	No (J2)	Maybe (J3)	Don't know (J4)		
CMHI	• Yes (J1)	0.00	5.68***	2.29**	2.43	34.24	4.89
	• No (J2)		0.00	3.39***	3.25	39.92	4.87
	• Maybe (J3)			0.00	0.14	36.51	5.35
	• Don't Know (J4)				0.00	36.67	1.53

** = $p < .01$; *** = $p < .001$

CMHI = Community Mental Health Ideology

HPs who believe that mentally ill patients are a source of danger scored significantly lower on CMHI (Mean=34.24; SD=4.89) than HPs who believed they pose no danger (Mean=39.92; SD=4.87), and HPs who believed that mentally ill patients are maybe dangerous (Mean=36.51; SD=5.35). The HPs who believed that people with mental illnesses pose no danger scored significantly higher on CMHI (Mean=39.92; SD=4.87) than HPs who believed that people with mental illnesses are maybe dangerous (Mean=36.51; SD=5.35).

Acceptance of Friends and Co-workers with Mental Illness and CMHI Attitude

Table 13: Tukey's HSD Multiple Comparison Table Showing Differences in Authoritativeness according to HPs' Acceptance of Friends/Co-workers with Mental Illnesses

DV	Acceptance of Friends/Co-workers	Mean Difference (I – J)				Mean	SD
		Yes (J1)	No (J2)	Maybe (J3)	Don't know (J4)		
CMHI	1. Yes (J1)	0.00	5.28***	4.49***	6.46**	39.13	5.10
	2. No (J2)		0.00	0.79	1.18	33.85	4.85
	3. Maybe (J3)			0.00	1.97	34.64	5.00
	4. Don't know (J4)				0.00	32.67	1.75

** = $p < .01$; *** = $p < .001$

CMHI = Community Mental Health Ideology

HPs who reported acceptance of friends/co-workers with mental illnesses also reported significantly higher CMHI (Mean=39.13; SD=5.10) than HPs who do not accept friends/co-workers with mental illnesses (Mean=33.85; SD=4.85), HPs who maybe accept friends/co-workers with mental illnesses (Mean=34.64; SD=5.00), and HPs who do not know if they accept friends/co-workers with mental illnesses (Mean=32.67; SD=1.75).

Discussion

The findings from the study highlight significant relationships between healthcare professionals' (HPs) common beliefs about mental health issues and their attitudes toward individuals with mental illness. Each dimension of attitude; authoritativeness, benevolence, social restrictiveness, and community mental health

ideology (CMHI) is influenced by distinct belief factors, shedding light on the complexity of attitudes in mental health care.

For the dimension of authoritativeness (a subscale of the CAMI scale), the study revealed that HPs' perception of dangerousness of individuals with mental illness and acceptance of friends and co-workers with mental illnesses significantly influenced authoritativeness attitude. Specifically, HPs who believed that individuals with mental illnesses are dangerous demonstrated higher authoritativeness; characterized by greater control or authority in their approach toward individuals with mental health challenges. This aligns with the broader stigma literature, which shows that fear or perceptions of danger often lead to paternalistic attitudes. For example, Knaak et al. (2017) found that fear-based beliefs about mental illness often led to overprotective or controlling behaviours among healthcare providers, reinforcing hierarchical dynamics in care settings. Conversely, HPs who accepted friends or co-workers with mental illnesses exhibited lower authoritativeness. This suggests that personal connections to individuals with mental illnesses may foster empathy and reduce hierarchical or controlling tendencies. The role of personal connections in reducing Authoritativeness is supported by Corrigan et al. (2021), who demonstrated that contact-based interventions (e.g., knowing someone with mental illness) significantly reduce stigmatizing attitudes and promote more egalitarian approaches in healthcare.

Benevolence attitude, which reflect empathy and care, were influenced by HPs' beliefs about the commonness of mental illness, its sex prevalence, and belief about the dangerousness of persons with mental illness. HPs who acknowledged mental illness is common in their community exhibited higher benevolence. This finding supports the notion that normalization of mental illness can foster greater compassion. The finding is supported by Thornicroft et al. (2022), who highlighted that normalization of mental health conditions through education and awareness campaigns fosters empathy and reduces stigma among healthcare professionals. Moreover, HPs who viewed mental illness as equally prevalent across sexes were more benevolent compared to those who perceived it as more prevalent in one sex over the other or were unsure. This suggests that equitable beliefs about mental illness distribution across sexes may mitigate biases and promote compassionate care. The role of equitable beliefs about mental illness prevalence across sexes in promoting compassionate care is echoed in a study by Howard et al. (2017), which found that gender biases in mental health care can lead to disparities in treatment, while equitable beliefs promote more inclusive and empathetic care.

Social restrictiveness, or the degree to which HPs advocate for limiting the integration of individuals with mental illnesses into society, was significantly influenced by beliefs about sex prevalence, dangerousness, and acceptance of friends or co-workers. HPs who perceived individuals with mental illnesses as dangerous were more socially restrictive, indicating that fear-based beliefs may contribute to exclusionary attitudes. This finding is consistent with research by Henderson et al. (2016), which reported that fear-based beliefs about mental illness contribute to exclusionary practices and reluctance to support social integration. However, HPs who accepted friends or co-workers with mental illnesses were less socially restrictive, underscoring the role of personal connections in reducing stigma and fostering social inclusion. The view is supported by Stuart et al. (2021), who demonstrated that contact-based interventions significantly reduce exclusionary attitudes and promote social inclusion.

Lastly, community mental health ideology attitude, which emphasize the integration of individuals with mental illnesses into community settings, was influenced by beliefs about sex prevalence, dangerousness of individuals with mental illness, and acceptance of friends or co-workers. HPs who believed that individuals with mental health issues are dangerous demonstrated less support for community mental health integration, while those who accepted friends or co-workers with mental illnesses exhibited greater support. This mirrors the research by Jakobsson et al. (2023), which found that fear-based beliefs are significant barrier to community integration initiatives. This finding reinforces the importance of fostering positive interpersonal experiences to promote integration-focused attitudes. The role of personal connections in promoting CMHI is supported by Troup et al. (2020), who found that HPs with personal experiences of mental illness (either themselves or through friends/family) are more likely to advocate for community-based care models.

Conclusions and Suggestions

Conclusions

The study demonstrates that certain HPs' beliefs about mental illness significantly shape their attitudes toward individuals with mental health issues. Specifically: Perceptions of danger consistently influence more authoritarian, restrictive, and less integrative attitudes. Personal acceptance of individuals with mental illnesses fosters more empathetic, inclusive, and less authoritarian attitudes. Beliefs about the commonness and equitable distribution of mental illnesses enhance benevolence and reduce stigma-related attitudes.

Suggestions

In lieu of these findings, we recommend stigma-reduction training for healthcare professionals which will focus on addressing negative beliefs and stereotypes particularly those related to the dangerousness of persons with mental illness, and promoting accurate information about mental illness. Role-playing, contact-based training, and awareness campaigns can help reduce stigma. Encouraging HPs to engage with individuals with mental illnesses through community outreach programs or participatory mental health initiatives can foster acceptance and empathy. More so, Workshops should address misconceptions about the sex prevalence of mental illness, promoting equitable beliefs and reducing gender-based biases in mental health care. By implementing these recommendation, healthcare institutions can foster a more inclusive, compassionate, and stigma-free mental health care environment, ultimately improving patient outcomes.

Future Research

These findings should be considered within the context of certain limitations. A key constraint of this study was the recruitment of healthcare professionals from a single setting (participants of 2022 World Mental Health Day Conference) in a general hospital, which may affect the generalizability of the results. However, given the scarcity of local studies examining healthcare professionals' attitudes toward mental illness in this research setting, these findings provide an essential preliminary insight. In this light, this study serves as a wake-up call for future research to conduct more extensive empirical investigations into institutional stigma and healthcare professionals' attitudes toward mental illness across diverse geographical regions. Such studies should consider variations in ethnicity, race, and cultural backgrounds to provide a more nuanced understanding of how these factors influence mental health perceptions within healthcare settings.

Additionally, future research may focus on mental health specialists working in psychiatric settings. While general healthcare professionals are often the first point of contact for individuals with mental illness, mental health specialists may have distinct perspectives due to their specialized training and daily exposure to psychiatric conditions. However, given the disproportionately low number of mental health professionals in psychiatric settings in developing countries like Nigeria, accessing a sufficiently large sample may be challenging. Moreover, it is reasonable to expect that mental health specialists would demonstrate more positive attitudes due to their expertise and frequent interactions with individuals with mental illnesses. Despite these assumptions, investigating their attitudes remains crucial, as empirical and experiential insights into this understudied area can further inform targeted interventions and policy development.

Another notable limitation, consistent with the one noted by Salama et al. (2021), is the potential influence of social desirability bias on healthcare professionals' responses. While response variability in Table 1 suggests a degree of sincerity, this study cannot empirically ascertain whether participants' answers were influenced by the desire to provide socially acceptable responses. Future studies could employ advanced psychometric or experimental techniques to mitigate social desirability bias, particularly if it is expected to significantly alter findings.

Furthermore, this study focused on common biases and beliefs generally upheld by individuals and society regarding mental illness. Although we identified eight key beliefs and biases such as; perceptions of the commonness of mental illness, gender-based prevalence, treatability, legitimacy, dangerousness of individuals with mental illness, and acceptance of persons with mental health conditions as friends or coworkers, these may not comprehensively capture all prevailing common beliefs about mental illness. Cultural, ethnic, religious, and geographical factors may likely influence the range of beliefs held by healthcare professionals. Future research could adopt a qualitative approach to explore culturally embedded structurally driven beliefs and biases, thereby identifying specific intervention points that may be most relevant within different contexts.

Finally, while the community attitudes toward mental illness (CAMI) scale was chosen for its broad assessment of community mental health attitudes and its relevance to structural stigma particularly in institutional settings such as healthcare, it is not the only viable measure. CAMI's high reliability in extant literature and its comprehensive 40-item structure make it a valuable tool. However, future research could explore alternative culturally validated instruments to further enrich the understanding of healthcare professionals' attitudes toward mental illness. Using different psychometric tools may offer additional insights and ensure that findings are contextually and culturally relevant. By addressing these future directions, researchers can contribute to a more robust, culturally sensitive, and policy-driven understanding of mental health stigma within healthcare settings.

Conflict of Interest

The author(s) of this article declare no conflict of interest.

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Authors Contribution Statement

Adeboye Michael Fatunbi: Conceptualization; Investigation; Data Curation; Methodology, Resources; Writing Original Draft; Writing-Review & Editing; Supervision.

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Influence of Self-Efficacy and Personality Traits on Gambling Behaviour among Young Adult in Ibadan North Local Government Area (LGA), Ibadan, Oyo State, Nigeria

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Abstract

Although gambling in itself may not be inherently harmful, it becomes a significant concern when it escalates into compulsive and uncontrolled behaviour, often driven by underlying psychological factors. Among young adults, this can result in financial hardship, strained family relationships, substance abuse, criminal activity, and mental health issues. Therefore, this study is motivated by the need to understand the problems associated with gambling. This examines the influence of self-efficacy and personality traits on gambling behaviour among young adult in Ibadan North Local Government Area, Ibadan, Oyo state.

Social Learning Theory and Cognitive Theories provided the framework, while a cross-sectional survey design was employed to sample 200 participants aged between 18 and 25, with a mean age of 22.58 ± 2.05 . Purposive and systematic sampling technique was used to sample respondents in the study. A structured questionnaire consisting of demographics and scales measuring self-efficacy, personality and gambling behaviour were used to collect the data. Three hypotheses were tested using t-test for independent sample and multiple regression analysis at 0.05 level of significance.

Findings revealed that respondents who score low on self-efficacy ($\bar{X} = 71.56$, S.D = 13.72) significantly reported higher gambling behaviour compared to respondents high on self-efficacy ($\bar{X} = 61.91$, S.D = 10.14). Result revealed that openness, conscientiousness, extroversion, agreeableness and neuroticism jointly influence gambling behaviour [$R = .377$; $R^2 = .142$, $F(5, 169) = 5.59$; $p < .001$] with $R^2 = .18$. Further result shows that conscientiousness [$\beta = -.133$; $t = -1.73$; $P < .05$] and neuroticism [$\beta = -.163$; $t = -2.00$; $P < .05$] have significant independent influence on gambling behaviour. Result shows that there exists no significant gender difference on gambling behaviour [$t(173) =$; $P > .05$].

The study concludes that self-efficacy and personality traits significantly influence gambling behaviour. Therefore, it is recommended that government implement strict regulatory policies and public awareness campaigns to limit access to gambling and educate young adult about psychological, social, and economic impacts associates with gambling.

Keyword: Self-efficacy, personality traits, gambling behaviour and young adults

Introduction

Throughout human history, gambling has existed as a societal phenomenon for thousands of years. Ancient Romans had the first written accounts of gambling, including tales of emperors and peasants using dice to gamble, massive gambling debts, and the ensuing arguments. Over the past 20 years, gaming activities in Nigeria have grown in sophistication and scale like never before. Since gambling is practiced throughout Nigeria, it is rare for a day to go by without Nigerians participating in some form of gaming. The new wave of gambling affects men, women, and children in all spheres of life. Economists, psychologists, sociologists, criminologists, and members of the popular media are all taking notice of the shifts in gambling habits. Early gambling primarily focused on traditional forms of gambling, such as slots, pool, and offline lotteries. More recently, studies have expanded to include sports betting, online lotteries, promotional games, pool, and casino slots (Omanchi & Okpamen, 2018).

Staking something of worth, such cash or real estate, on a result that is partially based on chance is known as gambling (Binde, 2005). Sometimes this element of chance is an inherent part of the activity itself because of either the randomness of the results (e.g., lotteries, gaming machines, Bet9ja, Naira bet, sportybet, betking, ilotbet, bet88u, lotto or baba jebu games, among others) or because of incomplete knowledge (e.g., racing, sports-betting). Although the market is not by its very nature intended to provide chance-determined or random outcomes, some types of speculation (such as stock-market trading) may also be regarded as gambling based on how individuals make judgments. Most people find gambling to be a really fun social pastime that has no detrimental effects on their lives, but for some people, it can develop into an addiction and a compulsive behaviour.

Gambling has many different definitions. Zangeneh, Blaszczyński, and Turner (2008) define gambling as a financial transaction between two parties based on the outcome of an uncertain occurrence, depending on who is right and who is wrong. This definition is limited for the goal of examining unusual behavior in gaming. Zangeneh, Blaszczyński, and Turner, go on to explain that the winner will be the one with the most money, while the losing side will have none left. In this instance, the activity might be referred to as zero-

sum gambling, and the competition or game can be thought of as a zero-sum game. Instead of producing income, zero-sum gaming distributes it. As a result, winning games are linked to greater wealth, whereas losing games are linked to less wealth.

Gaming is a socially acceptable kind of entertainment in the twenty-first century, and there are more and more gaming alternatives in Nigeria. Among the many types of gambling activities that are more popular in Ibadan and throughout Nigeria are Lottery Games (e.g., Baba Ijebu), sports betting (such as nairabet, b9ja, golden, and winners bets), card games, table tennis, scramble, snooker, ludo, dice games etc. With the advancement of computer technology, Internet gambling now covers online sport betting, stocks, commodities, card games and roulette. Continuous, 24/7 access to gambling activities is made possible by the Internet, frequently through offshore sites that offer scant compliance with national and/or state laws protecting consumers. Additionally, it makes it easy for people of all ages, including children, to use a credit card, deters interruptions, and eliminates the visual turnover or loss of funds.

Nearly all of these gambling activities are intended to give participants a negative return, meaning that they should generally anticipate losing a specific percentage of each wager (Forrest & Simmons, 2002). Aguocha and George (2021) state that gaming in Nigeria is governed by the National Lottery Regulatory Commission. The National Lottery Act of 2005 made the lottery lawful. While low-stakes card games, roulette, and dice games are forbidden, lotteries, land-based casinos, and sports betting are allowed. The legal gambling age in Nigeria is eighteen years old.

According to Aguocha, Okwaraji, Onyeizugbo, and Anyanwu (2018), gaming generates tax revenue or finances for the Nigerian government. The public's perception of gaming has improved, especially among younger people. Slot machines, lotteries, and online sports betting (such as football league pools and promotions) are the most widely used kind of gambling. Some types of betting include betting on the results of races or sporting events (e.g., football, car racing, horse racing, wrestling, basketball, and swimming) on sites like Bet9ja, Naira Bet, Merry Bet, Sure Bet, Sahara Bet, Betpawa Bet, and Ebony Bet. Furthermore, virtual games like Bingo, Babynseju, and Ajasare, casino games like Kalocalo, and lottery-style games like Cross-Lotto, Pools (like Baba Ijebu), tickets, and keno are all well-liked. These games grant prizes based on the selection of winning symbols or number combinations (Ede, Okeke, Igbo, & Aye, 2023; Temitope, Oyekola, & Bankole, 2022).

However, others say that in the near future, problem gambling in Nigeria will be a more serious public health issue than substance abuse. It is remarkable that, despite the nature and scope of the problem, gambling and its associated effects have not received significant attention in Nigeria. Despite Nigeria's legal structure, over 57% of school-aged people claim to have gambled at least once in their lives, with 58.3% reporting unfettered access to gaming places (Aguocha & George, 2021). Furthermore, in Nigeria, gambling is becoming increasingly popular among young people. It has long been argued whether gains driven by extreme desire, unemployment, economic difficulty, and poverty are the primary motivators for young people to gamble. However, scientists such as Carlisle (2017) and Lee and Jeong (2017), among others, discovered that personality traits and self-efficacy had a major impact on gambling habit.

Self-efficacy is the breadth or strength of a person's belief in their own abilities to execute activities and reach goals. Ormrod (2006). Self-efficacy influences every aspect of human activity. Identifying a person's views about his or her ability to influence situations has a significant impact on both the real power a person has to handle issues properly and the choices a person is most likely to make. These impacts are especially noticeable and persuasive when it comes to health-related activities (Luszczynska, Gutiérrez-Doña & Schwarzer, 2005). Self-efficacy is often characterized as an assessment of one's capacity to plan and carry out a specific sort of performance. More specifically, it is a conviction about one's ability to perform certain tasks. In other terms, self-efficacy means having control over one's life.

Bandura, (1997) assert that high efficacy beliefs are also related to the expansion of satisfying social relations that bring about life satisfaction to an individual. Self-efficacy also refers to “one’s confidence regarding their ability to activate motivation, cognitive resources, and courses of action needed to successfully execute a specific task in a given context”. Thus, when individuals have high self-efficacy they are more able and willing to take on challenging tasks and to extend their motivation and effort in order to achieve goals successfully and to persist in the face of adversity. Accordingly, individuals with high self-efficacy exhibit five key characteristics: they set high goals for themselves and choose challenging tasks, embrace and thrive

on challenges, are self-motivated, invest the necessary effort to achieve their goals, and persevere when faced with obstacles.

But when it comes to gambling behavior, self-efficacy is the conviction that one can avoid a gambling opportunity in a certain circumstance (Casey et al., 2008). According to research, those who believe they can regulate their gambling likely to bet less (León-Jariego et al., 2020) and have less gambling-related issues (St-Pierre et al., 2015). Bandura's Theory of Self-efficacy (1977) states that while external factors, such the availability of gambling, influence people's behavior, individual characteristics, like self-efficacy, must also be taken into account. Self-efficacy has been demonstrated to mitigate the influence of external influences on gambling-related problems, which is consistent with this hypothesis. Quinn, Archibald, Nykiel, Pocuca, Hides, Allan and Moloney (2019), for instance, discovered that people with strong self-efficacy to control gambling were less affected by gambling advertising on problem gambling than people with low self-efficacy. Hawker, Merkouris, and Youssef (2020) discovered that gambling urges and episodes were influenced by perceived self-efficacy. Takamatsu, Martens, and Arterberry (2016) found that undergraduates' gambling problems and gambling days were influenced by their level of self-efficacy. Self-efficacy could be employed as a control mechanism for problematic gambling brought on by gambling commercials, according to Quinn, Archibald, Nykiel, Pocuca, Hides, Allan and Moloney (2019).

Personality traits are another factor besides self-efficacy. Personality refers to a person's distinctive way of thinking, feeling, and acting in different contexts and across time. It involves determining a person's level of happiness or sadness, energy or indifference, intelligence or dullness, emotional stability or instability, and how they affect the body, conscious mental life, and social behavior of the individual (Costa & McCrae's, 1992). The basic characteristics listed in Costa and McCrae's (1992) five-factor model (FFM), which postulates that human personality is composed of five higher-order, trait-like dimensions or "domains," are taken into consideration for this study: (a) extraversion (a tendency to experience positive affect); (b) neuroticism (a tendency to experience negative affect); (c) agreeableness (a tendency to be friendly, trustworthy, and prosocial); (d) openness (a tendency to be reflective, imaginative, and intellectually curious); and (e) conscientiousness (a tendency to be self-disciplined, organized, and constrain immediate impulses in favor of long-term' is used as the personality traits.

The five personality domains as outlined by Costa and McCrae are: Neuroticism (e.g., anxiety, anger, depression, impulsiveness); Extraversion (e.g., warmth, assertiveness, excitement-seeking, positive emotions); Openness to experience (e.g., feelings, actions, ideas, values); Agreeableness (e.g., trust, altruism, compliance, modesty); and Conscientious (e.g., competence, order, dutifulness, self-discipline).

Researchers have investigate influence of personality traits on pathological gamblers. Bagby et al. (2007), in a study of pathological gamblers and non-pathological gamblers, discovered that pathological gamblers scored significantly higher on the Neuroticism domain and significantly lower on the Conscientiousness domain, as measured by the NEO PI-R, relative to non-pathological gambling. Also, study conducted by Myrseth, Pallesen, Molde, Johnsen, and Lorvik (2009) compared pathological gamblers to non-pathological gamblers using the NEO-FFI (a short version of the NEO PI-R) and found that high scores on the Neuroticism domain and low scores on the Openness to experience domain were related to pathological gambling. With only two studies investigating this important personality taxonomy as it relates to problematic gambling, more research is required to clarify the relationship of the Five Factor domains and gambling, and to extend the generalizability of the findings. MacLaren et al., (2011) found that traits related to neuroticism, disagreeableness, and disinhibitions are among the most consistent personality correlates of pathological gambling. Sundqvist and Wennberg (2015) found that risk gambling was positively correlated with Negative Affectivity (a facet of Neuroticism) and Impulsivity (an inversely related facet of Conscientiousness), but all associations were weak.

Purpose of Study

The main objective of this study is to explore self-efficacy and personality traits on gambling behaviour among young adults in Ibadan North Local Government Area, Ibadan, Oyo state, Nigeria. The specific objectives include?

- (1) To investigate the influence of self-efficacy on gambling behaviour among young adults in Ibadan North Local Government Area, Ibadan, Oyo state, Nigeria.

- (2) To examine joint and independent influence of openness, conscientiousness, extroversion, agreeableness and neuroticism on gambling behaviour among young adults in Ibadan North Local Government Area, Ibadan, Oyo state, Nigeria.
- (3) To examine gender differences on gambling behaviour among young adults in Ibadan North Local Government Area, Ibadan, Oyo state, Nigeria.

Hypotheses

Based on the literature reviewed, the following hypotheses were postulated for testing:

- (1) Participants who score low on self-efficacy will report significantly higher gambling behaviour than those who score high on self-efficacy.
- (2) Openness to experience, conscientiousness, extroversion, agreeableness and neuroticism will have significant joint and independent influence on gambling behaviour among young adults in Ibadan North Local Government Area, Ibadan, Oyo state, Nigeria.
- (3) Gender differences will have significant influence on gambling behaviour among young adults in Ibadan North Local Government Area, Ibadan, Oyo state, Nigeria.

Methods

Design

This study employed a cross-sectional survey design. The independent variables are self-efficacy and personality, while the dependent variable is gambling behaviour.

Setting: The study was conducted in Ibadan North Local Government Area, Ibadan, Oyo state, Nigeria.

Participants: The researcher distributed two hundred (200) questionnaires to young adults. Of these, one hundred and ninety-eight (198) were retrieved, and one hundred and seventy-seven (177) were deemed valid for data analysis. The study included a total of one hundred and seventy-seven (177) respondents involved in sports betting from the selected settings. The following constituted the participants of the study: a greater proportion of the respondents, one hundred and twenty-five (125; 70.6%), were male, while fifty-two (52; 29.4%) were female. Marital Status distribution showed that one hundred and thirty-two (132; 74.6%) were single, and thirty-five (35; 25.4%) were married. Tribe distribution revealed that thirty-two (32; 74.6%) were Yoruba, fourteen (14; 7.9%) were Hausa, twenty-seven (27; 15.3%) were Igbo, and four (4; 2.3%) belonged to other tribes. Religion distribution showed that one hundred and fourteen (114; 64.4%) were Christians, fifty-two (52; 29.4%) were Muslims, ten (10; 5.6%) practiced Traditional religion, and one (1; 0.6%) reported affiliation with another religion. Educational Qualification distribution indicated that five (5; 2.8%) had no formal education, nineteen (19; 10.7%) had primary/secondary education, eighty-eight (88; 49.7%) had NCE/ND qualifications, sixty (60; 33.9%) had HND/Degree qualifications, and five (5; 2.8%) held an M.Sc. Occupation frequency revealed that thirty-nine (39; 22.0%) were artisans, thirty-seven (37; 20.9%) were civil servants, forty-four (44; 24.9%) were private workers, and fifty-six (56; 31.6%) were business owners. Income distribution showed that one hundred and twenty (120; 67.8%) earned a monthly income, fifty (50; 28.2%) earned a daily income, and seven (7; 3.6%) reported unknown sources of income.

Sampling Technique: Purposive and Systematic sampling technique were used as the sampling technique modalities in this study.

Instruments: A paper and pencil instrument (questionnaire) was utilized to elicit information from participants. **SECTION A:** Demographic details of the participants; the first section of the questionnaire, the section A, will contains 6 items which tap information on the socio-demographic characteristics of the respondents. This includes age, gender, tribe, religion, marital status and educational level. **SECTION B:** Self efficacy was measured using General Self-General Self-Efficacy (GSE) scale developed by Jerusalem and Schwarzer (1995). This scale is applicable for general adult population and also for adolescents but not applicable below the age of 12 years. It has 10 items with four point scale with the response categories i.e. (1) not at all true, (2) hardly true, (3) moderately true and (4) exactly true. For scoring, all the ten items are added to yield the final composite score with a range from 10-40. High score means that general self-efficacy is high (Aypay, 2009). The scale's alpha value was 0.84 in the study conducted by Firdevs (2012). In the present

study, Cronbach's alpha was reported as 0.81. **SECTION C:** Personality differences was measured with 10 item inventory that measures an individual on the Big Five Factors (dimensions) of personality and was adapted from Rammstedt and John, (2007). Each of the factors is then further divided into personality facets (Extraversion, Agreeableness, Conscientiousness, Neuroticism and Openness). Participants' response are scored and coded on 5 point scale ranging from 1=strongly disagree to 5=strongly agree on all items. Oladele (2017) reported Cronbach's alpha of 0.94. In the present study, Cronbach's alpha was reported as 0.72. **SECTION D:** Gambling behaviour was measured using Gambling Attitudes and Beliefs Survey (GABS) (Breen and Zuckerman 1999) The English-Version and Scoring of the GABS is a 23-item self-report questionnaire which assesses irrational beliefs and attitudes about gambling (Breen and Zuckerman 1999). Participants are asked to use a four-point Likert scale (strongly agree = 4, agree = 3, disagree = 2 and strongly disagree = 1 on all items) to indicate the extent to which they agree with each item. Internal consistencies for each dimension of the GABS-23 were 0.70. In the present study, Cronbach's alpha was reported as 0.86.

Procedure: The questionnaires were individually administered to participants who consented to take part at the selected gambling centers in Ibadan North Local Government Area, Ibadan. A high level of confidentiality was ensured by not including names in the questionnaire. Also, a given time frame of up to an hour for filling the questionnaires was allowed. Two hundred (200) questionnaires was distributed, one hundred and ninety-seven (197) were retrieved and used for data analysis. Informed consent was obtained from all participants by telling them that participation in the study was voluntary; and that only those who are willing and ready to complete the research instruments should collect the questionnaires.

Inclusion Criteria

1. The participants must be a gambler.
2. Participants must be young adult aged 18–25 years.
3. Must reside in Ibadan North Local Government Area, Oyo State, Nigeria.
4. Participants must have engaged in any form of gambling within the last 12 months.
5. Participants must voluntarily consent to participate in the study.
6. Must be able to understand and communicate in English or Yoruba, the dominant languages in the area.

Exclusion Criteria

1. Individuals below 18 or above 25 years.
2. Those who have not participated in any gambling activities in the past year.
3. Individuals not residing in Ibadan North Local Government Area.
4. Individuals with diagnosed mental health or cognitive impairments that could affect comprehension or responses.
5. Participants who fail to complete the survey or provide inconsistent responses.

Data Analysis: Data collected were analyzed using statistical package for social sciences (SPSS: version 25). Demographic factors of the participants were analyzed with descriptive statistic such as mean, standard deviation, frequency and percentage. Three hypotheses was analyzed, hypothesis one and three were tested using t-test for independent sample, while hypothesis two was analysed using Multiple Regression Analysis.

Results

Hypotheses One

Participants who score low on self-efficacy will report significantly higher gambling behaviour than those who score high on self-efficacy. This hypothesis was tested using the t-test for independent and the result presented in Table 1.

Table 1: Summary of t-test for the independent sample showing influence of self-efficacy on gambling behaviour

	Self-efficacy	N	$\bar{X}$	SD	t	df	P
Gambling Behaviour	Low	32	71.56	13.72	4.39	146	<0.05
	High	116	61.91	10.14			

Table 1: Presents result on influence of self-efficacy on gambling behaviour. It was revealed that respondents with low self-efficacy ($\bar{X}$ =71.56, S.D= 13.72) significantly reported high scores on gambling behaviour compared to those with high self-efficacy ($\bar{X}$ =61.91, S.D =10.14). Respondents who score low on self-efficacy significantly reported higher on gambling behaviour ($t(4.39) = 146, p<.05$) than those who score high on self-efficacy. This indicates that self-efficacy significantly influences gambling behaviour, with individuals exhibiting low self-efficacy demonstrating higher gambling behaviour scores than those with high self-efficacy. The hypothesis is thus accepted.

Hypothesis Two

Extroversion, Agreeableness, Conscientiousness, Neuroticism and Openness to Experience will have significant joint and independent influence on gambling behaviour among young adults in Ibadan, Oyo State was tested using multiple regression analysis as shown in table 2 below.

Table 2: Summary of Multiple Regression Analysis Showing the Joint and Independent Influence of Extroversion, Agreeableness, Conscientiousness, Neuroticism and Openness to Experience on Gambling Behaviour

Predictors	B	T	P	R	R ²	F	P
Extroversion	-.039	-.402	> .05	.377	.182	5.59	<.001
Agreeableness	-.046	-.524	>.01				
Conscientiousness	-.133	-1.732	<.05				
Neuroticism	-.163	-2.006	<.05				
Openness to Experience	-.151	-1.487	>.05				

The result in Table 2: shows that openness, conscientiousness, extroversion, agreeableness and neuroticism jointly influence gambling behaviour [$R = .377$; $R^2 = .182$, $F(5, 169) = 5.59$; $p < .001$] with $R^2 = .18$. This suggest that all the predictor variables accounted for 18% of the proportion variance in gambling behaviour. Further analysis shows that conscientiousness [$\beta = -.133$; $t = -1.73$; $P < .05$] and neuroticism [$\beta = -.163$; $t = -2.00$; $P < .05$] have significant independent influence on gambling behaviour. Thus, this implies that lower levels of conscientiousness and higher levels of neuroticism were significantly associated with increased gambling behaviour. Therefore, the hypothesis is partially accepted.

Hypothesis Three

Gender differences will have significant influence on gambling behaviour among young adults in Ibadan North Local Government Area, Ibadan. This was tested using t-test for independent samples and the result is presented on Table 3.

Table 3: Summary of t-test for Independent Samples Showing Gender Differences on gambling behaviour

	Gender	N	$\bar{X}$	SD	t	df	P
Gambling Behaviour	Male	123	63.16	12.08	-.38	173	>.05
	Female	52	63.94	12.38			

Table 3 presents results on gender difference on gambling behaviour. It is shown that there exists no significant gender difference on gambling behaviour [$t(173) =$; $P > .05$]. This negates the stated hypothesis, hence stated hypothesis was rejected.

Discussion

Hypothesis one which proposed that participants who score low on self-efficacy will report significantly higher gambling behaviour than those who score high on self-efficacy was confirmed. The data supported this hypothesis, showing that respondents who score low on self-efficacy significantly reported higher on gambling behaviour than those score high on self-efficacy. This implies that self-efficacy significantly influences gambling behaviour. Result of this study is consistent with previous findings; Hodgins, Peden and Makarchuk (2004) found that higher self-efficacy was related to fewer days of gambling over a 12-month period. Hawker, Merkouris, and Youssef (2020) found that perceived self-efficacy determined gambling cravings and episodes. Takamatsu, Martens, and Arterberry (2016) discovered that self-efficacy impacted gambling problems and days gambled among undergraduates. Quinn et al., (2019) revealed that self-efficacy could be used as a control method for problematic gambling brought by gambling advertisements.

Hypothesis two which proposed that extroversion, agreeableness, conscientiousness, neuroticism and openness to experience will have significant joint and independent influence on gambling behaviour was partially accepted. The data partially supported this hypothesis, showing that openness, conscientiousness, extroversion, agreeableness and neuroticism jointly influence gambling behaviour. Further result revealed that conscientiousness and neuroticism have significant independent influence on gambling behaviour. Result of this study is consistent with previous findings: Bankole, Adebunmi, and Bankole (2019) revealed that personality traits collectively predict gambling behaviour and that sex differences exist in gambling behaviour. Specifically, Conscientiousness, Neuroticism, and Openness to Experience independently predict gambling behavior. Buckle, Dwyer, Duffy, Brown, and Pickett (2013) found that Openness and Agreeableness were negatively correlated with problem gambling in a university student sample. Similarly, MacLaren, Best, Dixon, and Harrigan (2011) reported that the impulsivity facet of Neuroticism was positively associated with gambling problems in undergraduates, while facets of Agreeableness and Conscientiousness were negatively associated with gambling problems. In a community sample, Miller et al. (2013) found that high Neuroticism and low Openness predicted gambling problems after controlling for other FFM personality domains.

Hypothesis three which proposed that gender differences will have significant influence on gambling behaviour was rejected. This hypothesis was not validated by the data, which indicated that there is no discernible gender difference in gambling behaviour. In contrast to their female counterparts, men have been found to engage in gambling activities. For instance, Tsitsika et al. (2011) found that men gamble at a higher rate than women. Men spend more time gambling and have greater gambling issues than women (Chiu & Storm, 2010; Clark & Walker, 2009). According to Heater and Patton (2006), there are differences between men and women in terms of gaming behaviour and susceptibility to gambling addiction. In a similar vein, Walker, Courneaga, and Deng (2007) found that men gamble more often than women. This suggests that men engage in gambling frequently than female.

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Black Tax: The Experience and Obligation of Nigeria Migrants to their Left Behind Families

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Abstract

The concept of black tax though defined as a financial burden carried by black people that have obtained some level of success and provide financial support to less financially secured family members have also been absorbed in migration and remittance discourse. In Sub-Sahara Africa, the cultural orientation binding the family system has made these transactions seem like an expectation and obligation situationship. These might not necessarily be the state of existentiality for non-Africa migrants whose cultural orientation elucidate individualization over collectivity. Hence, the study intent was to uncover the experiences of African migrants in sending remittances to left-behind family members, how the experiences differ from non-African migrants and how these lived experiences affect their well-being abroad. The study was theoretically hinged on the Social Action Theory while adopting an explanatory approach. 15 published papers in I-indexed journals between 2017 to 2024 were reviewed and juxtaposed with 10 in-depth interviews among Africa migrants. It was deduced that Africa migrants find it difficult adjusting to the new environment, finding jobs and sustaining their livelihood in western societies, yet they are willing to keep working to be able to send money home. Experiences also differ across African and non-Africa migrants in their intentionality, intervals, and reasons behind the act of remitting. Owing to this, it is important that left-behind families get pre-occupied with paying jobs to relieve migrants of burden. The government should introduce poverty alleviation schemes for the youths, social welfare programmes for the elderlies and free education system for children.

Keywords: Black tax, remittance, migration, collectiveness

Introduction

Remittance from adult children who have migrated has been seen to reduce some of the burdens encountered by the left-behind families and improve their livelihood (Akanle & Ola-Lawson, 2021; Akanle, 2023). Migrant children of elderly parents remit money for a variety of reasons including supporting their aged parents and other relatives. Without financial support from the diaspora, many left behind family may struggle to meet their basic needs such as shelter, education, health care and food etc. which could make them face increased vulnerability to poverty (Abdi, Spann & Borilovic, 2019; Ayuba, 2023). Remittance as defined by International Monetary Fund refers to ‘all current transfers in cash or in kind made or received by resident households to or from non-resident households (International Monetary Fund, 2013). Remittance, which is the after-effect of migration, has been observed to be a source of income for households, and a development tool, especially in third-world countries (Akanle, Kayode, Abolade, 2022; Nanziri & Mwale, 2023).

Following the offshoot of international migration globally, in 2020, with about 281 million international migrants being accounted for, it is expected that remittances would increase as migrants send back funds to their households (McAuliffe & Triandafyllidou, 2021). These international migrants account for about 3.6% of the world’s population, as labor migrants make up the largest fraction of the population (McAuliffe & Triandafyllidou, 2021). Accordingly, McAuliffe and Triandafyllidou (2021) reported that the international remittance was about 702 billion dollars in 2020 which was lower than what was accounted for in 2019, \$719 billion. This decline has been attributed to the impact of COVID-19 pandemic which slightly took the economy of different countries to a downslope. The major recipient of these remittances is the low-and-middle-income countries which received \$540 billion in 2020 (McAuliffe & Triandafyllidou, 2021). World Bank (2021) stated that out of the top 10 countries that received remittances in 2020, eight are low-and-middle-income countries, while the remaining two countries were Germany and France. The two African countries that were found to be receiving remittance were Egypt and Nigeria of which they respectively ranked 5th and 10th on the chart. Fast-forward to 2022, the remittance that Nigeria received in the first quarter of 2022 amounted to \$5147.40 million, an increment from \$5021.57 million in the last quarter of 2021 (McAuliffe & Triandafyllidou, 2021).

Oladipo (2020) further elaborated on the impact of remittance on economic growth by examining its impact through three lenses. Firstly, remittance was seen to improve capital accumulation. Through the improvement of capital accumulation, the economy can become stabilized, reduce volatility, and the cost of capital is also reduced. Secondly, remittances received also takes the form of labour income which also leads

to increase in cashflow in the country. Lastly, Oladipo (2020) was able to establish that remittance is a good tool for investment especially if the goal of the economy is to increase production.

Studies on migrants and remittances often concentrates on their experiences with sending remittances, not exactly how they have lived through the experience of remitting to their home country. A 2009 study on remittance and the experience of migrant nurses in Ireland expressed much concentration on what remittances are being used for in their home countries and not necessarily on the living existentiality as they remit home (Humphries, Brughha & McGee (2009). A much more recent study on remittance explored the ubuntu tensions in migrant remittance behavior. The study was able to deduce that migrants' experiences are hinged on valued allegiance and commitment to the togetherness philosophy binding Africans to their home countries. This philosophy binds them to remit home regardless of their circumstances in their host countries.

Statement of the Problem

The role of remittance is enormous as it positively impacts national and human capital development. Since the continuous emigration of young adults from rural areas to urban areas or international migration, the roles that remittances play cannot be overemphasized. Firstly, it has been seen as a financial inclusion mechanism, a poverty alleviation scheme, and a social safety net for its recipients (Yoshino et al, 2019; Iyemifokhae & Folawewo, 2019; Oladipo, 2020). For instance, the work of Paudyal and Tunprasert (2018) showed that although remittance has the power to cater for left-behind children, it is unable to improve cognitive development and behavioural challenges. In 2022, Antia, Rodoreda and Winkler further ascertained that left-behind children often have negative experiences when it comes to migration and remittances. Also, studies revealed that while remittances improve the standard of living of the spouses in home countries, it is unable to replace the physical presence of the migrant spouse (Pan & Dong, 2020; Gopinath & Poornappriya, 2020; Hassan & Jebin, 2020; Ojuri & Akanle, 2025). Vast studies have ascertained the impact of remittance, either at global, national, local or individual level, remittance largely contributes positively to the life of its recipients. At national level, foreign development investment are forms of remittance that ensures development of the country. While at individual level, remittance is a tool for consumption, education advancement, and improved quality of life of any of its recipients.

However, what most studies have failed to realize that while the recipients are enjoying the gains of migration through remittance, the migrants are sometimes overwhelmed with the demands from their left behinds in their home countries. Other studies have also elicited how migration is never done in isolation, but how other social relations are often involved either financially or emotionally. These social relations also see their involvement to invest in the life of the migrants with the intention to receive proceed from such investment. Often, all these expectations put pressure on the migrants to take up more jobs and even do odd jobs. It therefore became imperative to uncover how they have experienced remitting home and how these experiences shaped relationship especially has they are Nigerians who have been somewhat culturally orientated with the ideology of togetherness and communal relationship. This study will seek to find out the possibility of the presence of communal relationship of migrant with their left behinds even with distance in picture.

Research Questions

The study aims to provide answers to the following questions:

- What is the lived experience of Nigerian migrants who sends remittance to left-behind families?
- What are the factors predisposing black tax by Nigeria migrant in diaspora

Research Objective

The main objective of this study is to examine the experience and obligation of Africa migrants to their left behind families. Other specific objectives are to:

- Examine the lived experiences of Nigerian migrants who sends remittance to left-behind families
- Find out the factors predisposing black tax by Nigerian migrants in diaspora

Theoretical Application

Social Action Theory- Max Weber

The theory of social action gives clarification to the subjective meanings that are attached to human actions. According to Max Weber, who happens to be one of the forerunners of social action theory, he opined that for Sociology to be empirical and regarded as a comprehensive science, its focus must be on social action. Hence, Weber defined Sociology as ‘the interpretative understanding of social action needed to arrive at causal explanation of its causes and effects’ (Weber, 1904; 1913). In clear terms, Sociology has to do with the combination of ‘actions’ and ‘meanings’ which are central to scientific analysis of sociology. Weber further explained actions to be all human behavior to which an actor attaches subjective interpretations to. More specifically, the action must be ‘social’ in its nature. The interest of Weber sprouts out of the need to understand how human actors conceptualize social relations and meanings they attach to such relations. Migration do not exist in a vacuum but is surrounded by different social networks that often contribute to the success story of the migrant’s decision and possibility to migrate. With these social interactions comes behavioral changes between the migrants and those left behind as remittance also known as black tax becomes the tool of interrelationship among the networks.

Methodology

The study adopted an explanatory method of research design due to the need to have an in-depth knowledge about black tax from the experiences of those who interface with it. This approach suits the study because the research took a narrative and interpretive standpoint of analysis. For the study, there was no specific location for the participant apart from them being migrants that have lived in the diaspora for at least one year and have been sending remittance home. The non-probability sampling technique which involved the use of purposive and referral method was used to gather the participants for the study. A total of 12 migrants were interviewed and their response was juxtaposed with current literature that is highly published in reputable journals. The research used in-depth interviews to elicit data from the participants and the responses went through rigorous thematic and narrative analysis. For the ethical consideration for the study, the research got approval from social sciences and humanities ethics committee, University of Ibadan and was assigned a registration number UI/SSHRE/2024/0144.

Data Presentation and Interpretation

What is the lived experience of Africa migrants who sends remittance to left-behind families

Africans, especially Nigerians are frequently on the move to other countries for different reasons. Mostly for an improved social status and financial upliftment caused by the dilapidating state of Nigeria society that does not necessarily seem to favor the youth of its country. From the standpoint of some of the interviewee, it was deduced that the economic state of Nigeria was enough reasons to leave the country. This was what some of them had to say:

The money I was earning in Nigeria was barely enough for me talk less of sending money to my parents. I was earning 150,000 naira before and it got slashed to 100,000 naira, I could not cope with such pay (IDI5/29/Female/4 years/Minnesota/Accountant/Migrant/2024).

And:

I will always take travelling out of the Nigeria overstaying back. The struggle to fend for oneself in Nigeria is so difficult. I am a graduate, but I could not find a responsible job for myself when I was in Nigeria. I could not take care of myself or my parents. But when I travelled to the USA, though the job I started with was a menial job, it was enough to keep the soul and body together and even send something little home. I have now transitioned into being a social worker and I am doing so well for myself and sending more than enough home (IDI19/35/Male/6 years/USA/Social worker/Migrant/2024)

Without any exception, these migrants have been dutifully sending money home even with the difficulty of adjusting to the living condition of being in diaspora. Whilst they experience hiccups with finding jobs, the moment they secure work, they start remitting funds home. This responsibility often leads the migrants to take up 3-4 jobs in a day as seen in the quotations below:

To be fair, it was difficult to send money home because I only had two days to work, and I was paid per hour. I was sending money home, saving for my second-year school fees, and sorting out my accommodation. Even though I had understanding parents, I still felt that responsibility to send something to them. So, I placed my dad on monthly allowance because he is retired, and my younger siblings are still in school, and it is just his pension he relies on (IDI16/26/Female/3 years/UK/Children social worker/Migrant/2024)

Another of the interviewees mentioned that:

When I first got to New Zealand I did a lot of jobs ooo. Kia, in a day I might do about two jobs and even if I see night shift, I will take it because I needed all the money (IDI 21/30/Male/5 years/New Zealand/Project Managers/Migrants/2024).

For some of the migrants, they experienced pressure to remit from friends, and younger members of their household. Younger members of the household make high demands from the migrants, which affects the emotional and mental state of the migrants. This is evident in the response below:

The process of sending money home can be a lot at times. I sometimes get temperamental when the demands are too much that it affects my emotional and mental state because when I am trying to solve a problem another issue is rising. The older people in the households are not demanding but the younger ones don't know boundaries, they just keep asking and I tend to flare up. It makes me wonder at times if I am not here, won't they live? Other days I am excited to send money (IDI1/29/Female/3 years/ACC case Manager/Auckland, New Zealand/Migrant/2024).

Another participant acknowledged the initial conversation that:

People were asking for me to send money home immediately I got abroad. I had not gotten a job then and the demands were high. This made me temperamental because I did not have anything with me, I Just got to abroad then. Sometimes, my father will call me that my uncle sister's brother wants to do something that I should send money, but they need to allow me rest before the billing can start coming (IDI20/30/Female/4 years/Liverpool/Care worker/Migrant/2024).

The above quotations explained how demands are often on the increase immediately someone migrates without necessarily knowing the living conditions of the migrants. The study, however, further explored how the migrants were able to cope with the high demands and the misinformation that the left-behinds have towards the migrants. Deduced from the study is the fact that the migrants had to adopt different adjustment mechanisms in ensuring that whilst they send money home, their living conditions are not affected in their host countries.

Adjusting to the reality of black tax

The study attempted to further elicit information on how the migrants have been able to adjust to the reality of remitting money home especially when it was not exactly their reality when they were in Nigeria. From the discourse with the interviewees, being employed and working with budget guides, the migrants on how efficiently they disburse money home to their left-behind families. Some participants buttress this:

I think I am adjusting well, now that I have a job, I am comfortable and not temperamental again (IDI1/29/Female/3 years/ACC case Manager/Auckland, New Zealand/Migrant/2024).

This was also corroborated by another participant who opined that:

Ever since I got to America, I have been remitting money home. From my first job, I started sending money to not just my parents but other people. I do at least 10 transactions in a month (IDI5/29/Female/4 years/Minnesota/Accountant/Migrant/2024)

While the above interviewees shed light on the importance of having a job to adjust to the reality of remitting, the importance of working on budget was also highlighted which was stated below like this:

Initially, I was not working with a budget, so whenever my parents call, I just send but I have now put them on constant allowance which is also subject to review based on the Nigerian economy. Now I work with a budget, although emergencies arise which of course one needs to attend to (IDI16/26/Female/3 years/UK/Children social worker/Migrant/2024)

When the participants were further tested on how they perceive their attitude towards sending remittances, from their responses, there is the sense of gratitude, self-actualization, sense of responsibility, and insignificance of the exchange rate. One of the people interviewed said:

I would say that I feel good about being able to send money home to my father and my brother. I have been able to take off the responsibility of buying clothes, laptop and even allowance of my brother from my father (IDI1/29/Female/3 years/Auckland, New Zealand/ACC case manager/Migrant/2024).

Hmmm, it feels good to send money home to your parents especially when I know they are not exactly working again. I feel at peace with myself that what I have always wanted to do for them, I can do it now. It is an indescribable feeling (IDI19/35/Male/6 years/USA/Social worker/Migrant/2024).

Objective Two: Reasons for Remittance to left-behind Families

Being able to remember home and remit funds home is qualified to assure peace, and goodness to the sender. Further in the discussion of attitude, some participants pointed out how they are often advised against remitting money home but the sense of responsibility that these migrants have serves as a push for continuous remittance. This was buttressed in this manner:

To be honest, we have people that advise against sending money home. Africans in my cycle have that sense of responsibility to send money because we cannot imagine our elder parents not having money at hand (IDI16/26/Female/3 years/UK/Children social worker/Migrant/2024)

Responsibility plays a pivotal role in shaping the attitude of migrants in sending remittance home to left-behind people. This was also commensurate by this participant:

I just have that sense of responsibility to send money home to my parents. Like, if I, their child does not take care of them, who then will do it? Hence, I will keep taking care of them (IDI20/30/Female/4 years/Liverpool/Care worker/Migrant/2024).

The power of foreign currencies over the Nigeria currency is unquestionable as it influences the attitude that people have to remittance. This has a positive effect on the attitude of the migrants as the money required in the foreign currency to convert to naira is not so significant to affect the migrants' standard of living in their destination countries, hence, exchange rate is favorable as it positively influences attitude. This was categorically stated by this participant:

When I also look at the exchange rate, the money that I will be converting to naira is not actually much and the money I am sending won't affect my

own standard of living abroad (IDI16/26/Female/3 years/UK/Children social worker/Migrant2024).

This was also supported by this claim:

Converting pounds to naira is nothing now, 100 pounds will give me about 150, 000 naira which I can easily send to my older people at home. I am not saying the money is small, but Nigeria currency has made remitting money home not financially stressful (IDI 21/30/Male/5 years/New Zealand/Project Managers/Migrants/2024).

Conversely, the migrants who remit funds back home conveyed how people around them also react to the act of remitting, especially those who are not from the same cultural background or social upbringing. These people term the act of remitting as 'black tax'. Black tax is a concept that is used in explaining the financial support that people of color are expected to disburse home which does not necessarily yield any interest. The concept has been used to connote the obligation of migrants to their home country. From the lenses of the migrants interviewed, the concept of black tax is a phenomenon among the blacks and not the white and this was what the migrant participant had to say:

In this part of the world, they call it black tax which is referred to as money paid to people that does not yield anything (IDI7/34/Male/3 years/Canada/Project Manager/Migrant/2024)

In addition to the above view, this was also opined:

I interact more with Africans, and they can all relate to sending money home. The white probably do not because they do not care. I relate with Africans, and we are all singing the same song, so they send money home as well. We all have the same mindset. (IDI5/29/Female/4 years/Minnesota/Accountant/Migrant/2024)

When migrants were further interrogated on the possible reason for the difference in the obligation to send money home. It was clarified that in non-African countries, people live for themselves, parents are not responsible for their children welfare, neither are younger adults responsible for their aged. They relate on the mentality that each person for themselves, hence, the flow of remittance to come countries is not exactly the reality of non-Africans. This was explained below:

In Canada where I am currently based, there is the believe that people should live for themselves. That is why in Canada it is not parents' responsibility to pay for their children's school fees that is why a lot of students take student loan. So, they believe in each person for themselves. That is also why when children become older, they believe parents should take care of themselves and they are not their kids' responsibility. (IDI7/34/Male/3 years/Canada/Project Manager/ Migrant/2024)

Another participant also gave credence to the above excerpt:

Other people from other regions don't even send money home. They believe that people at home should work for their money because they have hands, and they can work. It is us in Africa that send money home. I usually tell those of other regions that sending money home is our orientation, it is what we have been thought (IDI14/35/Male/ 7 years/USA/Project Manager/Migrant/2024)

The findings of the study posit that cultural orientation, and socialization plays a Germane role in determining the reaction of external actors in the remittance flow to home countries. On the contrary, the experience of other Nigerian immigrants has also led to migrants advising newbies against sending remittance home. This is due to the betrayal, continuous demand that they have encountered whilst they send money home. This was affirmed by the succeeding quotations:

People abroad often advise against sending money home and them knowing how much you earn abroad. They call such money ‘black tax’. Their reasons are valid such that some of them have been betrayed by those at home. Others have also experienced that the more you keep sending money home, the more expectant they become (IDI16/26/Female/3 years/UK/Children social worker/Migrant/2024)

And:

Upon moving abroad, some of the Nigerians I met told me not to send money home, that I should act like things are not good so that they don’t make demands on me. Personally, I have experienced betrayal. When I got into one small trouble abroad, I needed some money to bail me out, but my friends did not come through for me but my parents who had to borrow money on my behalf. I cannot but not send money to my parents, I will be an ungrateful child. (IDI19/35/Male/6 years/USA/Social worker/Migrant/2024)

Over and above the preceding discussion on the experiences of elderly relatives as remittance recipient, social structures such as culture, love, unity, and socialization as earlier pointed out shaped the course of experience. This was further elaborated here:

The Nigerian culture plays a huge role on why I send money. Somebody like my husband that grew up in New Zealand, he does not have the mentality to send money to his elderly relatives. (IDI1/29/Female/3 years/Auckland, New Zealand/ACC case manager/Migrant/2024).

The next quotations pay focus on the love and unity that binds Nigeria households which influences the decision to send remittances:

Love, unity amongst us is the reason for sending remittances. The love is just amongst us (IDI14/35/Male/7 years/USA/Project Manager/Migrant/2024)

The mode of socialization of the Nigerian children which constitutes the act of sharing, sowing the right seeds in young people’s heart, and living not in isolation all makes up the reason why migrant remit funds home and why the left behind elderly relatives are glad to also receive the remittance. In contrast, the migrants observed the changes in relationships which they explained to be because of the remittances sent. For one, there is a more cordial relationship that now occurs with the migrants and their left behind elderly relatives. They opinionated that:

My relationship with my father is more cordial. Before when I didn’t send money, we were friends, but now that I send money, we are even closer (IDI1/29/Female/3 years/Auckland, New Zealand/ACC case manager/Migrant/2024).

My mother and I are buddies now, before we were like cat and rat. She said I don't listen to her instructions. Now, we are very close, maybe because she knows that I have money now, and I can easily buy her anything she wants, hahahaha (IDI20/30/Female/4 years/Liverpool/Care worker/Migrant/2024).

Secondly, remittance has transitioned those who were regarded as stingy into cheerful givers. This was reiterated as some of the elderly participants explained how they thought their children was stingy while they were in Nigeria but givers ever since they migrated. Remittance was able to adjust the misconceptions that they left behind elderly relatives had towards their children's willingness to give. This was adequately encapsulated in this excerpt:

Our relationship is better than before because I have come to understand her that she is really caring and not stingy. My perception of her has changed because I thought she was not bringing enough when she was working in Nigeria. The relationship is better, and I am seeing another side of her (IDI4/60/Female/Chemistry teacher/1 migrant/Iwo/ Left behind Mother/2024)

Consciously or unconsciously, we use to say she was stingy but now she is not, she did not just have enough when she was in Nigeria (IDI22/73/Female/2 migrant/Left behind Mother/Iwo/2024).

Secondly, the concept of 'responsibility' is seen to be attached to the discussion on remittance in the palms of the left behind elderly relatives, who have equated remittance to being responsible. This interpretation is not only specific to the left behind elderly relatives but also the migrants who have experienced how involved they have become in the decision process and power control within their elderly parents' household. It was derived from the study that migrants remitting money at home makes them more responsible, accountable and they have become of age to be aware of projects within their elderly parents' household and contribute significantly to the well-being of this household. This was explicitly described in the supporting statements below:

It makes them much more responsible. We allow them to make necessary contributions to the family. For instance, the ones abroad are handling how their younger siblings will finish school and move abroad (IDI9/68/Male/Retired Lecturer/2 migrants/Left behind Father/Iwo/2024) They are even more involved in the process; they decide on the projects to embark on at home and they contribute money to it. We will give each person their own share IDI12/64/Male/5migrant/Ede/Re-wire/Left behind father)

I think my children have become more responsible, their willingness to contribute to extended family projects is remarkable. They would have spoken to themselves and come up with what they want to do. All they do is tell me that they have agreed to do so and so. They are more responsible, and I like it (IDI2/81/Female/Retired banker/ 5 migrants/ Left behind Mother/Iwo/2024).

They were responsible before, but it was if when they started making more money abroad and sending money to me, it just became better (IDI22/73/Female/2 migrant/Left behind Mother/Iwo/2024).

He is now calling to ask for my advice because he feels I am more responsible, that I can look back and take care of them (IDI1/29/Female/3 years/Auckland, New Zealand/ACC case manager/Migrant/2024).

In addition, the act of remitting home has increased the level of involvement of the migrants in the decision-making process that occurs in their left behind elderly relatives' homes. The rate of responsibility that has been accustomed to the act of remitting has also become reflected in how they become involved when their parents try to make decisions. However, none of the left behind elderly relatives acknowledged how much involvement that their migrants have when it comes to elderly relatives making decisions. The migrants on the other hand have recognized this change and milestone. This was reflected below:

My involvement in decision making has become more. Before they make decisions now, they call me because they will need my financial support. Before, they did not need me because I did not have money. Now, I know almost everything that is going on in the house better than when I was even in Nigeria and living under the roof, I am very important.
(IDI16/26/Female/3 years/UK/Children social worker/Migrant/2024)

And:

I think sending money home affects my involvement in the decision-making process of my parents. They see me as responsible enough to be let in into what is going on, but I don't exercise power control on them.
(IDI17/34/Male/3 years/Canada/Project Manager/Migrant/2024)

These new formed relationships between the migrants and their left behind elderly relative are depicted in the concept of *omoluabi* meaning a responsible child. Fayemi (2009) and Omobowale et al (2018) explored the in-depth connotation of who a responsible child is? For them, a responsible child is one who was brought with the cultural orientation of their society, who adhered to these morals and also remembers the community and family he emerged from.

Discussion of Findings

One of the most defining features of the 21st Nigeria society is migration specifically emigration to western countries. Emigration has become the new normal for most Nigerian homes, a path of success and the search for greener pastures. Words on the street term the process of migrating as *japa* which basically means to leave in earnest or run away. Recent migration studies have affirmed that the youth are mostly the largest population to migrate out of Nigeria because of their agility, wealth of knowledge and capability to work and their search for better standard of living for themselves and those that are left behind (Ojuri & Akanle, 2025). Beyond this, the dilapidating condition of the Nigeria society, the high unemployment rate, and insurgency has led to the urgency of Nigerians to leave the country (Liu, 2023; Olumoyo & Abiri, 2023). While it is the desire of most Nigerians to migrate, situational report shows that the young adults are at the center and most widely migrated group. From the socio-demographic characteristics of the migrant participants of this study, the age range of these migrants were between 26 to 41, who are mostly those who occupy the prime working age and are regarded as young adults. This set of people have migrated for about 3 years to 10 years. In addition, the study showed that both the female and male gender rate of migration from Nigeria are at par.

The socio-demographic characteristics of the migrants gives a vivid description of the composition of the migrants from Nigeria which speaks to the gender equality associated with migration. The finding corresponds with the work of Adhikari et al (2021) and the division for the Advancement of Women (2021). who stated that as of 2019, the number of Nigerian migrants had moved from 450,000 to about 1.5 million people from the year 1990 to 2019 while the number of women migrant had increased to about 51% in 2019. Firstly, this explains the tremendous shift that Nigeria has experienced since conversation on gender equality or equity have been ongoing. Women are attaining mobility and independence to migrate at free will. Geographically, the young adults of these left behind elderly relatives often migrate to countries such as United Kingdom, United State of America (USA), Canada, and New Zealand which corresponds with the findings of Ojoko (2022) who affirmed that the top three destination countries for Nigerians were United Kingdom, USA, and Canada.

In today's Nigeria economy society, the labor market for youth has not been much favorable given that salaries earned does not necessarily commensurate with the workload. In addition, some of the youths are yet to be gainfully employed. All these acts have push for Nigerians to search for greener pastures outside their country. This research was able to prove that most of these young adults have better opportunities abroad, hence, they migrate. For instance, the elderly people of these migrants were able to confirm the opportunities that their migrants are mostly going to have abroad rather than staying back in Nigeria, hence, their support in the migration of their young adults. These findings were explicitly expressed in the work of Ebimbo, Chukwu & Okoye (2022) who ascertained that older adults rationalize the emigration of their young adults because they see that they have better opportunities when they migrate.

From the analytical standpoint of the migrants who have been remitting home, the study showed that though the left behind families may understand the struggle with migrating and settling down abroad, living the reality differs, hence, the importance of migrant's perspective. The reality of these migrants in their quest to remit money home leads to the struggle they encounter in their destination countries. The experience of engaging in more than a job per day, of living below their income, such as eating less hygienic food and living in a shared apartment and working more than the expected hours all to ensure they send money home. While the left behind elderly parents were not verbal in the pressure they place on these migrants, the migrants expressed the pressure they face with the continuous need to remit either to pay back debt or improve the living conditions of their left behind elderly relative or take up the responsibility of siblings' education. There is an obligation to be responsible and to remember home. Though the migrant recognized their struggles, it was never a barrier to remit home, rather, their obligation surpasses their own personal aggrandizement. Socialization and cultural orientation bind the level of obligation that migrants have towards their left behind elderly people especially in Nigeria. Nigerians have been socialized to understand the importance of catering for the aged, there is the responsibility vested on young adults to take care of their older people when they become aged and to take over their parents' responsibility (Tanyi, et al, 2018; Lu & Chiu, 2024). These socialization and cultural undertone in remittance led to the emergence of the concept of black tax in this study.

Black tax typically refers to the financial contributions that black professionals in other countries are expected to send home to their original households (Mangoma & Wilson-Prangley, 2018; Carpenter & Phaswana, 2021; Boima & Oyedemi, 2024). This is a concept that was first adopted in South Africa to explain the income that young migrant sends to support their families in their home countries. A recent article on black tax among South African explored the lived experiences of the senders and recipients on black tax either has a burden or ubuntu. Ubuntu here means 'humanity'. The article answered the questions on the culture of humanity that make migrants feel responsible to the livelihood of their original households (Whitelaw & Branson, 2020). The culture of humanity and the ideology of 'I am because you are' was evidently clear in the experiences of the left behind elderly people with remittance. The concept of ubuntu and *omoluabi* share some level of similarity in their subjective interpretation as they both hope to explain humanity, respect, reciprocity and responsibility. This ideology governs the mutual exchange (remittance) between the migrants and the left behind people, the reciprocity and the solidarity amongst the parties. Whilst the migrants are being advised against black tax, there is a clear cut in solidarity and giving back to their home countries. The migrants' experiences with sending remittance home also described how black tax is an African ideology which is not the reality of western countries as it was clearly articulated in the findings of the study.

The flow of remittance to left behind relatives required some level of adjustment and adaptation from the migrants. The study was able to lay claim to the importance of budgeting, consistency of the flow of remittance, and the need to be gainfully employed as they have impact on the flow of remittance to the left behind elderly people. The study also found the impact of remittance on the migrants' self-actualization as they are all part of the experiences of the participants. For the migrants to achieve the continuous flow of remittance to the left behind elderly people, employment status and budgeting play a crucial role. Without these important tools, adjusting to the reality of sending remittance becomes difficult for the migrants.

Underscored from the lived experiences of these migrants as they remit home is the fact that the meanings they attach to remittance influences their experiences with the left behinds. Self-actualization as one of the meanings attached to remittances focuses on the fulfilment that the migrants experience when they engage in the act of remitting. It speaks of the intrinsic value that migrants get through remittance which gives them that sense of achievement. While remittance takes the form of intrinsic value, it is also extrinsic as remittance

is a monetary value capable of cushioning the effect of inflation on households. It is described as another source of income for the left behind elderly people because most of the elderly people receive their pension, however, inflation does not allow the pension to commensurate with the needs of the elderly people. Through remittance, they become capable of meeting their needs and more. Amuedo-Dorantes (2014) affirmed the good of remittance to receiving households that remittance increase the well-being of receiving households by increasing their consumption level, healthier lifestyle, and living conditions. A study in Nepal also found that remittance significantly contributes to improved standard of living, increase in income level and human development (Nepal Rastra Bank, 2012).

Sociologically, the family unit is the first agent of socialization with the responsibility of fine-tuning children to adults that conform to the expected behavior required to function adequately within the confine of a particular society (Moshood, nd). Through this socialization phase, the migrants became subconsciously aware of the obligatory role to remember and take care of their elderly people. The quality of parent-child relationship plays a significant role to the extent to which the migrants feel obligatory to remit to their left behind elderly people. Though, the study did not discover non-remittance by migrants, it sure realized the variability and extent to which people remit. Those who constantly remit expressed a much closely knitted relationship with the elderly people compared to those who seldomly remit.

Significant meanings attached to remittance upholds the ideology of social action theory wherein interaction with a phenomenon goes beyond the face value rather they form, mould and remould relationships. In this study, it was found that the left behind elderly people relationship with remittance influences their relationship with their migrants. The meaning of love, remembrance, sacrifice, and spirituality attached to remittance shapes how the elderly people interact with their children and how the children view their relevance in the life of the left behind elderly people. It was ascertained that remittance has the power to build and solidify relationships between the sender and recipient of remittances. Migrants were able to explore new dimensions of relationships with their elderly people such as involvement in decision making, redefining personality, adjusting misconceptions, and becoming more responsible. The migrants affirmed how relevant they have become since they started remitting and how involved they are. It was further clarified that distance was not a limiting factor to their involvement because the migrants who send remittance are now defined as 'responsible'. While remittance acts as a catalyst to moulding and re-shaping relationships, latently, it improves the quality of life of both the migrants and the left behinds, in this case, left behind elderly people. Elderly people are relieved of major parental responsibilities which are now handled by their young adult migrants. The migrants on the other hand feel important, needed and relevant, which also improves their quality of life (Simoni & Voirol, 2020; Bustamante, 2024).

Through remittances, migrants are seen to be responsible, futuristic and selfless, though the elderly people hold the position of not been expectant, yet they interpret the flow of remittance to them by ascribing 'the sense of responsibility' to what their migrant children send to them. A contrast between before migration and after migration showed the transition of the migrants from not being able to send money to eventually becoming capable of remitting fund home. A study in India by Mandal and Paul (2024) also attested to how the mental and physical wellbeing of left behind elderly relatives improves via remittance. In addition, this once again shed lights on the dilapidating situation of the Nigerian economy which does not necessarily favor the Nigeria young adults' earning power nor purchasing power. It lays emphasis on the high unemployment rate, and non- futuristic possibilities for the young generation. At the corner of the left behind elderly parents, remittance is equated to children fulfilling their cultural and religious obligations to their elderly people. The experiences of elderly people with remittance changed the positioning of their migrant children to providers within the elderly's household.

Through the flow of remittance to left behind elderly people, children who before migration were described as stingy are now cheerful givers since they now remit. Children who were not regarded as shining stars are now the beacon of hope from financial struggles. While these were subtle mindset that the elderly people have towards their migrant's personality, it also buttresses the inadequacies of Nigeria economy of incapacitating younger adults from what is described as their responsibility to their older people. From the digest of the data, it was found that before the migrants travelled, they were struggling to meet ends meet, eating from hand to mouth and not having enough to cater for the needs of their older people. The concept of responsibility born out of remittance flow, social relationships become solidified, migrants are more accountable, and even responsible for the welfare of younger siblings.

While the obligation of remitting money is being fulfilled towards the left behind, workable strategies are put in place by the migrants to ensure their personal needs are not affected in a bid to remit home. Though remitting is an accepted obligation, coping mechanisms such as budgeting, communication and knowing fulfilling all expectations is a mirage where ways migrants kept the sanity of mind when it comes to remittance and meeting left behind people's expectations. Most of these migrants applied a budgeting strategy whereby allowances are sent to their elderly people monthly or bi-weekly. This allows the migrants to plan their finances, their own future and needs while still taking the elderly people into consideration. Communicating their standpoint on those expectations was adopted by the migrants. The migrants voice out the possibility of meeting those expectations or not at that point in time without pressuring themselves into actualizing those expectations. The opportunity to communicate their possible capacity hinges on the level of bond that has been established that allows for freewill communication which aligns with other studies (Bustamante, 2024; Simoni & Voirol, 2021). Coming to the realization of the impossibility of meeting all expectations of left behind elderly people is a tool for managing expectations.

Conclusion and Recommendation

Given the level of modernization experienced in Nigerian societies overtime, culture, and socialization still has a stronghold on how people relate with modern day realities. Regardless of the exposure to the new reality of remitting to home countries, cultural socialization has much impact on moral obligation over geographical influence. While communal living, and culture explains the existentiality, it is not oblivious of the rationalization of human being. While cultural bonds are inevitable, there is also the evaluation of cost and benefit in every interaction. The rationalization of relationship has transformed when it comes to relating with remittance receiving elderly people. It showcases man as both a social and a rational being capable of making informed decisions through predictability and efficiency. To this end, no matter how socially, culturally responsible a human being, they are still calculative in their actions.

It was therefore recommended that migrants should endeavor to economically establish most of these left behinds to reduce the financial demands that are constantly been made. Also, strategic mechanisms need to be adopted by migrants to reduce the pressure from home countries and establish themselves in their destination countries.

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Compulsive Internet Use, Perceived Stress and Positive Mental Health as Predictors of Academic Procrastination among University of Ibadan Undergraduates

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Abstract

Academic procrastination among undergraduate students has been linked to negative outcomes such as poor academic achievement as well as undesirable behavioral tendencies. Yet little research attention has been given to the predisposing factors to academic procrastination. Therefore, this study examined the influence of Internet Use, perceived stress and mental Health on academic procrastination among University of Ibadan Undergraduate Students. Data were obtained from 251 undergraduates at the University of Ibadan using a structured questionnaire. The participants who were purposively selected based on ongoing internet use, enrollment as undergraduate students at the University of Ibadan and willingness to provide informed consent. Results of multiple regression analysis revealed that the overall model was significant, $F(3, 244) = 33.26$, $p < .001$, and accounted for 29 percent of the variance in academic procrastination. Compulsive internet use ($\beta = .46$, $p < .001$) and mental health ($\beta = -.13$, $p < .05$) were significant independent predictors of academic procrastination but perceived stress was not significant ($\beta = .02$, $p > .05$). Sex ($\beta = .14$; $p < .05$) and level of study ($\beta = .17$; $p < .05$) were significant demographic factors whereas age, department and faculty were non-significant. The practical implications of findings, recommendations for policy intervention as well as future research directions are discussed.

Keywords: Academic procrastination, compulsive internet use, perceived stress, positive mental health, University of Ibadan undergraduates

Introduction

Academic procrastination is a common challenge among university students, which is the deliberate postponement of academic tasks even when one is aware of the potential implications. However, could compulsive internet use be promoting this pattern of behaviour? Is there a link between students' tendency to procrastinate their academic obligations and their perceived stress? Could positive mental health have a protective effect? And beyond these psychological variables, how do demographic factors like gender, age, level of study, department, and faculty impact the procrastination behaviors of undergraduates at the University of Ibadan?

One of the primary psychological models that support academic procrastination is the avoidance coping theory. Avoidance coping has been consistently linked with behaviors such as procrastination, where individuals try to relieve stress by avoiding activities that make them feel uncomfortable or anxious (Flett, Blankstein, & Martin, 1995). Procrastination is often considered to be a breakdown in self-control caused by an interplay of individual traits and situational factors (Hen & Goroshit, 2012). This avoidance might show up behaviorally, like spending too much time on non-academic internet activities, or cognitively, such rationalizing delays or downplaying the importance of academic tasks. Similarly, the Temporal Motivation Theory (Piers Steel & Cornelius J. König, 2006) claims that procrastination is caused by a motivational imbalance in which students' motivation to finish activities on time is reduced by impulsiveness, poor task value, and prolonged reward delays. Procrastination is particularly prevalent in the educational environment (Rozental & Carlbring, 2014), with estimates that 80 to 90 % of students procrastinate (Hagbin, 2015; Islas, 2018).

The link between procrastination and various psychological variables has been established by previous empirical research. Compulsive internet use (CIU) and academic procrastination, for instance, were found to be positively correlated by Brate (2017) and Geng et al. (2018). This suggests that CIU can be a type of escape as well as a reinforcing behavior that delays productivity. Procrastination along with perceived stress have also been extensively researched. Studies by Sirois (2023) and Khalid et al. (2019) have shown that procrastination tendencies can become worse by perceived stress. Emotional regulation is negatively impacted by high stress levels, which makes students more likely to set aside academic tasks (Sirois, 2014). On the other hand, procrastination may be prevented by positive mental health (PMH), Ferrari et al. (2014) suggests that those who have better mental health also tend to have better coping strategies and self-control, which results in less procrastination.

By examining the independent and combined predictive effects of compulsive internet use, perceived stress, and good mental health on academic procrastination among University of Ibadan undergraduates, this study seeks to extend on previous research. In order to better represent actual psychological experiences in academic settings, this research adopts a more integrated approach. Although research on procrastination has looked at CIU, perceived stress, and PMH separately, few studies have looked at how these variables work together in a single model, especially among Nigerian university students. This study contributes to the body of research by thoroughly examining the ways in which these three psychological factors combine to affect academic procrastination. This study provides a comprehensive knowledge of the protective and risk factors that underlie procrastination by looking at them jointly. Compulsive internet use, perceived stress, and positive mental health are the main topics of this study since they demonstrate potential risks as well as advantages against academic procrastination. Research and theory support these factors. They are also relevant to the increasing psychological demands on students and the digital learning of today.

To achieve the study's objectives, the following hypotheses were tested:

1. Compulsive internet use will significantly and independently predict academic procrastination.
2. Perceived stress will significantly and independently predict academic procrastination.
3. Positive mental health will significantly and independently predict academic procrastination.
4. All three variables will jointly predict academic procrastination.
5. Demographic characteristics will also significantly and jointly predict academic procrastination.

Method

Research Design

This study adopts a cross-sectional survey research design to investigate the predictive effects of compulsive internet use, perceived stress, and positive mental health on academic procrastination among undergraduate students at the University of Ibadan. This design allows for the collection of quantitative data at a single point in time to analyze relationships among the variables of interest.

Participants

The study population comprised of undergraduate students from the University of Ibadan. A total of 251 students participated in the study.

Sampling Technique

This research adopted purposive sampling technique. Questionnaires were given to undergraduates who actively engage in internet use and experience academic pressures. Inclusion criteria required participants to be actively enrolled undergraduate students willing to provide informed consent.

Measures

1. Compulsive Internet Use Scale (CIUS): This instrument, developed by Meerkerk et al. (2009), measures compulsive internet use behaviors. It consists of 14 items rated on a 5-point Likert scale ranging from 0 (never) to 4 (very often). Higher scores indicate greater levels of compulsive internet use.
2. Perceived Stress Scale (PSS-10): Developed by Cohen et al. (1983), this 10-item scale is rated on a 5-point Likert-type rating scale ranging from 0 (never) to 4 (very often). The PSS-10 is scored by summing the individual scores to get a total score, the higher the score the greater the perceived stress.
3. Positive Mental Health Scale (PMH): Developed by Lukat et al, it consists of 9 items that assess positive mental health. The response pattern for each item is a 4-point Likert scale ranging from 1 (disagree) to 4 (agree), higher scores represent better mental health status.
4. Academic Procrastination Scale (APS): The APS, developed by McCloskey (2011), measures students' tendency to delay academic tasks. The APS consists of 25 items and has a five-point Likert scale rating system ranging from 1 (strongly disagree) to 5 (strongly agree). Higher scores indicate greater levels of academic procrastination.
5. Demographic Questionnaire: This section collected information on participants' age, sex, level of study, department, and faculty.

Procedure

The data collection procedure involved reaching out to potential participants physically with physical questionnaires. Participants were requested to complete the physical questionnaire consisting of various scales measuring academic procrastination, compulsive internet use, perceived stress and positive mental health.

Data Analysis

Data were analyzed using Statistical Package for the Social Sciences (SPSS) version 25. Descriptive statistics (mean, standard deviation, and frequency distribution) were used to summarize the demographic characteristics of participants. Regression analysis was conducted to examine the independent and joint predictive effects of compulsive internet use, perceived stress, and positive mental health on academic procrastination.

Results

The study's hypotheses were tested using regression analysis. The results, arranged by hypothesis, are presented below.

Hypothesis one

Table 1: Simple Linear Regression Analysis Table showing independent prediction of Compulsive Internet Use on Academic Procrastination amongst university of Ibadan undergraduate students

Variable	R	R ²	F	P	β	T	P
Compulsive use Internet	.53	.28	93.37	<.001	.53	9.66	<.001

*Dependent Variable: Academic Procrastination

A simple linear regression was conducted to examine whether compulsive internet use predicts academic procrastination. The regression model was significant, $F(1, 246) = 93.37, p < .001$ (see Table 1), and explained 28% of the variance in academic procrastination ($R^2 = .28$). The regression coefficient for compulsive internet use was significant, $\beta = .53, p < .001$, indicating that higher levels of compulsive internet use were associated with increased academic procrastination.

Hypothesis two

Table 2: Simple Linear Regression Analysis Table showing independent prediction of Perceived Stress on Academic Procrastination amongst university of Ibadan undergraduate students

Variable	R	R ²	F	P	β	T	P
Perceived Stress	.25	.06	16.06	<.001	.29	4.01	<.001

*Dependent Variable: Academic Procrastination

A simple linear regression was also conducted to assess whether perceived stress predicts academic procrastination. The regression model was significant, $F(1, 246) = 16.06, p < .001$ (see Table 2), accounting for 6% of the variance in academic procrastination ($R^2 = .06$). The regression coefficient for perceived stress was significant, $\beta = .29, p < .001$, suggesting that students who experienced higher levels of perceived stress were more likely to procrastinate academically.

Hypothesis Three

Table 3: Simple Linear Regression Analysis Table showing independent prediction of Positive Mental Health on Academic Procrastination amongst University of Ibadan undergraduate students

Variable	R	R ²	F	P	B	T	P
Positive Mental Health	.21	.04	10.87	<.05	-.21	-3.30	<.05

*Dependent Variable: Academic Procrastination

A simple linear regression was conducted to determine whether positive mental health predicts academic procrastination. The model was significant, $F(1, 246) = 10.87, p < .05$ (see Table 3), explaining 4% of the variance in academic procrastination ($R^2 = .04$). The regression coefficient was significant, $\beta = -.21, p < .05$, indicating that students with higher levels of positive mental health reported lower levels of academic procrastination.

Hypothesis Four

Table 4: Summary of Multiple Regression Analysis showing joint prediction of Compulsive Internet Use, Perceived Stress and Positive Mental Health on Academic Procrastination amongst University of Ibadan students

Variable	R	R ²	F	P	B	T	P
Compulsive Use	Internet .54	.29	33.26	<.001	.46	8.49	<.001
Perceived Stress					.02	.21	>.05
Positive Mental Health					-.13	-2.14	<.05

*Dependent Variable: Academic Procrastination

A multiple regression analysis was conducted to examine whether compulsive internet use, perceived stress, and positive mental health jointly predict academic procrastination. The overall model was significant, $F(3, 244) = 33.26, p < .001$ (see Table 4), and accounted for 29% of the variance in academic procrastination ($R^2 = .29$). Among the predictors, compulsive internet use ($\beta = .46, p < .001$) and positive mental health ($\beta = -.13, p < .05$) were significant independent predictors. However, perceived stress did not significantly contribute to the model ($\beta = .02, p > .05$).

Hypothesis Five

Table 5: Summary of Multiple Regression Analysis showing joint and independent prediction of Age, Level of Study, Department and Faculty amongst university of university of Ibadan students

Variable	R	R ²	F	P	B	T	P
Age					-.10	-1.19	>.05
Sex					.04	2.11	<.05
Level of Study					.17	2.01	<.05
Department	.18	.03	1.69	>.05	-.04	-.52	>.05
Faculty					.07	-.92	>.05

*Dependent Variable: Academic Procrastination

A multiple regression was conducted to determine whether age, sex, level of study, department, and faculty jointly predict academic procrastination. The model was not statistically significant, $F(5, 240) = 1.69, p > .05$ (see Table 5), explaining only 3% of the variance in academic procrastination ($R^2 = .03$). However, sex ($\beta = .14, p < .05$) and level of study ($\beta = .17, p < .05$) emerged as significant independent predictors. Age ($\beta = -.10, p > .05$), department ($\beta = -.04, p > .05$), and faculty ($\beta = .07, p > .05$) did not significantly predict academic procrastination.

Discussion and Conclusion

This study set out to examine how compulsive internet use, perceived stress, and positive mental health predict academic procrastination among undergraduate students at the University of Ibadan. Findings from the regression analyses confirmed that compulsive internet use and positive mental health independently and significantly predict academic procrastination, whereas, when taken into account with the other factors, perceived stress does not.

The strongest predictor was found to be compulsive internet use, indicating that students who use the internet excessively and frequently tend to put off doing their academic tasks. On the other hand, academic procrastination was negatively correlated with positive mental health. Discipline and consistency in completing academic work are more likely to be displayed by students who are emotionally, socially, and

psychologically well. Despite exhibiting a small independent association with academic procrastination, perceived stress in the joint model failed to remain significant, showing the complex sometimes indirect role that stress may play in impacting procrastinatory behavior. Demographic variables like sex and level of study also contributed significantly, though weakly, to predicting procrastination. Gender differences exist in procrastination tendencies and students at higher academic levels were more prone to delay academic work, probably as a result of a change in priorities or an increase in workload. Other variables such as age, department, and faculty did not show significant influence.

While this study adds to the growing body of research on academic procrastination, it is not without limitations. One key limitation is the cross-sectional nature of the study, which prevents the establishment of causal relationships. Another limitation lies in the use of self-report measures, which are subject to biases such as social desirability or inaccurate self-assessment.

This study serves as a first step toward understanding how digital behavior, emotional health, and stress influence procrastination among students. Future research could benefit from employing longitudinal designs to explore how these variables interact over time. Additionally, qualitative research that records students' subjective experiences with internet use and academic delays would be beneficial.

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Exploratory Investigation of Transgenerational Transmission Trauma among Biafra War Survivors and Offspring in Ibadan, Nigeria

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Abstract

The existence of Transgenerational Transmission of Trauma (TTT) has been confirmed by literature. TTT has been witnessed among populations who have experienced war and violence, therefore this study aims to explore the possible incidence of transgenerational transmission of trauma among Biafra war survivors and offspring (primarily Igbos) in Ibadan, Nigeria. This study utilized a mixed sequential research design that combines qualitative and quantitative methods. The first phase comprised a qualitative study among survivors of the war and their offspring, five participants in total, from which a thematic analysis was conducted. Themes of violence and trauma, family conversations, attachment to hometown, emerge as indicators of the war's enduring impact, serving as correlates of transgenerational transmission of trauma. Quantitative data was obtained through a cross-sectional survey of 169 participants using psychometrically sound scales. Appropriate tools were used to test the hypotheses. The findings of the quantitative phase indicate a significant relationship between war trauma exposure and transgenerational transmission of trauma ($r=0.18$; $p<0.05$), a significant relationship between family conversation and transgenerational transmission of trauma ($r=0.33$; $p<0.001$) and no significant relationship between hometown attachment and transgenerational transmission of trauma ($r=0.04$; $p>0.05$). Based on the findings, the study concludes that the factors identified were related to Transgenerational Transmission Trauma among Biafra war survivors and their offspring in Ibadan, Nigeria.

Keywords: Transgenerational transmission of trauma, Biafra war, Family conversations, violence and trauma, hometown attachment

Introduction

Trauma can be understood as the effect of an overwhelming and extraordinary experience that leaves its victim feeling helpless (Gerdau et al 2017). This feeling of powerlessness can manifest itself in several or all realms of life and the functioning of a person who has been traumatized, namely, general self-efficacy, the ability to cope with stressful events and the ability to build or maintain close personal relationships. (Kizilhan et al., 2022). Psychological trauma is a type of damage that violates the familiar ideas and expectations about the world of an individual or society, plunging them into a state of extreme confusion and uncertainty (Aydin, 2017)

Trauma, however, is not only an individual psychological phenomenon but also a collective one (Audergon, 2004). If we consider experiences shared by two or more individuals as collective in nature, then their shared traumatic experience can be referred to as collective trauma. (Koh, 2021), this study deals with trauma experienced by a collective; a group of people.

The vulnerability of traumatized persons to the development of specific and nonspecific trauma-related symptoms such as those of depression, anxiety, somatoform disorders, affective reaction disorders, psychosis, substance abuse, and post-traumatic stress disorder (PTSD) is considered high. (Pagotto et al., 2015) (Wenzel et al., 2000) and therefore these are also summarized as trauma spectrum disorders (Bremner et al., 2020).

Transgenerational Transmission of Trauma, which is also known as TTT has been reported by past studies such that on some level exposure to trauma of one generation can impact individuals of a subsequent generation (Yehuda & Lehrner, 2018). Observational studies on children of holocaust survivors formed the basis of the trajectory of this research (Rakoff, 1996), this phenomenon eventually became referred to as transgenerational transmission of trauma (TTT). TTT is fundamentally defined as the transmission of the effect of an experience of trauma from an individual or group of individuals in one generation to an individual(s) in later generations (Yehuda & Lehrner, 2018; O'Neill et al., 2018). TTT encompasses both more direct intergenerational transmission from family members who experienced the traumatic event(s) to second generation (from F0 to F1), as well as generation-skipping transgenerational transmission, from family members who experienced the traumatic event(s) to grand-children to great grandchildren (from F0 to F3 or F4, etc) (Yehuda & Lehrner, 2018). Since this time, this phenomenon has been observed in many contexts, including families who have experienced high rates of historical trauma (O'Neill et al., 2016), within regions with high frequencies of historical war, genocide and terrorism (Yehuda & Lerner, 2018; Sarkissan & Sharkey, 2021; Kizilhan et al, 2022; Kagoyire, 2023) and those who have undergone famine (Ahmed, 2010).

Based on this body of work, it is important to assess transgenerational trauma among Nigerians who experienced the Biafra War. The experiences of survivors have had profound effects on their lives and those of their descendants. Wars leave lasting scars, and it is the individuals who survive wartime who carry these indelible marks. A comparative study conducted in 2011 among wounded Biafra war veterans, Biafra war veterans and non-combatant Biafra war survivors, revealed higher scores of PTSD among wounded Biafra war combat veterans than Biafra war veterans survivors than the non-combatant Biafra war survivors, it also revealed that combat war veterans that had experienced intense ethnic, political or religious conflict scored significantly high on PTSD scores than Biafra war survivors that had no post war traumatic event (Obinna et al., 2011). It is interesting to note that over forty years after the war, individuals still experienced PTSD symptoms from the war. Anugwom and Nwadike (2024) reveals the extent of the harrowing experiences of sexual violence and sexual molestation suffered by women during the war. Literature has confirmed that children of traumatized parents may develop maladaptive psychological problems (Daud et al., 2005). These is what makes embarking on this study very important

Some factors of Transgenerational Transmission of Trauma have been identified from literature, the present study also explore its role among Biafra war survivors and offspring,

First is that of war violence and trauma, resulting from an event, series of events, or set of circumstances that is experienced by an individual as physically or emotionally harmful or threatening and that has lasting adverse effects on the individual's functioning and physical, social, emotional, or spiritual well-being (Substance Abuse and Mental Health Services Administration [SAMHSA], Trauma and Justice Strategic Initiative, p. 2). In general, trauma can be understood as the effect of an overwhelming and extraordinary experience that leaves its victim feeling helpless (Kizilhan, 2017)

Another factor identified is the pattern of family conversations, Family communication refers to the verbal and behavioral interactions by which family members impart information to each other about their needs and about their perceptions of others in the family. (Child and Adolescent Psychiatric Clinics of North America, 2004). Studies have shown that patterns of communication play a role in the transgenerational transmission of trauma across generations. The mode of communication significantly shapes the way members of the subsequent generations integrate trauma experienced by their parents or grandparents with their lives. (Kizilhan et al., 2022)

Also of relevance to transgenerational transmission of trauma is the place or home attachment or patriotism to hometown or country. Place attachment refers to the emotional connections people develop with specific locations, influenced by emotional and cultural bonds. In fact, it represents a symbolic relationship with a place, shaped by the emotional meanings and shared experiences associated with a particular area. This concept helps to explain how individuals perceive places and the ways they relate to them. (Altman & Low, 1992). Place attachment is one dimension of total place sensitivity and positive emotional attachment that develop between place and individual (Stedman, 2003b) and clarify one's sensitivity to a special geographical, situation that bond individuals to place sensitively.

With the intent of advancing knowledge, this study sought to answer the following research questions:

1. Is there an existence of transgenerational transmission of trauma among Biafra war survivors and offspring?
2. Does the Biafra war have an impact on sense of identity and community among its survivors and their offspring?
3. Will war trauma have an impact on transgenerational transmission of trauma among Biafra war survivors and their offspring?
4. Will family conversations have an impact on transgenerational transmission of trauma among Biafra war survivors and their offspring?
5. Will hometown attachment have an impact on transgenerational transmission of trauma among Biafra war survivors and their offspring?

Methods

Design

The study adopted a mixed method design which was conducted in two phases. Phase One was an exploratory qualitative study for the researcher to have in-depth understanding of the focus of the research and get further information from the perspective of the survivors and offspring of survivors of the Biafra war to the research

focus. Phase Two was a quantitative study to collect information from the survivors and offspring of survivors of the Biafra War on the correlates of transgenerational transmission of trauma.

Participants

Five participants participated in the first phase of this study, the oldest being 90 years and the youngest 21 years. These comprised individuals who survived the Biafra war. There was a mixture of males and females. A total of 5 participants were interviewed, of which 3 were female comprising 60% of the sample and two males, comprising 40% of the sample.

The participants of this phase of the study are Igbo people who are the offspring of survivors of the war. A total of 169 participants took part in this study, with 57.4% being male and 42.6% being female. The overwhelming majority of participants were Christian, comprising 95.9% of the sample, while 0.6% were Muslim and 3.6% identified as "other." Additionally, 92.3% of the participants were of Igbo descent, with the remaining 7.7% belonging to "other" ethnic groups. The mean age of the survivors is 68.73 years, while the mean age for offspring of survivors is 23.87 years. All participants consented to participate in the study voluntarily. The participants were selected through purposive sampling.

Data is collected using two self-report questionnaires; one for survivors of the Biafra war and the other for offspring of survivors. Both instruments are 73 items.

Measures

Two instruments were used: instrument for survivors and instrument for offspring of survivors. The instrument for survivors comprised, War Trauma Exposure is measured using the 23-item War Trauma Exposure Scale developed by Nurten Küçükertan and Ayşe Nuray Karanci (2023). The scale uses a 5-point Likert-type scale with respondents responding to questions like "Moving to another place to live", and "Wherever you go, thinking that you are not safe" with the options "experienced", and "not experienced". The degree of agreement for "Experienced", being "none", "a little", "moderate", "quite", "very much"

A factor analysis was carried out which identified that the scale has three sub-scales: "Negative Feelings", "Exposure to Violence", and "Loss". The overall Cronbach's Alpha reliability of the scale was .91, and that of the subscales were .86 (for Negative Feelings), .83 (for Exposure to Violence), and .76 (for Loss). In the present study, the War Trauma Exposure scale possessed strong internal consistency of .964. The Family Communication Pattern Instrument to measure family communication. The Revised Family Communication Pattern Scale was developed by McLeod and Chaffee (1972). Richie and Fitzpatrick (1994) revised and reconceptualized the original instrument and developed a more general measurement of family communication pattern called, The Revised Family Communication Patterns (RFCP). It is a 5-point, Likert-type scale. The parents' version is used. Results have revealed that Cronbach's Alpha values for Conversation Orientation is .75 and the Conformity Orientation is .87 (Abu Bakar & Afthanorhan). It posits two orientations: conformity orientation, characterized by a tendency to seek agreement within the family and authoritarian decision-making; and conversation orientation, characterized by shared decision-making with the child and frequent family discussion. However, the researcher only made use of the conformity orientation. The researcher made use of the parent version. The Cronbach's Alpha Reliability of the scale is .78 and .74. In the present study, the Family Communication Pattern Instrument possessed a strong internal consistency of .870

The Place Attachment Scale measures an individual's level of attachment to their hometown. It is a 5-point Likert-type scale. As a whole, the abbreviated three-item place identity scale demonstrated consistent construct validity across the seven international case studies and multiple contexts, with the abbreviated scale performing as well or better than the versions with more items based on the work of Williams & Roggenbuck (1989), Williams et al., (1992), Williams and Vaske (2003), and Raymond et al. (2010). As with the abbreviated place identity scale, the abbreviated three-item place dependence scale performed as well as the longer version except for the Savannah Residents case study where the CR for place dependence fell slightly below the 0.70 threshold. However, when the Cronbach Alpha was considered, the Cronbach Alpha estimates for the three-item scale surpassed the 0.70 threshold. the abbreviated three-item place dependence scales demonstrate consistent construct validity and perform as well as the extended scale based on the work of Williams & Roggenbuck (1989), Williams et al., (1992), Williams and Vaske (2003), and Raymond et al. (2010). The Hometown attachment scale in the present study possessed an internal consistency of .873. This

scale comprises 20 items from the PTSD Checklist for DSM-5 to measure PTSD symptoms. It is a 5-point Likert-type scale, with the degree of agreement ranging from.

It contains 20 items that can be divided into four subscales corresponding to the clusters in the DSM-5: Intrusion (five items), Avoidance (two items), Negative alterations in cognitions and mood (seven items), and Alterations in arousal and reactivity (six items). The items are rated on a 5-point Likert-type scale (0- “not at all” to 4 -“extremely”). The Cronbach’s alpha is .94. In this study, the internal consistency is also found to be .941.

The instrument for offspring of survivors primarily differs by the use of a secondary trauma scale rather than the PTSD symptom checklist, this is because the offspring did not directly experience the traumatic event. Secondary trauma is measured using the 20-item Secondary Trauma Scale developed by Robert W. Motta, Joshua M. Kefer, Michelle D. Hertz, and Sanam Hafeez. It is a 5-point, Likert-type scale. The questionnaire showed adequate internal consistency, with estimates of .88 for the student sample and .75 for the mental health sample. The Secondary Trauma scale possessed an internal consistency of .941

Procedure

Ethical approval was sought from the University of Ibadan, Social Sciences and Humanities Research Ethics Committee. The population were offspring of survivors of the Biafra war who lived during the period of the war and who may have witnessed or experienced traumatic events during the war. Participants were informed about the purpose of the study and their consent was obtained. After their consent, the interview was started and recorded. Notes were taken during the interviews and interviews took between twenty minutes to a little over one hour

The researcher went ahead to collect data from Seat of Wisdom, undergraduate students in Nnamdi Azikwe Hall, Independence Hall, Queen Elizabeth II Hall at the university of Ibadan. Data was also obtained from St Gabriel’s Catholic Church, Deeper Life Bible Church, Aleshinloye market, City Gate Church and a residential community around NISER.

Results

Qualitative study

Interviews were transcribed and thematically analyzed, identifying the correlates of transgenerational transmission trauma researched in this study: violence and trauma, family conversations and hometown attachment.

Hypothesis Testing

H₁: There will be a relationship between war trauma exposure and transgenerational transmission of trauma among Biafra war survivors and their offspring

H₂: There will be a relationship between family conversations and transgenerational transmission of trauma among Biafra war survivors and their offspring

H₃: There will be a relationship between hometown attachment and transgenerational transmission of trauma among Biafra war survivors and their offspring

Table 1: Inter-correlation Matrix Showing the Relationship among Age, War Trauma Exposure, Family Conversations, Hometown Attachment and Transgenerational Transmission of Trauma

	Variables	1	2	3	4	5	Mean	SD
1.	Age	--					28.30	15.26
2.	War Trauma Exposure	.42***	--				63.65	29.90
3.	Family Conversations	.50	.02	--			33.65	11.11
4.	Hometown Attachment	-.33***	-.32***	.24**	--		15.63	5.67
5.	Transgenerational Transmission of Trauma	.35***	.18*	.33***	.04	--	42.14	17.85

- * Correlation significant at 0.05
- ** Correlation significant at 0.01
- *** Correlation significant at 0.001

Hypothesis One was tested using Pearson Product Moment Correlation, with results in Table 1. The results indicate that there is a significant positive relationship between exposure to war trauma experience and transgenerational transmission of trauma among Biafra war survivors and their offspring ($r_{(167)}=0.18$; $p<0.05$). The results show that while exposure to war trauma increases, transgenerational transmission of trauma also increases and vice versa. Further, the results indicate that variance in war trauma exposure accounts for 18 percent of the variance observed in transgenerational transmission of trauma.

Hypothesis Two was tested using Pearson Product Moment Correlation, with results in Table 1. The results indicate that there is a significant positive relationship between family conversations and transgenerational transmission of trauma among Biafra war survivors and their offspring ($r_{(167)}=0.33$; $p<0.001$). The results show that while family conversations increase, transgenerational transmission of trauma also increases and vice versa. Further, the results indicate that variance in family conversations accounts for 33 percent of the variance observed in transgenerational transmission of trauma.

Hypothesis Three was tested using Pearson Product Moment Correlation, with results in Table 1. The results indicate that there is no significant relationship between hometown attachment and transgenerational transmission of trauma among Biafra war survivors and their offspring ($r_{(167)}=0.04$; $p>0.05$).

Discussion

Hypothesis one tested the relationship between exposure to war violence and trauma transgenerational transmission of trauma. The results indicated that there is a significant relationship between exposure to war violence and trauma and transgenerational transmission of trauma, ($r=0.18$; $p<0.05$). This result is supported by previous studies on transgenerational transmission of trauma. (Lev-Wiesel, 2007; Schick et al., 2013; Danieli et al., 2016; Kizilhan et al., 2022)

Hypothesis two tested the relationship between family conversations and transgenerational transmission of trauma. The results indicated that there is a significant relationship between family conversations and transgenerational transmission of trauma. ($r=0.33$; $p<0.001$).

This result tallies with previous studies on communication patterns of individuals with trauma histories (Fivush, 2010; Kizilhan et al., 2022). Frost's 2020 study on transgenerational memories recounted the importance of communication patterns among the people of Democratic Kampuchea (now Cambodia). Communication plays a role in the way offspring of survivors of collective trauma integrate the trauma into their own lives. (Kizilhan et al., 2022)

Hypothesis three tested the relationship between hometown attachment and transgenerational transmission of trauma. There was no significant relationship between hometown attachment and transgenerational transmission of trauma ($r=0.04$; $p>0.05$) To my knowledge, research on this specific relationship is scarce, literature on attachment and transgenerational transmission of trauma is usually concerns attachment styles, not place attachment.

Limitations

This study was limited by the following challenges:

There was a dearth of literature on the relationship between hometown attachment and transgenerational transmission of trauma. In addition to this, literature reviewed are from other contexts or places that have experienced collective trauma, histories of war, genocide and violence against communities. This limited the literature review and discussion. Majority of the literature reviewed were not from the Nigerian context as there are very limited literature the variables of interest.

The lack of adequate literature from the Nigerian context also meant that all the instruments used were not of Nigerian origin and had not been standardized for use in Nigeria. This might play a role in the results of the study and strongly limited the findings.

The difficulty accessing survivors of the Biafra war proved a challenge, which resulted in an unequal sample despite, thus the level of PTSD symptoms among Biafra war survivors was much higher than the level of secondary trauma among offspring of survivors.

Recommendations

Based on the findings of this study, the following recommendations are made:

During data collection, a war veteran set to participate in the quantitative study left in anger, expressing that he was reminded of his brothers who died in the war. This indicates that many individuals may not have processed the traumatic experiences they endured, which could affect their work life, community involvement, and various other aspects of life.

There is a need for public awareness on transgenerational transmission of trauma, enlightenment on the importance of going through appropriate interventions to process and heal from traumatic experiences such that trauma transmission can be prevented. This increased awareness will improve health outcomes and protect future generations from further transmission of trauma. This can be done through social and mass media by healthcare professionals.

There is a need for acknowledgement of the traumatic events experienced by war survivors and a willingness to discuss the past to better understand and prepare for our future. This requires the contribution of both the government and stakeholders. Access to psychotherapy should also be made available to communities with history of collective trauma.

Transgenerational trauma is real and prevalent, and those who are traumatized may not know they need help. There is a need to promote policies that enhance psychological health, which could be facilitated in workplaces, schools, and institutions.

Further study of transgenerational transmission of trauma should be carried out in southeastern Nigeria, that is states primarily dominated by Igbo.

Finally, other southern states that are not Igbo-dominated should be studied to compare findings and the perspectives of non-Igbos should be explored.

By implementing these recommendations, it is expected that there is in-depth understanding of the transgenerational transmission of trauma among Biafra war survivors. It is expected that this understanding will translate to healing and better quality of life, for survivors of the war and their offspring.

The insights gained from this study hold significant value for the development and implementation of policies aimed at addressing the lingering conflicts stemming from the Biafra War among various Nigerian communities. By carefully considering these findings, policymakers can create targeted strategies that promote reconciliation, foster dialogue, and ultimately contribute to a more peaceful and cohesive Nigeria.

Suggestions for Further Research

Based on the findings of this study, further study should be conducted to explore transgenerational transmission of trauma among Biafra war survivors among non-Igbo populations as well as in southeastern states.

To provide more insights on transgenerational transmission of trauma among Biafra war survivors, these studies should utilize an intervention-based multidisciplinary approach. The use of a multidisciplinary research team will allow more robust research. The study should also be a cross-sectional study with a timeline of at least one year to improve findings.

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Daily Work Hours, Work-Life Balance and Occupational Mental Health of Nigerian Remote Workers

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Abstract

Background: The global rise in the volume and market size of the gig economy has been a consistent trend, and Nigeria is not excluded from this trend. Nigeria has a growing population of remote workers. However, reports show that there is a high prevalence of negative occupational mental health experiences such as depression, anxiety and mental exhaustion among this population of workers.

Research Aim: Our research focused on understanding the dynamics of occupational mental health outcomes among remote workers in Nigeria by empirically examining the role of daily work hours and work-life balance.

Methods: The research gathered data from 254 Nigerian remote workers using a convenient sampling technique and an online questionnaire. The statistical investigations were conducted using the analysis of variance (ANOVA), Tukey honestly significant difference (HSD) mean comparison and simple linear regression.

Findings: The findings showed that daily work hours had a significant influence on remote workers' mental health in Nigeria ($F_{(3, 259)}=10.84, p<.001$). Our mean comparison analysis of different daily work hour grouping signified that remote workers in Nigeria working above 15 hours daily ($M=32.00, SD=10.62$) scored significantly lower on occupational mental health than those working 8 hours ($M=47.43, SD=10.15$) ($Mean\ Diff.=-15.43, p<.05$) and significantly lower than those working 13 to 15 hours ($M=53.05, SD=9.97$) ($Mean\ Diff.=-21.05, p<.05$). The analysis also showed that remote workers in Nigeria who work 9-12 hours per day ($M=42.91, SD=9.97$) scored significantly lower on occupational mental health than those working 8 hours or less per day ($M=47.43, SD=10.15$) ($Mean\ Diff.=-4.52, p<.05$). The simple regression analysis showed that work-life balance plays a positively significant predictive role in the occupational mental health of remote workers in Nigeria ($F_{(1,252)}=53.49, p<.001$) with a R^2 value of .17.

Conclusion: The research concluded that excessively long daily hours have deteriorating effects on the mental health of Nigerian remote workers, being a risk factor for work-related depression and anxiety. On the other hand, work-life balance plays a vital role in boosting the mental well-being of Nigerian remote workers. We recommended approaches for reducing daily work hours, improving or increasing work-life balance and discussed suggestions for future studies.

Introduction

Occupational mental health is one of the dimensions of employee wellbeing; other dimensions are emotional and physical (Suparna & Jaiswal, 2021). Occupational mental health can be defined as employees/workers' realisation of their abilities, resilience against the normal stresses of life, capability to work productively, and capability to contribute to their communities (Osifo, 2016). Additionally, occupational mental health problems refer to diverse forms of common or non-pathological emotional experiences such as anxiety, depression and stress that are work-related or outcomes of occupation characteristics (Osifo, 2016).

Mental health has been described as a major problem in the Nigerian workforce, coming as a result of poor organisational resources to support employees' mental wellbeing and a lack of awareness of occupational mental health (Oginni et al., 2023; Osifo, 2016; Oyewunmi et al., 2015). A report indicates that about 30%-50% of Nigerian employees experience work-related mental illness (Olaniyan, 2023). In the specific context of Nigerian remote workers, a report shows that 45% of individuals in the population experience negative work-related mental health outcomes such as depression, anxiety and mental exhaustion (Nigerian Freelance Master, 2023). The negative mental health experience among Nigerian remote workers is a critical problem because it negatively affects productivity, work and life satisfaction, and overall self-rated well-being. Persistent poor mental health among the population can also pose societal issues, including increased risk of suicidal ideations and declines in the contributions of the population to societal/national development.

Regardless of this problem posed by adverse mental health among Nigerian remote workers, a critical review of the existing literature depicts a lack of empirical investigations understanding the factors that interact with occupational mental health outcomes in the Nigerian remote work context. However, the present research seeks to understand the role of daily work hours and work-life balance in occupational mental health outcomes in the Nigerian remote work context. Abug et al. (2023) reflect on the work-life balance and work duration dynamics among remote workers. The authors note that remote workers, especially freelancers, work for very long durations and often have a poor work-life balance. Winkler-Titus et al. (2025) also specify that

a major work characteristic of remote working is excessively long work hours, often longer than the duration used in on-site occupational arrangements.

Ma et al. (2024) examination of the relationship between long working hours and mental health status in Japan shows that persons who work 55 hours or longer per week are more likely to experience mental illness than those who work fewer hours. Similar findings are reported in the study by Hong et al. (2022), which found that long working hour is associated with occupational stress, low well-being and an increased risk of depression. Sato et al. (2019) discuss that even after controlling for individual fixed effects, long working hours significantly deteriorate the mental health of workers. These pieces of evidence from the existing literature suggest an a priori stance for the present research that longer work hours lead to lower work-related mental wellness among Nigerian remote workers. The job demands – job resources model by Bakker and Demerouti (2007) similarly posits that high job demands such as long work hours and associated physiological and psychological requirements negatively affect workers' mental health, often by leading to emotional or psychological burnout, mental exhaustion, depressive symptoms or anxiety.

In contrast to long work hours, work-life balance has been demonstrated to positively predict work-related mental health. Findings in the studies by Oginni et al. (2023), Okeya et al. (2020) and Akanji et al. (2020) indicate that a high work-life balance is vital to building and sustaining positive mental health among employees in Nigeria, while a low work-life balance can be detrimental to workers' mental health statuses. Baker et al. (2024) empirical investigations reveal that work-life balance has a negative relationship with depression and anxiety, implying that a high work-life balance reduces workers' risk of experiencing work-related depressive symptoms and anxiety. These insights enable the present research to form an informed opinion that work-life balance stimulates positive occupational mental health among remote workers in Nigeria. Our opinion is backed by Wilensky's (1960) spillover theory, which argues that employees create an extension of the affective state in one domain (work or life) to the other. Staines (1980) discusses that positive spillover, which is characterised by positive affect and satisfaction with both domains, will strengthen occupational mental health. However, a slightly contrasting result is reported by Onwuamaegbu and Sydney-Agbor (2023), who claim that work-life balance does not significantly predict occupational mental health among employees in Nigeria.

The review of the existing corpus of evidence in the literature indicate an absence of investigations into the influence daily work hours and work-life balance on the occupational mental health of remote workers in Nigeria. To address this significant lacuna in the existing literature and develop practical recommendations to address a pressing problem, this study seeks to understand the differential influence of work hours and the predictive effect of work-life balance on remote workers' occupational mental health in Nigeria. Hence, the objectives of this research are to:

- 1) examine the influence of daily work hours (8 hours or less, 9-12 hours, 13-15 hours, and above 15 hours) on occupational mental health among remote workers in Nigeria; and
- 2) investigate the predictive role of work-life balance in occupational mental health among remote workers in Nigeria.

Hypotheses

- 1) Remote workers using longer daily work hours will score significantly lower on occupational mental health compared to those working fewer hours per day among remote workers in Nigeria.
- 2) Work-life balance will positively and significantly predict occupational mental health among remote workers in Nigeria.

Methodology

Design

A quantitative cross-sectional design was adopted in this research. The cross-sectional research design was utilised because it allowed for measuring variables and examining their relationships in an *expo facto* condition, which is the approach of this research. The design was applied to measure and assess the relationship among daily work hours, work-life balance and occupational mental health in purposively selected online groups of Nigerian remote workers.

Settings and Participants

The setting included purposively selected online professional communities for remote workers in Nigeria. The selected communities were from three social media platforms: Telegram, WhatsApp and Twitter. The WhatsApp communities were named FreelanceHub Community 7 and UI/UX Mentorship Program. The Telegram communities were ALX Virtual Assistance C6, Skill Africa and MyFreelanceHQ. For Twitter, the online questionnaire link was shared via the researcher's Twitter profile. The post indicated the recruitment of Nigerian remote workers to fill out a research questionnaire.

Sampling Size and Sampling Technique

The convenient sampling technique was used. As described by Fricker (2008), convenient sampling occurs because "either the probability that every unit or respondent included in the sample cannot be determined, or it is left up to each individual to choose to participate in the survey". In this research, both conditions identified by Fricker (2008) necessitated the adoption of a convenient sample technique. Firstly, the population of the research setting could not be accounted for, and secondly, the work nature of the participants made their availability and access to them significant considerations.

A total of 267 responses were received. 13 of the responses were removed because they had missing data. Hence, the paper utilised a sample size of 254 participants.

Instruments

This study utilised an online questionnaire for data collection. Instruments with established psychometric properties were used to design a questionnaire on PollMill, a digital platform for survey data collection. The questionnaire had three sections.

Section A: Socio-demographic variables

This section collected information regarding participants' gender, age, marital status, religion, work design (fully remote or hybrid), daily work hours and whether or not participants have another form of employment in addition to being remote workers. Specifically, this research specified healthy daily work hours were 8 hours or less, based on a report from the International Labour Organisation written by Tucker and Folkard (2012). Further daily work hours classification included 9-12 hours, 13-15 hours and above 15 hours.

Section B: Work-Life Balance Scale

A 4-item work-life balance scale by Brough et al. (2014) was adopted. The four items were measured on a five-point scale from 1 (strongly disagree) to 5 (strongly agree), and high scores indicate perceptions of high balance (Brough et al., 2014). Out of the 4 items, item 2 was reverse-scored (Brough et al., 2014). The instrument's reliability was high in this study's population, with a Cronbach Alpha of .88. Cross-validation was conducted using item-total correlation analysis and the lowest item was .65. Thus, each item had very good discrimination. The applicability of the scale for empirical research has been demonstrated in the existing literature (Brough et al., 2014; Duradoni et al., 2022; Joseph, 2019; Ugwu et al., 2023).

Section C: Job-related Affective Wellbeing Scale

This instrument was employed to measure occupational mental health. The scale was developed by Warr (1990), and it includes 12 items. The scale has two axes, including job-related anxiety-contentment and job-related depression-enthusiasm, each axis with six items (Warr, 1990). The first three items on each axis were reverse-scored (Warr, 1990). The items were measured on a 6-point rating scale; the responses included never, occasionally, some of the time, much of the time, most of the time, and all of the time (Warr, 1990). In the population of this study, both axes showed a high reliability. The job-related anxiety-contentment axis had a Cronbach Alpha of .80 and the item-total correlation cross-validation showed that each item was above .40. The Cronbach Alpha of the job-related depression-enthusiasm axis was .79, the item-total correlation showed that each item was above .40. The Alpha coefficient of the entire scale (both axes measured together) was .87.

Statistical Analysis

Data were analysed with the aid of SPSS 20.0. Descriptive statistics were used to examine and report the demographic characteristics of the research participants. Given the methods' appropriacy for assessing group differences in an outcome variable, analysis of variance (ANOVA) and Tukey Honestly Significant Difference (HSD) multiple comparisons were used to test Hypothesis 1. Linear regression, as an appropriate method for testing predictive hypotheses, was used to test Hypothesis 2.

Results

Table 1 below presents a summary of the socio-demographic characteristics of the participants in this study.

Table 1: Socio-Demographic Characteristics

Demographic variables	n	%
Gender		
Female	149	58.7
Male	105	41.3
Marital Status		
Divorced	2	.8
Married	26	10.2
Single	226	89.0
Religion		
Agnostic	3	1.2
Atheist	2	.8
Christianity	194	76.4
Irreligious	8	3.1
Islam	42	16.5
Judaism	1	.4
None	2	.8
Prefer not to say	2	.8
Work Design		
Fully remote	206	81.1
Hybrid	48	18.9
Daily Work Hours		
8 hours or less	138	54.3
9-12 hours	90	35.4
13-15 hours	20	7.9
Above 15 hours	6	2.4
Do you have any other form of employment apart from remote working?		
Yes	102	40.2
No	152	59.8

Note. $N=254(100\%)$. The mean age was 26.26, the minimum age was 18 and the maximum was 48 ($SD=4.62$)

Table 1 summarises the demographic distribution of the participants in this study. The information attached to the table indicates that the participants in this study were aged 18 to 48, with a mean age of 26.26 years. This implies that the participants in this study were generally young adults to middle-aged adults. The table shows that 58.7% ($n=149$) of the research participants were female while 41.3% ($n=105$) were male, indicating a slight gap in the representation of both genders. Furthermore, Table 1 shows that only .8% ($n=2$) of the participants were divorced, 10.2% ($n=26$) were married, while 89.0% ($n=226$) were single.

As regards religion, Table 1 shows that 1.2% ($n=3$) were agnostic, .8% ($n=2$) were atheists, 76.4% ($n=194$) were Christians, 3.1% (8) were irreligious, 16.5% ($n=42$) were chosen Islam and .4 ($n=1$) chosen Judaism, .8% ($n=2$) stated that they do not associate with any religion and .8 ($n=2$) stated that they prefer not to say their religion. Furthermore, 81.1% ($n=206$) worked in a fully remote arrangement, while 18.9% ($n=48$) worked in a hybrid arrangement.

For daily work duration, it was found that 54.3% (n=138) were working eight hours or less, 35.4% (n=90) were working 9-12 hours, 7.9% (n=20) were working 13-15 hours and 2.4% (n=6) worked above 15 hours per day. Lastly, 40.2% (n=102) of the respondents had other forms of employment apart from their freelance work, while 59.9% (n=152) did not.

Table 2: Zero-order correlation summary table showing the intercorrelation among variables

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Age	26.26	4.62	-						
2. Gender	1.59	.49	-.09	-					
3. Daily Work Hours	1.58	.73	.04	-.00	-				
4. Additional Jobs	1.60	.49	-.01	.04	.07	-			
5. Work Design	1.19	.39	-.10	.22*	.00	-.17**	-		
6. Work-life balance	12.11	3.74	.14*	-.04	-.21**	-.00	-.07	-	
7. Occupational MH	45.90	10.66	.16**	-.12*	-.11	.076	-.02	.41**	-

Note: *N*=254. (*MH* = Mental health)

p*<.05 *p*<.01

Table 2 presents a summary of the intercorrelation between variables in this study, the variables' means and standard deviations. Table 2 shows that age shared a significant positive correlation with work-life balance ($r=.14$, $df = 252$, $p<.05$) and occupational mental health ($r=.16$, $df = 252$, $p<.01$), gender was positively correlated with work design ($r=.22$, $df = 252$, $p<.05$) and negatively correlated with work-life balance ($r=-.12$, $df = 252$, $p<.05$), and daily work hours was negatively correlated with work-life balance ($r=-.21$, $df = 252$, $p<.01$). Lastly, work-life balance was positively correlated with occupational mental ($r=.41$, $df = 252$, $p<.01$).

Hypothesis 1

Table 3-5 below shows the result of the ANOVA and multiple comparison analysis. Hypothesis 1 stated that "remote workers using longer daily work hours will score significantly lower on occupational mental health compared to those working fewer hours per day among remote workers in Nigeria."

Table 3: Summary table of ANOVA results showing the influence of work hours on occupational mental health among remote workers in Nigeria

<i>Source</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between groups	3310.76	3	1103.58		
Within groups	25444.15	250	101.77	10.84	<.001
Total	28754.91	253			

As a preliminary analysis for Tukey HSD, one-way ANOVA was conducted to examine the influence of work hours on occupational mental health. The results as 3 show that work hours significantly influenced occupational mental health among remote workers in Nigeria ($F_{(3, 259)}=10.84$, $p<.001$). This finding showed that the duration of work hours per day leads to different mental health outcomes among remote workers in Nigeria and justified the need for a post hoc multiple comparison analysis, which was carried out using Tukey HSD. Table 5 presents the multiple comparison post hoc analysis. Prior to that, Table 4 below provides descriptive statistics for the levels of daily work hours.

Table 4: Descriptive statistics for the mean and standard deviation of the levels of daily work hours in occupational mental health

<i>Groups</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>SE</i>
8 hours or less	138	47.43	10.15	.86
9-12 hours	90	42.91	9.97	1.05
13-15 hours	20	53.05	9.97	2.23
Above 15 hours	6	32.00	10.62	4.33

Note: N=254

Table 5: Tukey HSD mean comparisons of daily work hours on occupational mental health among remote workers in Nigeria

<i>Group 1</i>	<i>Group 2</i>	<i>Mean Diff.</i>	<i>Std. Error</i>	<i>95% Confidence Interval</i>	
				<i>Lower limit</i>	<i>Upper limit</i>
8 hours or less	9-12 hours	4.52*	1.36	.98	8.05
	13-15 hours	-5.61	2.41	-11.85	.62
	Above 15 hours	15.43*	4.20	4.55	26.31
9-12 hours	8 hours or less	-4.52*	1.36	-8.05	-.98
	13-15 hours	-10.13*	2.49	-16.58	-3.68
	Above 15 hours	10.91	4.25	-.09	21.91
13-15 hours	8 hours or less	5.61	2.41	-.62	11.85
	9-12 hours	10.13*	2.49	3.68	16.58
	Above 15 hours	21.05*	4.69	8.90	33.19
Above 15 hours	8 hours or less	-15.43*	4.20	-26.31	-4.55
	9-12 hours	-10.91	4.25	-21.91	.09
	13-15 hours	-21.05*	4.69	-33.19	-8.90

Note: N=254 (Mean Diff = Mean Difference, Std. Error = Standard Error)

* $p < .05$

Table 5 presents the results of the Tukey HSD multiple comparison. The results showed that remote workers in Nigeria working above 15 hours daily ($M=32.00$, $SD=10.62$) scored significantly lower on occupational mental health than those working 8 hours ($M=47.43$, $SD=10.15$) ($Mean\ Diff.=-15.43$, $p<.05$) and significantly lower than those working 13 to 15 hours ($M=53.05$, $SD=9.97$) ($Mean\ Diff.=-21.05$, $p<.05$). However, remote workers working above 15 hours did not score significantly lower than those working 9-12 hours per day ($M=42.91$, $SD=9.97$) ($Mean\ Diff.=-10.91$, $p>.05$). Additionally, remote workers in Nigeria who work 9-12 hours per day ($M=42.91$, $SD=9.97$) scored significantly lower on occupational mental health working 8 hours or less per day ($M=47.43$, $SD=10.15$) ($Mean\ Diff.=-4.52$, $p<.05$) but against the a priori position scored significantly lower than those working 13-15 hours per day ($M=53.05$, $SD=9.97$) ($Mean\ Diff.=-10.13$, $p<.05$). Only those working 13-15 hours did not score significantly lower on occupational mental health compared to those working lesser. Given these findings, Hypothesis 1 was partially accepted. The findings indicate that remote workers in Nigeria who work longer than 15 hours per day and those who work 13-15 hours per day scored lower on occupational mental health than those who work 8 hours or less and 9-12 hours per day.

Hypothesis 2

Table 6 reports the findings from testing hypothesis 2 with linear regression analysis. Hypothesis 2 stated that “work-life balance will positively and significantly predict occupational mental health among remote workers in Nigeria”

Table 6: Linear regression summary table showing the predictive role of work-life balance in occupational mental health among remote workers in Nigeria

<i>Predictor</i>	<i>R</i>	<i>R²</i>	<i>F</i>	<i>p</i>	<i>β</i>	<i>T</i>	<i>p</i>
WLB	.41	.17	53.49	<.001	.41	7.31	<.001

Dependent variable: Occupational mental health

Note: N=254 (WLB = work-life balance)

The findings of the linear regression analysis, as presented in Table 6, indicate that work-life balance has a positively significant predictive effect on remote workers' occupational mental health in Nigeria ($F_{(1,252)} = 53.49$, $p < .001$). The R^2 was .17, indicating that work-life balance explained approximately 17% of the observed variance in remote workers' occupational mental health in Nigeria. Based on these results, Hypothesis 2 was accepted with a 99% confidence interval.

Discussions

Our results contribute critical insights to the literature on the factors that influence occupational mental health among remote workers in Nigeria. The findings indicated that daily work hours significantly influence occupational mental health outcomes in this study's population. The focus on work hours per day in this study is different from the focus on work hours per week in the majority of the existing literature, this was done to reflect the unique work nature of remote workers. Although remote working is flexible, remote workers tend to work long hours per day (Maganda et al., 2025). Our findings show that the longer remote workers in Nigeria work per day, the lower the score on occupational mental health. For instance, our study reported that those who work above 15 hours per day scored significantly lower on occupational mental health than those who work 8 hours or less and 13-15 hours per day. Those who work 9-12 hours per day also score significantly lower on occupational mental health than those who work 8 hours or less per day. Hence, we were able to observe that working excessive work hours per day is detrimental to the mental health of remote workers in Nigeria, as the practice increases their risk of work-related anxiety and depression. These findings corroborate the findings from multiple studies in the existing literature (Hong et al., 2022; Ma et al., 2024; Sato et al., 2019). A cohort study with 15,143 participants demonstrates that personnel who work long hours (greater than 45 hours per week) experienced significantly greater levels of depression, anxiety and irritability than those who work healthy hours (35-45 hours per week) (Ochiai et al., 2023). Similarly, the empirical study by Ricketts et al. (2019) further affirms these opinions and highlights that the negative effect of long work hours on mental health manifests earlier in women compared to men. Chu (2021) highlights that even when wages are increased, the negative mental health outcomes of excessively long hours persist. The findings of our research and the existing studies culminate in support of the opinion by Voglino et al. (2022) that the reduction of daily work hours (and weekly work hours) could be an effective workplace intervention for the improvement of employees' wellbeing. However, a study presents slightly differing and somewhat paradoxical findings showing that working long hours does not significantly lead to depression, anxiety or suicide ideation, but work stress does. Yet, working excessive hours correlates with high work-stress experiences (Hong et al., 2022; Hsu et al., 2019).

Our findings further show that work-life balance has a positive predictive impact on occupational mental health among remote workers in Nigeria. Findings from other occupational contexts in the existing literature support our results. Okeya et al. (2020) and Oginni et al. (2023) report quantitative findings that indicate work-life balance as a positive significant predictor of employee psychological well-being among Nigerian workers in the banking sector. Akanji et al. (2020) also show that there is a notable relationship between employees' work-life balance and their mental health. The study shows that a poor work-life balance experience will lead to negative mental health outcomes, while a high work-life balance will contribute positively to mental health (Akanji, et al., 2020). Uzonwanne and Ijide (2017) conducted an empirical investigation into the influence of work-life balance (and its dimensions) among Nigerian employees. The study identifies that work-life balance predicts anxiety among workers, specifically that a poor work-life balance significantly increases work-related anxiety while a high work-life balance reduces the risk of anxiety (Uzonwanne & Ijide, 2017). Studies that focus on other regional contexts (non-Nigerian) report similar findings, thus emphasising the importance of work-life balance in building and sustaining positive mental health among workers (Baker et al., 2024; Yang et al., 2020).

Recommendations

Our findings emphasise the importance of working healthy work hours per day to reduce potential negative mental health outcomes of long work hours. It is recommended that remote workers in Nigeria strive to work healthy hours daily, that is, 8 hours or less. This greatly reduces the risk of poor work-related mental health outcomes such as depression and anxiety. Strategies to reduce daily work duration to 8 hours include scheduled distribution of work tasks over days, the use of digital task management technologies, and the

employment of assistants. We also recommend coping strategies for managing existing negative mental health outcomes of working long hours daily. Affected persons need to engage in leisure activities and reduce their workload, work stress and daily work duration. Companies that hire remote workers can also integrate daily work duration policies, task management tools and work arrangements such as job rotation or shared positions that promote healthy daily work hours among their employees.

Given the significant positive relationship between work-life balance and occupational mental health, organizations employing or contracting remote workers should prioritize policies that encourage work-life balance. Employers can support this by providing flexible work schedules, encouraging breaks, and setting realistic deadlines to prevent burnout. Individual remote workers can improve their work-life balance by creating structured schedules, automating their repetitive tasks where possible and consciously including social activities in their schedules. Additionally, awareness programs from employers and freelancing platforms on the importance of balancing work and personal life could empower remote workers to manage their time effectively.

The mental wellness of employees is paramount to their work capability, productivity and ability to cope with day-to-day stress. Hence, promoting healthy daily work hours and work-life balance initiatives is a key human resources management concern for companies.

Conclusion

In conclusion, this research paper improved our understanding of occupational mental health among remote workers in Nigeria by showing the roles of daily work hours and work-life balance in mental health outcomes. The findings led to the conclusion that working long hours daily is detrimental to work-related mental health outcomes as it could increase the risk of depressive symptoms and anxiety, and work-life balance plays a vital role in achieving and sustaining positive occupational mental health among remote workers in Nigeria.

Limitations and Suggestions for Future Research

The major limitation of this research is that the sample size does not achieve a statistical representation of the Nigerian remote workers' population, particularly because the study's population were purposively selected. This limits the external validity of the study as its findings cannot be generalised to the larger population of Nigerian remote workers. The cross-sectional research method also limits the ability of the research to establish a cause-and-effect relationship. Lastly, mental health is a very dynamic phenomena that interact with several individual differences and social factors, the present research did not control for such factors.

Longitudinal studies and cross-sectional studies that include large sample sizes can be used to improve our understanding of the influence of daily work hours and work-life balance on occupational mental health among remote workers in Nigeria. Future studies can also investigate how certain job characteristics, like job arrangement (fully remote or hybrid) and the number of projects an employee is doing at a time, mediate the influence of this study's predictor variables on occupational mental health among remote workers. Similarly, individual differences such as personality type, sociability, gender and age can be considered as control variables. This will provide a more holistic understanding of the dynamics of the determinants of occupational mental health among remote workers and in the gig economy generally.

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Psychosocial Predictors of Emotional Intelligence Among Nigerian Elementary School Teachers in A Changing Classroom Discipline Context

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Abstract

This study investigated the psychosocial predictors of emotional intelligence among Lagos State elementary school teachers in the face of changing discipline patterns. The survey research design and systematic random sampling technique were used for data collection and selection of participants. Forty-eight males and one hundred and two females between the ages of 25-57 years participated in this study. Four hypotheses were raised and tested using simple regression analysis, t-test for independent samples and one-way analysis of variance (ANOVA). The result revealed that self-esteem significantly predicted emotional intelligence [$F(1,148) = 32.022, p < .01$], accounting for 17.8% variance in construct ($R^2 = .178, p < .01$). Further analysis revealed a significant difference in emotional intelligence of teachers with low self-esteem and those with high self-esteem [$t(148) = 2.567, P < .01$], with teachers who have high self-esteem ($n = 138$) rating higher in emotional intelligence than those with low self-esteem ($n = 133$). Furthermore, the result revealed a significant difference in emotional intelligence based on marital status [$t(148) = 2.328, P < .05$], with married teachers ($n = 137$) rating higher in emotional intelligence than single teachers ($n = 133$). On the contrary, personality characteristics exerted no significant influence on emotional intelligence [$F(5,144) = 1.378, p > .05$]. Also, there was no significant difference in emotional intelligence based on educational background [$F(3,146) = 1.915, p > .05$], gender [$t(148) = -1.430, P > .05$], and type of school [$t(148) = .617, P > .05$]. This study concluded that self-esteem and marital status significantly influenced emotional intelligence, and that educational background, gender differences and personality characteristics have no influence on emotional intelligence of elementary school teachers. It recommended that efforts be made to boost teachers' self-esteem, especially the unmarried ones.

Keywords: Emotional intelligence, self-esteem, personality characteristics, teachers, changing, discipline psychosocial

Introduction

The elementary school serves as the basic foundation for excellent education and accomplishment in adult life (Etor, *et al.*, 2013). This is because the outcome of any adult usually reflects the quality of education received during childhood. According to Muraina, *et al* (2014), the quality of an educational system is dependent on the quality of its teaching staff. Teaching is a very demanding job that involves the ability to deal and positively impact students of different backgrounds and psychological make-up (Shaukat, 2011). All students are not the same, while some are amenable and quick to learn, many others are difficult and unwilling to participate in school activities (Kubat, 2018); these disruptive behaviours if left unchecked would render even the best of academic curriculum ineffective (Kitishat & Al-Friehat, 2013). The effectiveness of educational strategies and curricula is depends on effective academic classroom discipline, which is an integral part of classroom management.

Classroom management refers to the strategies deployed by teachers to establish clear expectations, organize the physical space, and manage student behaviours to achieve a positive learning environment (Vidhya, 2022). The classroom management strategies used in the past gave significant authority to the teachers, and discipline was often characterized by strictness and corporal punishment. Students revered their teachers, adhered to rules and were easier to manage because of the feared consequences of disobedience. Corporal punishment in this regard, is mostly limited to carefully and intentionally striking children across the palms or buttocks with a cane, spanking or smacking with an open hand, and the application of aversive stimulus. But unfortunately, some teachers' disciplinary actions have crossed the line into abuse by their lack of caution, including the use of wooden paddle, wicker cane, and other unprintable objects on children (Marrow & Singh 2014), causing physical or psychological harm to them (Gershoff, 2017).

The adoption of western morals in Nigeria's education system has changed the patterns of discipline and altered classroom management strategies by totally replacing corporal punishment with appealing to students' conscience through counselling (Odigie & Odionye, 2018). With this emphasis on counselling, government regulations shield erring students from facing the repercussions of their actions, which is at variance with the principles of operant conditioning theory, which states that unpleasant behaviours are best deterred when followed by aversive consequences. Consequently, Aibinuomo and Imasuen (2021) observed that there is

more indiscipline than ever before as students now willfully disregard constituted authorities, openly disrespect their teachers, and disobey school rules and regulations with impunity.

These disruptive behaviours negatively impact teachers' overall well-being (Okeke-James *et al.*, 2023). Feeling helplessness, they struggle to maintain a positive classroom, and often ignore students' negative behaviours (Orinya, 2016). Faced with these realities, teaching has become a lot more demanding than it ever had been, necessitating the use of specialized skills to manage emotional states of both teachers and learners, and ultimately control the learning environment and outcomes (Jennings, & Greenberg, 2009). These specialized skills, referred to as emotional intelligence, must be possessed and wielded by all teachers in their daily engagements with the students (Singh, 2015). Teachers considered to be emotionally intelligent are those that care for their students, and create emotional climate for positive learning environment and outstanding academic achievement (Abiodullah, *et al.*, 2020).

Emotional intelligence is defined as a person's ability to understand and regulate his/her emotional responses and to adapt and respond effectively to those of other people (Mayer 2002). It is the ability to understand one's own emotions and those of other people by relating with them based on such understanding (Ayogu, 2015). Teachers, being important agents of the educational process, must use these social and emotional skills in their daily interactions with pupils. These skills help teachers adapt to the work environment and cope with its challenges (Asrar-ul-Hag, *et al.*, 2017). Although emotional intelligence has been studied among teachers in secondary schools and higher institutions (Mérida-López & Extremera, 2020; Abiodullah, *et al.*, 2020; Valente, *et al.*, 2022; Gunasekara, *et al.*, 2022; Odunukwe *et al.*, 2024), not enough attention has been paid to elementary school teachers, especially in Nigeria's changing discipline context. To this end, it is important to uncover the factors that influence the development and use of these skills among teachers.

Some of the factors found to influence the development of emotional intelligence include stress, motivation, social skills, age, habits, level of education, years of experience, cultural differences, personality traits, self-care, family support, organisational structure, and gender (Alghamdi, 2017; Ntarangwe, 2021; Martínez-Rodríguez & Ferreira, 2025). These factors may be grouped into biological, psychological, and social factors (Pooja & Kumar, 2016). Consequently, the current study focused on social and psychological variables that may influence teachers' demonstration of emotional intelligence. These variables are gender, marital status, type of school, level of education, self-esteem, and personality characteristics.

Social or demographic variables have been associated with emotional intelligence (Ahmad, *et al.*, 2009). For instance, some studies reported gender differences in emotional intelligence (Brody & Hall, 1993; Bar-On, 1997; Schutte, *et al.*, 1998; Van Rooy, *et al.*, 2005). Likewise, Anveshika (2015) observed age differences in emotional intelligence. Also, significant differences in emotional intelligence was attributed to marital status (Kalyoncu, *et al.*, 2012; Madahi, *et al.*, 2013). According to Vanishree (2014), marital status exerted significant influence on emotional intelligence. Furthermore, factors within an individual also influence their demonstration of emotional intelligence (Pooja & Kumar, 2016), such psychological determinants may include self-esteem and personality characteristics.

Self-esteem refers to a person's overall positive evaluation to the self (Rosenberg, *et al.*, 1995). It is the combination of an individual's opinions of themselves and their expectations of other people's reactions to such opinions. Shobhna and Rekha (2009) dichotomized self-esteem into two dimensions of competence and worth. The competence dimension refers how individuals see themselves as causal agents with the ability to identify, understand, and effectively manage their emotions in a way that bring about desired emotions or behaviours in others. The worth dimension is simply refers to the individuals as social objects, concerned about how individuals perceive others' evaluation and reaction towards them. It may be described as the social value of these individuals. Suraiya and Jamal (2019) found self-esteem to impact teachers' approach to work and teaching methods. Likewise, studies have found that significant relationship exist between self-esteem and emotional intelligence (Vigneshvaran, *et al.*, 2017; Egwurugwu, *et al.*, 2018). Closely linked to self-esteem is the personality characteristics of the individuals.

Personality may be defined as the unique and relatively stable pattern of behaviour, thoughts and emotions that is exhibited by an individual. It refers to a characteristic way of thinking, feeling and behaving (Holzman, 2023). American Psychological Association (2025) defined personality as the total configuration of enduring characteristics and behavior that determines individuals' unique adjustment to life. In other words, personality characteristics explain the differences and similarities that exist in people. There are different approaches to

understanding human personality, and based on these theoretical orientations, personality characteristics have been grouped into different categories or dimensions. The big five dimensions of personality is one of the most widely used categorization. These dimensions are openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism, known as “OCEAN” (Dimitriou & Galanakis, 2022). Yusooff, *et al.*, (2014) observed a close relationship between personality and emotional intelligence. Upadhyaya (2006) associated emotional intelligence with personality traits like confidence, kindness, persistence, and enthusiasm. Although many studies have explored the connection that exists among personality trait, self-esteem and emotional intelligence, there is scarcely any study that has examined the influence of these factors on the emotional intelligence of elementary school teachers in Nigeria. Sequel to this identified gap in literature, the current study aimed to establish the psychosocial predictors of emotional intelligence among teachers of selected Nigerian public and private elementary schools.

Statement of Objectives

1. To establish the influence of self-esteem and personality characteristics on emotional intelligence.
2. To determine the difference in teachers’ emotional intelligence based on demographic variables (gender, marital status, type of school, and level of education).

Research Hypotheses

1. Self-esteem will significantly predict emotional intelligence
2. Personality characteristics will significantly influence emotional intelligence
3. Teachers will significantly differ on emotional intelligence based on their gender, marital status, and type of school
4. There will be a significant difference in teachers’ emotional intelligence based on their level of education

Literature Review

The term emotional intelligence was first coined by researchers John Mayer and Peter Salovey (Mayer & Salovey, 1993, 1995) but was later popularized by psychologist Daniel Goleman. Goleman (2000) highlighted the importance of emotional intelligence, including self-control, self-motivation and enthusiasm. There are existing literature on the relationship between emotional intelligence and teaching quality (Abiodullah, *et al.*, 2020; Ntarangwe & Ndung’u, 2021; Shengyao *et al.*, 2024). Ramana (2013), Di Fabio, *et al.*, (2016) and Welmilla (2020) linked emotional intelligence to effective classroom management and learning outcomes. Similarly, Ponmozhi and Nellaiyapen (2014) have associated emotional intelligence with teaching competency. In congruence, Dakasku and Musa (2020) reported a significant correlation between emotional intelligence and teachers’ commitment.

A significant positive relationship was found between emotional intelligence and self-esteem (Schutte *et al.*, 2001; Gerardi, 2005; Sameer, 2008; Khanjani *et al.*, 2010; Tajpreet & Maheshwari, 2015; Mehnaz, *et al.*, 2022). Also Shoukat and Zai (2015) reported a significant positive relationship between prospective teachers’ self-esteem and emotional intelligence. Onwubiko (2020) observed a significant correlation among investigated self-esteem, global emotional intelligence. According to Faiza, *et al.*, (2022), there exist a significant positive relationship between emotional intelligence and self-esteem. Similarly, Bibi, *et al.*, (2016) reported a positive relationship between self-esteem and emotional intelligence.

Furthermore, personality traits have been associated with individuals’ demonstration of emotional intelligence (Brackett & Mayer, 2003; Taksic & Mohric, 2006; Atta, *et al.*, 2013; Kant, 2014). In support, Yusooff, *et al.*, (2014) reported a positive correlation between extraversion and emotional intelligence, and a negative relationship between neuroticism and emotional intelligence. Likewise, Nisa and Lone (2022) reported agreeableness and extraversion to be positively related to emotional intelligence, but openness to experience and conscientiousness have a weak positive correlation with emotional intelligence.

There have been contradictory findings on the relationship between demographic variables and emotional intelligence (Brackett *et al.*, 2005; Atkins & Stough, 2005; Ahmad, *et al.*, 2009; Babu & Vaitla, 2013; Kant, 2014; Pooja & Kumar, 2016; Antonysamy, *et al.*, 2018; Gautam & Khurana, 2019). Cabello, *et al.*, (2011) found significant difference in the emotional intelligence of married and single individuals. Marital status was found to significantly influence emotional intelligence (Gracia & Herrero 2004).

Theoretical Perspectives

Trait Model of emotional intelligence

The trait model of emotional intelligence was propounded by Petrides and Furnham (2001), with the assumption that emotional intelligence is primarily determined by an individual's inherent personality traits. The theory suggests that people possess certain stable characteristics or dispositions that influence their ability to perceive, understand, manage, and express emotions effectively (Petrides & Marvrouli, 2020). According to this theory, emotional intelligence is seen as a set of specific traits or dimensions that vary from person to person. These traits are thought to be relatively stable over time and across different situations, shaping how individuals interact with and respond to emotions.

Some of the traits associated with the trait theory of emotional intelligence are self-awareness (the ability to recognize and understand one's own emotions, strengths, weaknesses, and values), self-regulation (ability to effectively manage and control one's emotions and impulses), motivation (ability to set goals, strive for achievement, and maintain a positive attitude in the face of challenges), empathy (capacity to understand and relate to the emotions, experiences, and perspectives of others), and social skills (ability to navigate social interactions effectively and build positive relationships).

This theory posits that individuals may possess varying degrees of each of these traits, which explains the differences in levels of emotional intelligence. Some people may naturally exhibit higher levels of emotional intelligence due to their inherent personality characteristics (Georgieva, & Miloshev, 2020), while others may need to work on developing these traits through learning and practice. Consequently, teachers who do not have the natural inclination to exhibit emotional intelligence, can actually learn these behaviours in the course of their professional development.

Method

The survey design and systematic sampling technique were employed in this study. A total of 10 elementary schools (5 public and 5 private) were selected for study. The participants included 150 teachers, 48 males and 102 females within the ages of 27 and 50 years from selected schools in Lagos State.

The instrument of study include a questionnaire which comprised sections A - D. Section A contained all background and demographic information on the participants. Sections B – D comprised three standardized instruments which include 10- item Rosenberg Self-Esteem Scale by Rosenberg (1965) with Cronbach alpha .88, 33-item Schutte Self Report Emotional Intelligence Test by Schutte *et al.* (1998) with a Cronbach alpha of .87, and 44-item Big Five Inventory by John, *et al.*, (1991) with a Cronbach alpha of .89 for the neuroticism subscale, .98 for the extraversion subscale, .86 for agreeableness subscale, .90 for conscientiousness subscale, and .86 for the openness subscale. The questionnaire was administered to consenting teachers in the selected elementary schools and retrieved immediately for analysis.

Analyses and Results

The data collected was analyzed based on the stated hypotheses using the regression analysis, one way analysis of variance (ANOVA), and t-test for independent samples. The results are presented as follows:

Hypothesis one, which states that self-esteem will significantly predict emotional intelligence was confirmed based on the result of simple regression analysis in Table 1. The result showed that self-esteem significantly predicted emotional intelligence [$F(1,148) = 32.022$, $p < .01$], accounting for 17.8% variance in the construct ($R^2 = .178$, $p < .01$).

Table 1: Simple regression analysis showing self-esteem as a predictor of emotional intelligence

Model	R^2	Adjusted R^2	B	F	P	t	Sig.
1. (Constant)						13.160	.000
Self esteem	.178	.172	.422	32.022	<.01	5.659	.000

a. Dependent variable: emotional intelligence

b. Predictor: (constant) self-esteem

Furthermore, Table 2 revealed the mean difference in the emotional intelligence of teachers based on their level of self-esteem [$t(148) = 2.567, P < .01$], the teachers who have high self-esteem ($n = 138$) rated higher on emotional intelligence than those with low self-esteem ($n = 133$).

Table 2: T-test for independent samples showing the difference in emotional intelligence between teachers with low self-esteem and those with high self-esteem

	N	$\bar{X}$	SD	Df	T	P
Low self-esteem	91	133.13	10.54	148	-2.567	<.01
High self-esteem	59	138.31	14.09			

Hypothesis two, which states that personality characteristics will significantly predict emotional intelligence was not confirmed based on the results of multiple regression analysis in Table 3. The result revealed that openness to experience, neuroticism, extraversion, agreeableness, and conscientiousness did not predict emotional intelligence [$F(5,144) = 1.378, p > .05$]. This means that all the dimensions of personality have no significant joint or individual influence on teachers' emotional intelligence.

Table 3: Multiple regression analysis showing the joint prediction of dimensions of personality on emotional intelligence

Model	R^2	Adjusted R^2	B	F	P	t	Sig.
1. (Constant)							.000
Openness	.046	1.378	-.329	1.378	>.05	10.818	.098
Neuroticism			-.226				.173
Extraversion			-.049				.586
Agreeableness			-.196				.272
Conscientiousness			.176				.409

a. Dependent variable: Emotional intelligence

b. Predictors: (constant) openness to experience, neuroticism, extraversion, agreeableness, conscientiousness

Hypothesis three, which states that teachers will significantly differ in emotional intelligence based on gender, marital status, and type of school was not confirmed. There was no significant difference in teachers' emotional intelligence based on gender [$t(148) = -1.430, P > .05$] and type of school [$t(148) = .617, P > .05$]. However, the result in Table 4 showed that teachers differ in emotional intelligence based on marital status only [$t(148) = 2.328, P < .05$], with married teachers ($n = 137$) rating higher in emotional intelligence than single teachers ($n = 133$). This means that unlike marital status, a teachers' gender and type of school did not affect their demonstration of emotional intelligence.

Table 4: T-test for independent samples showing the mean differences in teachers' emotional intelligence based on gender, marital status and type of school

Variables	N	$\bar{X}$	SD	Df	t	P
Gender						
Male	48	133	11.66	148	-1.430	>.05
Female	102	136	12.50			
Marital Status						
Single	65	133	12.34	148	-2.340	<.01
Married	85	137	11.89			

School type						
Public	75	139	12.56	148	.617	>.05
Private	75	135	12.04			

Hypothesis four, which states that teachers will significantly differ in emotional intelligence based level of education was not confirmed. The result of one-way analysis of variance in Table 5 showed no significant difference in teachers' emotional intelligence based on level of education [$F(3,146) = 1.915, p > .05$]. This implies that teachers' level of education did not influence their demonstration of emotional intelligence.

Table 5: One way ANOVA comparing teachers on levels of education

Source	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	851.157	3	283.719	1.915	.130
Within Groups	21625.676	146	148.121		
Total	22476.833	149			

Discussion, Conclusion, and Recommendation

The findings of this study showed that self-esteem and marital status had significant influence on emotional intelligence, while all the dimensions of personality were found to have no contributions to emotional intelligence. Furthermore, gender, type of school, and level of education did not have significant influence on teachers' emotional intelligence. The result of the current study was supported by Gracia and Herrero (2004) who found a link between marital status and emotional intelligence. In corroboration, Cabello *et al* (2011) associated being married with high display of emotional intelligence. Also, Babu and Vaitla (2013) found that gender and school type did not influence emotional intelligence. Likewise, Kant (2014) reported no significant gender difference in emotional intelligence. On the contrary, Brackett *et al.*, (2005) found that females were significantly higher in emotional intelligence than males.

Several studies also validated the findings of the current study that a significant positive relationship exists between self-esteem and emotional intelligence (Country & Chester, 2005; Tajpreet & Maheshwari, 2015; Bibi, *et al.*, 2016). Similarly, Faiza, *et al.*, (2022) found that there is a significant positive connection between emotional intelligence and self-esteem. Mehnaz, *et al.*, (2022) also associated level of self-esteem with the display of emotional intelligence. Contrary to the results of the present study, Brackett and Mayer (2003) found agreeableness, neuroticism, extraversion and conscientiousness to have a significant correlation with emotional intelligence. Similarly, Taksic and Mohric (2006) found that emotional intelligence is related to personality traits of extraversion, agreeableness and conscientiousness.

The findings of Yusooff *et al* (2014) also contradicted this study; they found extraversion to have a positive correlation with emotional intelligence, while neuroticism was found to be negatively correlated. Likewise, Nisa and Lone (2022) established a strong positive correlation among emotional intelligence, agreeableness and extraversion. However, they also found that openness to experience and conscientiousness have a weak positive correlation with emotional intelligence.

This study concluded that emotional intelligence is an integral requirement for effective classroom management and excellent academic achievement across all stages of learning. As the foundation of formal socialization, elementary education may be a major predictor of a person's life chances and outcome in adulthood. Therefore, the quality of knowledge delivery at this level cannot be compromised. However, the complexities involved in classroom management require high levels of emotional intelligence. In this era of changing patterns of classroom discipline and gross misconduct, effective 21st century elementary school teachers are those with high self-esteem and capable of managing their own emotions and those of their pupils. This study recommended that self-esteem and emotional intelligence be included in the selection criteria for elementary school teachers. Lastly, it was suggested that the role of marital status and personality characteristics in the demonstration of emotional intelligence be further validated.

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Sleep Patterns as Predictors of Psychological Well-Being among Fasting Adults in Nigeria

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Abstract

Sleep is essential for mental and emotional well-being, yet its role during periods of fasting has not been widely studied, particularly in low-resource settings. This cross-sectional study examined the relationship between sleep and psychological well-being among fasting adults in Nigeria. A total of 138 participants (mean age = 31.14, SD = 11.08; 57% female) completed an online survey during a period of voluntary religious fasting. Measures included the RU-SATED scale for overall sleep health (range 0 to 24), Snyder's single-item sleep quality measure (1 = terrible to 5 = excellent), self-reported sleep duration, and the World Health Organization Well-being Index (range 1 to 25). On average, participants reported moderate sleep quality ($M = 3.32$, $SD = 0.93$) and a well-being score of 17.35 ($SD = 4.93$). A multiple regression analysis was conducted to examine whether sleep quality, sleep duration, and overall sleep health predicted psychological well-being. The overall model was significant, $F(3, 134) = 6.44$, $p < .001$, explaining approximately 13 percent of the variance in well-being scores. Among the predictors, only sleep quality was statistically significant ($\beta = .341$, $p = .001$), suggesting that individuals who reported better sleep quality also reported higher psychological well-being. Neither overall sleep health nor sleep duration showed a significant effect. These findings highlight the importance of subjective sleep experience, particularly during periods of fasting, over and above quantitative sleep metrics. Good sleep quality is recommended as a practical and psychological means to support mental health and psychological well-being of individuals at all times.

Keywords: Sleep patterns, psychological well-being, fasting, adults, mental health

Introduction

Psychological well-being is one of life necessities that human beings require for meaningful existence. It refers to a state of mental health and happiness characterized by an individual's sense of fulfillment, life satisfaction, emotional and overall wellness and stability. It encompasses many aspects of man, including: life satisfaction, positive emotions, purpose and meaning, good and positive interpersonal relationships, resilience, autonomy, personal growth, self-esteem and acceptance, and a host of other positive feelings and worth. Diener (2000) defines psychological well-being as a subjective experience of happiness and life satisfaction. Seligman defines it as the construct that includes five core elements: positive emotions, engagement, relationships, meaning, and accomplishments. These definitions express the complexity and multi-dimensional nature of psychological well-being.

Achieving good psychological well-being revolves round so many things that human beings indulge themselves in. There exists a strong association between sleep and psychological health among human populations (Alexander et al., 2021). Sleep is the naturally recurrent experience during which normal consciousness is suspended (Kosslyn & Rosenberg, 2006). It is one of the essentials for mental resilience. When people sleep well, they are likely to think clearly, feel calmer, and cope better with daily stress. Hobson (1989) observed that sleep helps the body repair the wear and tear from the day's events.

Sleep plays a critical role in mental and physical health, and sufficient quality sleep is imperative for physiological restoration and recovery, with its insufficiency increasingly recognized as a burgeoning public health issue (Seow, et al., 2020). There is a substantial evidence of a great anabolic function for sleep. The rhythm of rest and activity, the primordial of sleep and waking represents one of the most universal and basic features of life (Hobson, 1995). During sleep there is a marked secretion of growth hormone, which controls aspects of metabolism, physical growth and brain development (Pandi-Perumal et al., 2008). The brain needs sleep to grow, repair its immune system, and restore its energy and chemicals (Siegel, 2003), and for it to be able to integrate new and old memories, it needs respite from all the stimulation that comes from the external environment: this is precisely what sleep offers (Gross, 2020). Summa and Turek (2015) observed that some

chrono-biological disruptions including sleep deprivation predispose humans to the development of obesity, diabetes, depression and other disorders. Poor sleep can, under certain circumstances, lead to depression severe enough to be diagnosed as major depression which may also contribute to other mental disorders (Stickgold, 2017).

Sleep comprises different patterns, and a sleep pattern, also known as a sleep-wake cycle or circadian rhythm, refers to the regular and recurring periods of sleep and wakefulness that an individual experiences over a 24-hour period. Components of sleep patterns include: sleep duration, sleep quality, sleep schedule, and sleep stages. *Sleep duration* refers to the total amount of sleep a person obtains, whether during a single nighttime episode or accumulated over a 24-hour period. Sleep quality refers to the depth, restfulness, and restorative value of sleep. It measures how well an individual sleeps. Sleep schedule refers to the timing and regularity of sleep and wakefulness. The four elements of sound sleep: efficiency, latency, duration and wakefulness evolve within sleep stages (Davis, 2021). Sleep stages are the different periods of sleep when people experience light sleep, deep sleep and REM (rapid eye movement) sleep. Light sleepers wake up easily to noise or other stimuli; while deep sleepers may not wake up to noise.

Study conducted by Liu et al. (2008), revealed connections between quality of sleep and psychological health. It was also noted that well-being elements are associated with fewer sleep issues and higher-quality sleep (Hanson & Ruthig, 2012). It implies that, sleep has both positive and negative impacts on individual mental health. Hamilton et al. (2007) submit that, getting enough sleep positively impacts mental health, including subjective well-being. Subjective well-being refers to how people perceive themselves regarding their emotional, cognitive, and life satisfaction (Diener et al., 2013). Peach et al. (2016), and Worku et al (2020) observed significant positive correlation between sleep quality and positive mental health. More so, Lund et al (2020) conducted a study investigating the link between sleep quality, sleep hygiene, and positive mental health among Norwegian university students. Their findings showed that good quality sleep was correlated with greater emotional well-being and happiness with life.

This paper focuses on sleep patterns as predictors of psychological well-being among fasting adults in Nigeria. Prior study have observed a prevalence of poor sleep quality and its association with mental health challenges (Jemilohun et al., 2022). Fasting have important spiritual, psychological and biological benefits (Stec, et al., 2023). There is a complex interplay between sleep patterns and psychological well-being during fasting. While fasting can foster spiritual growth and discipline, it may also disrupt physiological rhythms, especially sleep patterns. The idea of fasting for better health has been since the days of Hippocrates (Phillips, 2019). However, its impact on sleep varies depending on the individual, and the type of fasting regimen. Fasting is a common religious practice in many cultures and is particularly prevalent among Christians and Muslims in Nigeria. Its practices particularly during religious observances like Lent and Ramadan, introduces significant changes to daily routines, including sleep schedules. These alterations can impact sleep quality and, consequently, psychological well-being.

In this study, participants engaged in intermittent fasting. Intermittent fasting is the practice of restricting eating to specific times of day (Almenessier & Bahamman, 2018). It focuses on confining one's eating times to a set schedule every day or for certain days. Intermittent fasting helps the body to convert fat reserves into energy, and this can lead to weight loss (Mendoza et al., 2008). Ho et al., 1988) found that people that practice intermittent fasting have higher levels of human growth hormone. With the digestive system taking a break, the body can instead focus on cellular repair and restoration.

While intermittent fasting appear to improve sleep quality, it could also lead to sleep issues depending on the timing of meals. When people eat at irregular times, their sleep might be disrupted. Especially if they eat at night, the body temperature might rise, this is the opposite of what typically occurs during sleep. Heavy meals taken too close to bedtime might upset the stomach and make it hard to falling asleep, disrupting sleep quality and affecting how refreshed one would feel upon waking up. For instance, Ramadan fasting in which people fast during the day and eat at night, follows a eating pattern that conflicts with the body's natural circadian rhythms. This conflict may lead to lower levels of melatonin (Almeneessier et al., 2017) a sleep hormone, and less time spent in REM sleep.

In Nigeria, religious fasting is often accompanied by night-time vigils, early morning prayers, and meal time changes that occur before dawn or after sunset. These practices can alter normal sleep cycles, potentially affecting psychological well-being. Despite this, there is limited empirical research in Nigeria exploring how changes in sleep patterns during fasting affect psychological well-being. This study aims to bridge this gap

of knowledge by examining the nexus between sleep patterns and psychological well-being of fasting adults in Nigeria. It also seeks to inform public health practitioners on how best to guide, and offer psychological interventions for individuals engaging in fasting.

Poor sleep quality has been linked to both poor psychological and physical well-being. Mood and anxiety levels are affected by poor quality sleep, and the relationship between these variables appears to be mediated by a tendency to depersonalize or not. Although insufficient sleep is a common occurrence in modern society, its adverse mental health consequences are often overlooked. Generally, around 7 to 9 hours is regarded as the optimal amount of sleep duration linked with positive psychological well-being and subjective health (Hamilton et al., 2007). Research established that adequate sleep is required for health and well-being in middle-aged and older adults (Magee, Capti & Iverson, 2011).

Religious fasting has been associated with improvements in psychological well-being. The positive effects such as reductions in stress, anxiety, and depression are likely attributed to a combination of factors, including the spiritual and social aspects of religious fasting, which may enhance feelings of purpose and community support. However, it's important to note that fasting may not universally improve psychological health, and its effects can vary among individuals. A study by McStay et al (2021) revealed that intermittent fasting, specifically time restricted eating (TRE) and alternate day fasting (ADF) help in modest weight loss. Although, time restricted eating (TRE) may decrease sleep efficiency, especially if the fasting schedule disrupts the body's natural circadian rhythms.

From a biological standpoint, human mental well-being is deeply connected to the chemicals and processes in the body, many of which are directly linked to how well we sleep. When people fast for religious reasons, like during Ramadan or Lent, their eating and sleeping patterns often change. This can throw off the body's internal clock, known as the circadian rhythm (Bahammam et al., 2010). Not getting enough sleep, or having disrupted sleep, can upset the balance of important brain chemicals like serotonin and dopamine. These chemicals play a big role in how we feel and how stable our emotions are (Wulff et al., 2010). Lack of quality sleep can weigh heavily on the brain, making it tougher to focus, handle stress, and keep worries or low moods at bay (Killgore, 2010). In other words, people might feel more tired, irritable, or have trouble focusing on issues nor staying in a good mood when they are fasting and sleep still suffers.

On a psychological level, well-being is more than just feeling good, it revolves round self-acceptance, having meaningful relationships, finding purpose, and maintaining emotional stability (Ryff, 1998). When someone is fasting, and he/she is not having enough sleep, this can put extra strains on his/her mind, and precipitate negative emotions. Lack of quality sleep weighs heavily on the brain, making it tougher for individuals to be focused, handle stress, and keep worries or low moods at bay (Killgore, 2010). It worth noting that, people that have strong coping skills and high emotional intelligence deal with challenges more. With the inner ability and psychological strength, they come up stronger in the heat of challenges, managing to protect and boosting their mental well-being.

Mental health is also shaped by culture, community settings, and individual interpersonal relationships. Religious fasting is often a group activity wherein people come together to fellowship, pray, and support each other. This creates a sense of belonging and spiritual satisfaction, both of which are great for overall well-being (Idemudia & Boehnke, 2020). However, social pressures involving playing diverse roles, such as: meeting family obligations, work demands, performing religious duties, disrupted sleep during fasting, and lots more task emotional and mental health of individuals. In line with the social side of bio-psychosocial model, the stressors add to the physical and emotional strains of people, making it tougher to maintain their psychological health during fasting periods.

Method

Participants

Individuals that are 18 years old and above residing in Nigeria, and were fasting for at least 2 weeks and continued fasting for at least the next 7 days were eligible and participated in this study. For this study, fasting was considered as choosing not to eat any food or drink any calories for at least 8 hours during the day (not counting when asleep at night), with water consumption permitted. A total of 154 individuals initially consented to participate. Ten participants (0.06%) were considered ineligible because they had not been fasting for at least 2 weeks, and an additional six participants (0.04%) were excluded for failing embedded attention checks. The final analytic sample consisted of 138 participants.

The age range of participants ($N=138$) is 18 to 80 years ($M = 31.14$, $SD = 11.08$). The sample was predominantly female (56.5%), residing in urban areas (82.6%), and well-educated, with 68.8% holding a bachelor's degree or higher. Most participants were employed (67.4%) and identified as Christian (72.5%) or Muslim (27.5%). Regarding income, approximately one-third (33.3%) reported earning less than ₦50,000 per month, while 29.0% earned between ₦50,000 and ₦100,000, and 37.7% earned above ₦100,000 monthly. (See Table 1 for participants' characteristics).

Procedures

This study was conducted online via Google Forms between February and March 2025. Participants completed the survey during a period of voluntary religious fasting. Purposive sampling technique was utilized and the researchers reached out to individuals who might meet the eligibility criteria. The variability in the sample characteristics across age, education, income levels, and religious affiliation does not indicate sample homogeneity, suggesting relative diversity despite the sampling method employed. The online survey included demographic information, sleep measures, and a well-being assessment. Several steps were taken to ensure data quality, including the use of embedded attention checks throughout the survey. Participants who failed these attention checks were excluded from the final analyses.

To protect privacy, only email addresses and phone numbers of the participants were collected. Email addresses were collected to prevent duplicate survey submissions and ensure data integrity, while phone numbers were collected to facilitate mobile airtime transmission as compensation (₦1000; approximately \$0.60). Missing data was not an issue as the survey was designed with mandatory fields, ensuring complete data collection.

Measures

Sleep quality, **sleep duration**, **overall sleep health**, and **psychological well-being** are measured. **Sleep quality** was assessed using a single-item sleep quality scale (Synder et al., 2018), which asked participants to rate their overall nightly sleep quality on a 5-point scale ranging from 1 (terrible) to 5 (excellent). Higher scores indicate better sleep quality. The scale has been used in previous studies examining sleep quality (Gupta et al., 2020; Rifkin-Zybutz et al., 2023) and it had reported high correlation with the Pittsburgh Sleep Quality Index (Buysse et al., 1989), the most common tool for subjective sleep quality.

Self-reported sleep duration was measured by asking participants to answer this question: "How many hours and minutes of actual sleep do you typically get at night? (Please exclude time spent lying awake in bed before falling asleep or during the night)." The self-reported sleep duration in our sample ranged from 2 to 9 hours, with an average of 5.68 hours ($SD = 1.52$). The RU-SATED scale (Buysse, 2014) was used to measure overall sleep health across six dimensions: Satisfaction, Alertness, Timing, Efficiency, Duration, and Regularity. The instrument comprises six single-item statements (e.g., "I maintain a regular sleep schedule"; "I remain alert throughout the day without dozing"), with response options on a 5-point frequency scale: 0 ("never"), 1 ("rarely"), 2 ("sometimes"), 3 ("often"), or 4 ("always"). Responses were aggregated to create a composite score ranging from 0 to 24, with higher values representing more optimal sleep health. This validated measure has been used in previous studies and found to be a good assessment of sleep health (Ravyts et al., 2021; Eze, 2024).

For this study, the RU-SATED questionnaire showed modest internal consistency (Cronbach's $\alpha = .50$). Although below the commonly accepted threshold, lower alpha values are expected in brief scales that assess multiple aspects of a broad concept (Tavakol & Dennick, 2011). In this case, the lower alpha may reflect the fact that RU-SATED measures several distinct dimensions of sleep health, rather than a single uniform trait. Future adaptations may improve its contextual relevance and reliability.

Psychological well-being was assessed using the widely used World Health Organization Well-being Index (WHO-5; Bech, 2004; Topp et al., 2015), a brief 5-item instrument measuring subjective psychological well-being. Participants responded to statements about their experiences over the past two weeks (e.g., "I have felt cheerful and in good spirits") on a 6-point scale from 0 ("at no time") to 5 ("all of the time"). Item scores were summed to produce a total score ranging from 0 to 25, with higher scores reflecting greater psychological well-being. The World Health Organization well-being index demonstrated a strong internal consistency in the study sample (Cronbach's $\alpha = .86$).

Statistical Analysis

Pearson product-moment correlations were calculated to examine bivariate relationships between sleep variables (sleep quality, sleep duration, overall sleep health) and psychological well-being. A multiple regression analysis was conducted with psychological well-being (WHO-5 score) as the dependent variable and sleep quality, sleep duration, and overall sleep health as predictors. Multi-collinearity was assessed using Variance Inflation Factors (VIF), which ranged from 1.324 to 1.431, indicating that multi-collinearity was not problematic in the present analysis.

Results

Table 1: Descriptive Characteristics of the Sample (N = 138)

Characteristic	n (%) or <i>M (SD)</i>	Range
Age		18-80 years
Sex	31.14 (11.08)	
Male	60 (43.5%)	-
Female	78 (56.5%)	-
Settlement Status		
Urban	114 (82.6%)	-
Rural	24 (17.4%)	-
Education		
Secondary School Certificate	14 (10.1%)	-
Undergraduate students	29 (21.0%)	-
Bachelors' Degree	49 (35.5%)	-
Postgraduate Degree	46 (33.3%)	-
Monthly Income (Naira)		
Less than ₦50,000	46 (33.3%)	-
₦50,000 - ₦100,000	40 (29.0%)	-
₦100,001 - ₦200,000	23 (16.7%)	-
₦200,001 - ₦500,000	21 (15.2%)	-
₦500,001 - ₦1,000,000	5 (3.6%)	-
Above ₦1,000,000	3 (2.2%)	-
Employment		
Employed	93 (67.4%)	-
Unemployed	45 (32.6%)	-
Religion		
Christianity	100 (72.5%)	-
Islam	38 (27.5%)	-
Sleep Measures		
Sleep Quality	3.32 (0.93)	1-5
Sleep Duration (hours)	5.68 (1.52)	-
Overall Sleep Health (RU-SATED)	11.99 (3.61)	0-24
Psychological Well-being		
WHO-5 Total Score	17.35 (4.93)	1-25

Note. WHO-5 = World Health Organization Well-being Index

Table 2: Pearson Correlations between Study Variables

Variable	Sleep Duration	Sleep Quality	Overall Sleep Health	Psychological Well-being
Sleep Duration	—			
Sleep Quality	.440***	—		
Overall Sleep Health	.410***	.480***	—	
Psychological Well-being	.086	.339***	.212*	—

Note. N = 138. Psychological well-being was measured using the WHO-5, * $p < .05$. ** $p < .01$. *** $p < .001$.

In Table 2, participants reported moderate sleep quality ($M = 3.32$, $SD = 0.93$; range 1 - 5) and a mean sleep duration of 5.68 hours ($SD = 1.52$). The mean score on the RU-SATED scale for overall sleep health was 11.99 ($SD = 3.61$; range = 0 - 24), and the mean well-being score was 17.35 ($SD = 4.93$; range = 1 - 25).

Examining the multi-dimensional sleep health of the study sample, duration emerged as the least healthy dimension ($M = 1.66$, $SD = 1.12$), followed by alertness ($M = 1.73$, $SD = 1.01$), suggesting that participants experienced inadequate sleep duration and poor daytime alertness. Conversely, sleep satisfaction emerged as the relatively healthiest domain ($M = 2.47$, $SD = 1.08$), although this score remains modest on the 0-4 scale. In bivariate analysis (Table 2), subjective sleep quality was significantly correlated with self-reported sleep duration ($r(138) = .440$, $p < .001$), overall sleep health ($r(138) = .480$, $p < .001$), and psychological well-being ($r(138) = .339$, $p < .001$). Overall sleep health was significantly correlated with sleep duration ($r(138) = .410$, $p < .001$) and psychological well-being ($r(138) = .212$, $p = .013$). However, self-reported sleep duration was not significantly correlated with psychological well-being ($r(138) = .086$, $p = .315$).

Table 3: Multiple Regression Analysis Predicting Psychological Well-being from Sleep Variables (N=138)

Predictor	<i>B</i>	<i>SE</i>	<i>B</i>	<i>T</i>	<i>p</i>	95% <i>CI</i>
(Constant)	11.73	1.83		6.40	<.001	[8.10, 15.35]
Sleep Duration	-0.33	0.30	-.100	-1.08	.282	[-0.92, 0.27]
Sleep Quality	1.81	0.51	.341	3.53	<.001	[0.79, 2.82]
Overall Sleep Health	0.12	0.13	.090	0.95	.346	[-0.13, 0.38]

Note. $N = 138$. $R^2 = .126$, Adjusted $R^2 = .106$, $F(3, 134) = 6.44$, $p < .001$. Psychological well-being was measured using the WHO-5 (World Health Organization Well-being Index). Subjective sleep quality was measured using Snyder's single-item measure. Overall sleep health was measured using the RU-SATED scale. *CI* = confidence interval

Table 3 presents the results of the regression analysis examining sleep variables as predictors of psychological well-being. The overall model was significant [$R^2 = 0.126$, $F(3, 134) = 6.44$, $p < .001$], accounting for approximately 13% of the variance in well-being scores. Among the predictors, only sleep quality emerged as a statistically significant predictor of psychological well-being ($\beta = .341$, $p < .001$), indicating that individuals who reported better sleep quality also reported higher psychological well-being. Neither overall sleep health ($\beta = .090$, $p = .346$) nor sleep duration ($\beta = -.100$, $p = .282$) accounted for unique variance in psychological well-being after controlling for the other variables in the model.

These findings revealed important distinctions between bivariate and multivariate analyses. While bivariate analyses showed that both subjective sleep quality ($r = .339$, $p < .001$) and multidimensional sleep health ($r = .212$, $p = .013$) were significantly correlated with psychological well-being, multivariate analysis revealed that only sleep quality remained a significant predictor ($\beta = .341$, $p < .001$) when controlling for other sleep variables. Sleep duration, which showed no significant bivariate correlation with well-being ($r = .086$, $p = .315$), maintained its non-significant relationship in the multivariate model ($\beta = -.100$, $p = .282$). In addition, there was no significant association between multidimensional sleep health and the outcome variable in the multivariate analysis ($\beta = .090$, $p = .346$), suggesting that its bivariate relationship with well-being may be largely accounted for by its association with sleep quality. These results highlight the importance of subjective sleep quality (perception of sleep satisfaction), rather than quantitative sleep metrics such as duration or composite sleep health scores, in relation to psychological well-being among fasting adults in Nigeria.

Discussion

The present study explored how sleep patterns particularly sleep quality, duration, and overall sleep health predicted psychological well-being among fasting adults in Nigeria. Consistent with prior studies (Liu et al., 2008; Hanson & Ruthig, 2012; Seow et al., 2020; Alexander et al., 2021), the findings affirmed the vital role of sleep in emotional and mental health. However, the results notably underscore that subjective sleep quality rather than objective metrics like duration or multidimensional health emerged as the only significant predictor of psychological well-being. This suggests that individuals' feelings about their sleep may matter more than how long or how deep they sleep, especially during periods of religious fasting when routines are intentionally disrupted.

The lack of association between sleep duration and well-being challenges commonly held assumptions about the importance of sleep quantity. Although the average reported sleep time in the study sample (5.68 hours) falls below the recommended range (Hirshkowitz et al., 2015), it did not independently predict

psychological outcomes. This might indicate an adaptive psychological process among fasting individuals, where spiritual meaning, communal support, and personal resilience buffer the effects of limited sleep a possibility aligned with the bio-psychosocial model.

Interestingly, the RU-SATED score for overall sleep health also did not significantly predict well-being in the regression model. While modest correlations suggest some relationship, its predictive power diminishes when sleep quality is accounted for. This might highlight the importance of subjective perception in determining psychological states, especially in culturally embedded practices like fasting. Moreover, the moderate reliability of RU-SATED in this context suggests the need for culturally adapted tools to assess sleep comprehensively in diverse populations.

Furthermore, the findings emphasized the nuanced interplay between sleep perception and mental health during fasting. Interventions aiming to support fasting individuals should prioritize improving perceived sleep quality, perhaps through education on sleep hygiene and psycho-spiritual coping strategies. Such culturally grounded approaches could enhance psychological resilience during religious observance. Sleep quality emerged as a statistically significant predictor of psychological well-being. This result is consistent with Lund et al. (2020) and Worku et al. (2020) that observed positive correlation between sleep quality and greater emotional well-being, happiness with life and positive mental health. Important distinctions were also observed between bivariate and multivariate analyses indicating significant correlation between subjective sleep quality and multidimensional sleep health.

Conclusion

This study found that among fasting adults in Nigeria, only subjective sleep quality significantly predicted psychological well-being. Drawing from the bio-psychosocial model, the results highlight the importance of perceived sleep experience over objective measures like duration or consistency. Sleep quality is a stronger predictor of positive mental health and it should be considered when promoting positive mental health for overall psychological well-being. Also, findings suggest that how individuals feel about their sleep plays a critical role in emotional resilience during fasting. Public health efforts should therefore prioritize improving sleep quality through culturally sensitive education and interventions during spiritually significant periods.

Recommendations

- Religious leaders and communities should be encouraged to integrate mental health awareness into their fasting programs. Discussions about rest, emotional regulation, and sleep quality should become part of the broader spiritual wellness conversation.
- Future studies should explore longitudinal designs to assess how sleep patterns change across different fasting periods and how these changes affect psychological outcomes over time. It would also be valuable to investigate potential moderating factors such as gender, age, resilience, and spiritual coping.
- Interventions aimed at improving psychological well-being during fasting should be culturally sensitive, leveraging community strengths and respecting religious commitments while promoting mental health.
- There is a need for faith-based organizations and health professionals to offer psycho-education on healthy sleep practices that can be adapted during fasting, such as scheduling naps, limiting screen time before sleep, and creating restful sleep environments.
- Prioritizing sleep quality, not just duration or routine should be promoted by professional counsellors as one of the keys in enhancing psychological resilience during fasting periods in Nigeria.
- Fasting individuals should create personalized plans to managing sleep and associative stressors during fasting periods.
- Mindfulness practices and relaxation techniques should be employed to improving sleep quality for good psychological well-being.
- Muslim women should strategize on compensating for early waking hours expended in cooking during the day at Ramadan periods.

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The Role of Introvertism and Extrovertism on Learned Helplessness among Undergraduate Students

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Abstract

The current study investigated the role of introvertism and extrovertism on learned helplessness among undergraduate students aged 18-35 years. A non-probability purposive sampling technique was used to collect data of 200 students of the University of Lagos around the various department from faculty of social sciences on the campus. Thirty-seven percent (37%) were male while Sixty-two percent were (62%) female. The Learned helplessness scale by Ward (1988) and the Introversion-Extroversion scale by McCroskey (1998) was administered. The data was analysed quantitatively using Pearson correlation and Linear regression using Statistical Package for Social Sciences (SPSS). The findings of the study showed that there is an association between introversion and learned helplessness and a significant negative relationship between extroversion and learned helplessness. Stepwise linear regression suggest that introversion explains 5.2% of positive variance in learned helplessness. Introverts are inwardly inclined and less likely to seek social support and feedback therefore leading them to ponder on negative emotions that could result to learned helplessness.

Keywords: Learned helplessness, introvertism, extrovertism, undergraduate students

Introduction

Helplessness is a state in which nothing a person opts to do affects what is happening. It is the give up response that follows the conviction that whatever a person does doesn't matter.

The feeling of being helpless is a major problem for mankind and is associated with a lot of other psychological problems. This situation could be uncomfortable and may cause negative emotions and feelings of stress, depression, frustration, decreased motivation and anxiety.

Learned Helplessness is a state that occurs after a person has experienced a stressful situation repeatedly, they come to believe that they are unable to control or change the situation, so they do not try even when opportunities for change become available. (Leonard, May 23,2023). According to the American Psychological Association Learned helplessness occurs when someone repeatedly faces an uncontrollable stressful situation, and does not exercise control when it becomes available. They have learned that they are helpless in that situation and no longer try to change it, even when change is possible. (Leonard, May 23,2023).

Learned Helplessness occurs when a person who has experienced repeated challenges come to believe they have no control over their situation. They then give up trying to make changes and accept their fate.it occurs in both animals and human beings. (Cherry, 2023).

Learned Helplessness is a mental state in which an organism is forced to bear aversive stimuli or stimuli that are painful or otherwise unpleasant, becomes unable or unwilling to avoid subsequent encounters with those stimuli, even if they are escapable, presumably because it has learned that it cannot control the situation. (Nolen, Jan 9,2024)

Background of Study

Learned Helplessness is a theory that explains a particular response pattern that an organism has after experiencing stressful events for which there is no control over a stressor, three primary behaviour patterns can be observed. First, the organism will engage in fewer voluntary problem-focused behaviors, it will give up trying to resolve the situation. Second, the organism will display cognitive deficits. It will take longer time for the organism to engage in an effective behaviour response, even if the organism has successfully performed the behaviour previously. Thirdly, because these effects can dissipate over time, the behavioural changes are influenced by emotional responses to lack of control. (Baum, 2012)

Learned Helplessness refers to the motivational, cognitive and emotional deficits that may follow from an organism's exposure to uncontrollable stressors. (D.M Isaacowitz, 2007)

Learned Helplessness occurs when a person has experienced repeated challenges and come to believe they have no control over their situation. It occurs in both animals and human beings. (Cherry, Verywellmind, 2023)

Learned Helplessness is related to people's beliefs about control over life events known as 'locus of control'. Some people are personally responsible for things that happen to them. These people are labelled

‘internals’. Others feel that their outcomes in life are determined by forces that are beyond their control (e.g. fate, luck, and other people). These people are labelled ‘externals’. People who are internally controlled are more likely to attribute their failures to a lack of effort and their success to effort and ability. Most people fall between the two extremes, forming a continuous distribution of locus of control beliefs. Externals tend to exhibit less persistence at tasks. They are less likely to seek feedback and thus they may have more inaccurate self-assessments. Internals is positively related to a willingness to delay rewards in order to maximize them. (Curtis, 2012)

Learned Helplessness is a term specifying an organism learning to accept and endure unpleasant stimuli, and unwilling to avoid them even when it is avoidable. (Seligman MEP, 1967)

Children who have a history of abuse and neglect during their childhood and adolescence can develop a state of learned helplessness.

Learned helplessness may be observed in the elderly, due to repeated exposure to events perceived beyond their control eventually displaying cognitive, motivational and affective deficits of helplessness. The loss of self-esteem may also occur if the individual believes that he/she is personally accountable for the situation (Shipman B, Teitelman JL., 1985).

The research was conducted on dogs in 1967 by Prof Seligman and Prof. Steven F. Maier. The dogs were laid bare to a course of electric shocks that they could not predict or control. They were put in a box with two chambers divided by a low barrier. One chamber had an electrified floor the other did not have. Then turned on the electrified floor, they noticed a strange thing. Some dogs didn’t even attempt to jump over the low barrier to the other side while some jumped. So the dogs that didn’t jump were the dogs that was first exposed to electric shock without a way out and those who jumped were the one that was not exposed to shocks. From the experiment, the researchers concluded that the dogs didn’t jump because they felt there was nothing they could do to avoid being shocked even though there was a way out. So they said the dogs learned helplessness.

In 1974, a learned Helplessness experiment was conducted on humans. The human participants were exposed to a loud and unpalatable noise with a button to stop the noise but after being pressed four times, it still didn’t stop the noise, then the second group was exposed to the same noise but the button was not functional, the third group was exposed to no noise at all. Later all the human participants were exposed to a loud noise and given a box with a lever which stops the noise when operated. The humans in the first group didn’t bother to stop the noise while the humans in the second and third group attempted to stop the noise by pressing the lever. Based on the research Seligman found a relationship between learned helplessness and depression.

Learned Helplessness develops in human being after a reoccurring experience of negative events that the person couldn’t find a way out of it. Not being able to find a way out of situations leads to helplessness, loss of motivation, and depression. It is particularly common among people who have experienced issues like trauma, domestic violence or childhood neglect.

Seligman and colleagues affirm that exposing participants in situations where they have no control results in the three deficits: Motivation, Cognitive and emotional. The cognitive deficit refers to the subject’s idea that the event are too strong to be controlled. The motivational deficit refers to the subject’s lack of response to potential methods of escaping a negative situation and the emotional deficit refers to the depressed state that arises when the subject is in a negative situation that he feels is not under control. (Abraham, 1978)

Personality is defined as a person’s unique behaviours, emotions and patterns of thought. While each human can experience similar emotions and enact similar behaviours, an individual’s combination of said traits is unique and becomes the foundation for their identity.

While personality focuses on an individual, personality type references a classification of traits that make up a typical persona that various people can share. The personality type of definition encompasses a collection of traits that construct a particular set of behaviours or ways of thinking and typically rely on a binary or a spectrum to showcase each trait’s degrees that make up the overarching type. A typical example is the binary of introvert and extrovert. An introvert is a person classified as focused on their mental world and doesn’t necessarily like to partake in external activities with others. They may seem shy or reserved, deemed observers rather than active participants. An extrovert is a person who enjoys being around other people, is considered outgoing and sociable, enjoying large gatherings and talking with others. (Carnevale, 2023)

According to Carl G. Jung, there are two main personality types based on attitude: Introversion and extroversion. He suggested that the main distinction between personalities is the source direction of an individual's expression of energy. He defined extroversion as an outward turning of motivation to a range of behaviours, they are thought to be gregarious, assertive, adaptive, happy individuals with a tendency to take risks while introverts are considered to be reflective, private, thoughtful individuals. He also describes the four functions of human personality which are sensation, thinking, feeling, intuition.

- 1) Sensation: a mental condition or physical feeling resulting from stimulation of a sense organ or from internal bodily change. It's taking information from the external world.
- 2) Thinking: Is a core function of human personality. This function mostly uses logic and reason and less emotions.
- 3) Feelings: He defined feeling as primarily a process that takes place between the ego and given content. It also means making decisions from your emotions.
- 4) Intuition: It refers to the ability to understand something quickly without the conscious reasoning. It can also be taking information from the internal world through imagination.

Learned helplessness is a state that tell about how an individual takes decision based on negative experience while personality is a unique pattern of thought, feeling and behaviour.

Learned Helplessness and personality has behaviour in common but we need to know the particular personality type that is prone to learned helplessness in order to prevent it in the future. For the purpose of this study we will look at the personality type and gender that are likely to experience learned helplessness.

In relation of learned helplessness and personality types, extroverted individuals may have capacity to confront with and defeat learned helplessness. Their outgoing nature provides more space for social support and constructive feedback. They are more likely to seek new ways to solve each problem they face while introverted individuals may be prone to learned helplessness as they may be less prompted to seek social support because they are inwardly inclined. They also may ponder on negative emotions which can lead to learned helplessness. The relationship between learned helplessness and personality types is entangled because both involve the thinking pattern of an individual, with various factors influencing individual response. Learned Helplessness is a psychological condition and personality type is also a psychological classification of different level of individuals. It been a psychological condition can affect individuals regardless of their personality type and gender.

Statement of Problem

According to the research carried out by Seligman, he was able to connect that there is a relationship between learned helplessness, depression and low self esteem (E.Ackerman, 2018).

Learned helplessness also causes negative health symptoms as well as negative emotions about one's disease (Nowicka-sauer k., 2017).

Learned helplessness was said to make an individual believe they can control their environment and achieve their unrealistic standard every time (Pina Filippello, 2017).

It also result to anxiety, phobia, shyness and loneliness and may start the persistence of conditions such as Generalized anxiety disorder (GAD).

It also causes burnout or emotional exhaustion and cynicism in organisations (Ozge Tayfur Ekmekci, 2013).

Learned helplessness has a positive relationship with fatigue and suicidality (EYISI, 2018).

Learned helplessness act as a barrier to pro-environment behaviour in the face of environmental concern (Nicholas Landry, 2017, 2 December).

In view of the problems stated above, understanding of learned helplessness will help people to know how reoccurring negative event and loss of control can affect their opinion about themselves and their environment.

It can help pinpoint the set of people that are prone to it and provide them support by better understanding of how learned helplessness happens.

Knowing how introverted, extroverted personality type and learned helplessness relate will spell out how this traits affects the development of destructive attitudes and behaviour.

Knowing how personality type influence learned helplessness will identify the factor that increase a person's risk of having it and initiate a plan to prevent it.

Understanding of learned helplessness is needed to be able to understand human behavior and raise both the standard of living for individuals and society.

Knowing how introversion and extroversion connect to learned helplessness will provide support with mental health intervention for conditions like depression, anxiety which are constantly associated to it.

However, knowing how introvertism and extrovertism influence learned helplessness is the goal of this study.

Objectives of Study

The purpose of this study is to examine the influence of introvertism and extrovertism on learned helplessness among university students.

Other goal of this study is highlighted as follows:

1. to investigate how personality type influence learned helplessness
2. To evaluate the impact of gender difference in learned helplessness and personality types
3. To understand if learned helplessness is peculiar to a personanlity type (introvertism or extrovertism) and in what context and possible scenarios is the impact significant
4. To know the impact of negative reoccurring events among university students
5. To understand if educational background, age and gender of students would have an effect on the impact of learned helplessness on personality type

Significance of study

This study may be helpful and useful both for the respondents and stakeholders as it hopes to shed light on the subtle and unattended effects of reoccurring negative events that has impacted their perception and world view towards hopelessness and helplessness, subjecting them to a state of nothingness. It also aims to shed light on people that are prone to learned helplessness and how to help them prevent as well as overcome it.

This study will also help respondent to understand and actively enagage in unlearning and overcoming the process of learned helplessness, it benefit to their individual mental health and that of the society at large.

Our society today is laden with cases of depression, anxiety disorders, and suicide cases which are all symptoms of learned helplessness. This study would be beneficial to creating and increasing the awareness of society to the influence of learned helplessness and it relationship to these manacing occurences bringing hope and a bright outlook on overcoming this challenge of hoplessness and low self esteem in schools, workplace and society. This knowledge can be used to develop wellness programmes and campaign promoting mental wellness and commendation of both clients and professional advocate of all-round human wellness.

Scope of study

The study's main focus would be on respondent who are university students in lagos, undergraduate especially. The target population would be within the ages of 18-30years who are currently in school. However as a result of time and financial constraint study will be limited to students of University of Lagos. Data would therefore be collected via questionnaire.

Operational Definition of variables of study

Learned Helplessness is the dependent variable under study. It is the state where an individual is unwilling to get out of a negative situation even though there is a way out of it, due to a reoccurring negative experience that has proved insurmountable. It is to be measured by learned helplessness scale by France Ward (1988).

Personality type is the independent variable whose impact is under study. It can be described as an individual unique pattern or way of thought, emotions, and behaviour. It is to be measured by introversion-extroversion scale by James C. McCroskey (1998).

Introvertism: This is a personality type characterised by a preference for quieter, low-key environments, and a tendency to be more reflective and introspective.

Extrovertism: This is a personality type characterised by a preference for social interaction, external stimulus, and a tendency to be more outgoing and assertive.

Gender:- It consists of male sex and female sex in reference to social and biological construct.

Age is the length of time an individual has lived for (Oxford Dictionary, 2023). It is to be measured by response of participants on questionnaire.

Educational level is also a socio-demographic variable also to be measured by participants response to the demographic section of questionnaire.

Literature Review

Learned Helplessness is a type of maladaptive behaviour that causes a gap between one's potential and actual achievement. This occurs when a person feels that they have no control over a situation and that their actions are futile. It is characterized by challenge avoidance, giving up and a lack of enjoyment. This concept has been studied in animals and human since the 1979s.

Rizvi & Sikand (2020) aimed to examine how learned helplessness affect work management. 300 of the 324 bank employees in Delhi who provided information were taken into consideration for the study. Software such as SPSS and AMOS were used for the analysis. It was done using hierarchical multiple regression and confirmatory factor analysis. According to the study, presence at work is negatively correlated with learned helplessness. So managers and supervisors is said to observe the problem of learned helplessness since it has a harmful impact on how people are involved in their work. Also human resources professionals should create strategies that attempt to change the negative mental processes of employees into positive ones and support the transformation of learned helplessness into learned optimism.

P.U. Ekey & Rita chinenye (2015) investigate the relationship between personality traits and learned helplessness among low achieving student in mathematics. 552 low achieving students in Mathematics in 14 secondary schools from rivers state, Nigeria were used for used for the analysis. A sample of 210 low achieving students in mathematics were drawn from 7 secondary schools using purposive and simple random sampling techniques respectively. Big Five Personality Traits Assessment Scale (BPAS), Learned helplessness (LHS) and Diagonostic Mathematics Test (DMT) were used for Data collection. It was done using test-retest method, Multiple regression, pearson product moment correlation statistics. According to the study, the joint personality traits and personality trait of extroversion when taken independently showed significant relationship with learned helplessness while the other four traits did not have significant relationship with learned helplessness. So in other to help, government should make sure that trained guidance counsellors are employed in public secondary schools to help students with the problem of learned helplessness in studying mathematics.

Saleemah A. Alwan (2022) intend to pinpoint the level of learned helplessness among young basketball player and to identify the relationship, contribution and influence of learned helplessness on precision of jumping for them. A descriptive correlation design was used to guide this study. It includes a purposive sample of 62 young basket ball players who continue their trainings to participate in the 2020-2021 sport season. The learned helplessness scale was used, the study sample was 86.111% of the original population. The test of precision of the jump shooting from the Data was analyzed using the statistical package for social science (SPSS). The statistical measures of percent, arithmetic mean, standard deviation, Guttman coefficient, one sample t-test, linear regression contribution proportion, F-test for the fit model and slope using linear regression was used.

After the study the researchers conclude that the young basket ball players have an increased level of learned helplessness to justify situations of declining precision of their jump shooting. The increase in the level of learned helplessness contribute to a fall in the precision of jump shooting among young basketball players, with a correlation that negatively affect them. To avoid the event of learned helplessness and reduce it among basketball players, the coach needs to pay more attention to them.

Oluwabukola Abimbola Oke (June 2019) did research on gender differences in learned helplessness and student's perception of lecturer's gender among university students in STEM disciplines in South West, Nigeria. It was conducted using quantitative method, Questionnaire was used to collect data. The study consists of 400 undergraduate from two private universities and two public universities. Independent sample test and Linear Regression was used to analyze the data. The students were selected from all levels. The age range of the student were between 16-30years. The study adopted a purposive sampling technique.

At the end, the result showed that there was a significant difference between male and female student on learned helplessness. There was also a significant difference between male and female on the preference for

male and female lecturers in STEM disciplines. However there was no significant predictions about gender in STEM discipline.

(Namrah Wani, 6 June,2023) investigated the impact of extroversion on learned helplessness among young adults in india. A non probability sampling technique was used to collect a sample of 202 young adults. Correlation and regression was used to analyze the data with Statistical Packages For Social Science(SPSS). Finding suggest that there is a significant difference in thinking introversion with a mean score of females being higher than males. A significant difference was also observed in the emotional introversion of males and females with the scores of males being higher than females. The relationship of learned helplessness with thinking extroversion was significant and positive. It was said that thinking extroversion explains 6.9% of positive variance in learned helplessness.

Adeoye, Fasanmi & Igo (2020) examined self-concept clarity, learned helplessness and fatigue severity on psychoactive drug use and abuse among undergraduate. A cross-sectional survey design was used, 400 participants consisting of 240 males and 160 females. Learned Helpless ness Scale, self-concept scale, fatigue severity scale and substance scale was used for collection of data. The study revealed that there was a significant relationship between learned helplessness and psychoactive drugs and abuse, it also showed that there was a significant joint relationship among self-concept clarity, learned helplessness, fatigue severity and psychoactive drug use and abuse among the student. It also included that self-concept clarity, learned helplessness and fatigue severity have significant relationship with psychoactive drug use and abuse. It was proposed that the students should not be pushed into situations that could lead to being helpless and at the same time too much stress should be prevented among students in order not to make them engage into drug use as a result of fatigue.

Theoretical Review

Learning is the change in the behaviour of an organism that is a result of prior experience. (Mustafa H. Gandhi, July 17, 2023). Learning theories seeks to explain how individuals acquire, process, retain and recall knowledge during the process of learning.

Theories of learning have been developed as models of learning which explain the learning process by which an individual acquires a pattern of behaviour.

Classical Conditioning Theory of Learning

Is defined as a process in which a formerly neutral stimulus when paired with an unconditional stimulus, becomes a conditioned stimulus that elicits a conditioned response. (Fred, 1995). Ivan Pavlov, a Russian psychologist (Nobel Peace Prize) developed classical conditioning theory of learning based on his experiment to teach a dog to salivate in response to the ringing of a bell.

When Pavlov presented meat (unconditioned stimulus) to the dog, he noticed a great deal of salivation (conditioned response). But when mere bell was rung, no salivation was noticed in the dog. Then Pavlov decide to pair the offering of meat to the dog along with ringing up of bell. He did this several times. Afterwards, he merely rang bell without presenting the meat. Now, the dog began to salivate as soon as the bell rang. After a while the dog would salivate merely at the sound of the bell, even if no meat were presented.

In effect the dog had learned to respond to salivate to bell. Pavlov concluded the dog has become classically conditioned to salivate (response) to the sound of the bell(stimulus). It will be seen that classical conditioning learning can take place amongst animals based on stimulus-response (SR) connections.

Operant Conditioning Learning

Operant Conditioning was proposed by B.F Skinner in order to explain the more complex behaviour of human. It is concerned primarily with learning as a consequence of behaviour, Response-Stimulus(R-S). A particular response occurs as a consequence of many stimulus situations.

Operant Conditioning argues that behaviour is a function of its consequences. B.F Skinner said people learn to behave to get something they want or avoid something they don't want. Operant behaviour means voluntary or learned behaviour. The tendency to repeat such behaviour is influenced by the reinforcement or lack of reinforcement brought about by the consequence of the behaviour.

Cognitive Learning Theory

Behaviorists such as Skinner and Watson believed that learning through operant and classical conditioning would not be explained without reference to internal mental process. Today, however, a growing number of psychologists stress the role of mental processes. They choose to broaden the study of learning theories to include such cognitive processing as thinking, knowing, problem solving, remembering and formal mental representation. According to cognitive theorist, these process are critically important in a more complete comprehensive view of learning.

Personality Theories

Trait theory of personality

It was developed by Raymond Cattell, who argued that a person's personality is a series of traits that are stable over time. Traits are descriptive summaries of people's attributes (Larsen&Buss,2002).The approach narrows down a person's personality to five core traits which are also called the Big Five theory of personality. The acronym for the big five is OCEAN- Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism. They are scored along a continuum, from high to low rather than present or absent.

A summary of the Big Five factors and their constituent traits:

Openness to experience- (inventive/curious vs predictable, prefer routine vs imaginative) refers to one's willingness to try new things and engage in imaginative and intellectual activities, appreciation for art, emotion, adventure, unusual ideas, curiosity and variety of experience.

Conscientiousness- (efficient/organised vs easy-going/careless). It describes a person's ability to regulate impulse control to engage in goal-directed behaviours, and tendency to show self-discipline. It measures element as control, inhibition and persistence of behaviour.

Extraversion- (outgoing/energetic vs solitary/reserved) it reflects the tendency and intensity to which someone seeks interaction with their environment, particularly socially. It encompasses the comfort and assertiveness level of people in social situations.

Agreeableness- (friendly/compassionate vs cold/unkind) refers to how people tend to treat relationships with others, a tendency to be compassionate rather than suspicious and antagonistic towards others.

Neuroticism- (sensitive/nervous vs secure/confident) describes the over all emotional stability of an individual through how they perceive the world. It takes into account hoe likely a person is to interpret events as threatening or difficult. It also includes one's propensity to experience negative emotions.

Theoretical framework

Variables of the study contain dependent and independent variable. The study used pre-specified method for the selection of variables. The study used the introvert-extrovert personality type as dependent variable and learned helplessness as independent variable.

Ghasemi (2021) investigated the learned helplessness (LH) that junior secondary students in public school English language learning classes experienced. 126 students were given the Learned Helplessness Scale (LHS) and the Student Behaviour Checklist (SBC), which helped identify 44 kids who had LH traits. The experimental and control groups were assigned to the sample at random. Using Dörnyei's motivational techniques and encouraging feedback while teaching English for a semester, effective outcomes were observed in reducing LH symptoms and improving the academic performance of the experimental group. It became obvious that teachers and their methods play a significant role in either encouraging or reducing LH symptoms and behaviour.

Rizvi & Sikand (2020) aimed to examine how learned helplessness affects work engagement. 300 of the 324 bank employees in Delhi who provided information were taken into consideration for study. Software such as SPSS and AMOS were used for the analysis. It was done using hierarchical multiple regression and confirmatory factor analysis (CFA). According to the study, participation at work is adversely correlated with learned helplessness. Managers and supervisors must recognise the problem of learned helplessness since it has a detrimental impact on how involved people are in their work. Human resources (HR) professionals should concentrate on creating strategies that attempt to transform the negative mental processes of employees into positive ones and support the transformation of learned helplessness into learned optimism.

Amadi, Chizoma, Nwoke & Linus (2020) studied the correlations between psychosocial variables and learned helplessness in maths among senior secondary school students. The study was conducted using a

correlational research design. The extent of the association between anxiety, self-efficacy, locus of control, and learned helplessness was examined in 395 respondents using the "Psychological Factors Scale (PFS) and Learned Helplessness Scale (LHS)". At a significance level of 0.05, correlation was employed to test the formulated null hypotheses. The study's findings demonstrated a substantial positive association between anxiety, self-efficacy, and locus of control and learned helplessness in mathematics among senior secondary school students. It was determined that among senior secondary school students, anxiety, self-efficacy, and locus of control are related to learned helplessness in mathematics.

Empirical Review

Learned Helplessness is an occurrence containing three components: Contingency, cognition and behaviour. Contingency deals with the uncontrollability of the situation. Cognition refers to how people evaluate their situations or surroundings many of which they are part of, while behaviour allows individuals to decide whether they will give up or proceed with obstacle set before them. (Peterson, 1993).

When people experience learned helplessness, they have a tendency to give up easily or fail more often at somewhat easier tasks. Learned helplessness is more likely to occur from situations where failure is uncontrollable.

Gernigon, C., Fleurance, P. and Reine, B. (2000) carried out a research on failure in controlled and uncontrolled circumstances. They found that failure was more likely to occur in an uncontrollable circumstances. Another study conducted by (Stiensmeier-Pelsteer, J. & Schurmann, M., 1989) addressed failure in terms of blaming the results on internal or external factors and how performance was affected by the response. They performed two tests on subjects and then related their performances. The researchers found that the subjects who related the failure to internal causes, such as the task was intellectually too difficult for them personally, were more inclined to give up than those who attributed their failures to external causes, such as thinking that the test itself had impossible questions.

Many factors can lead to learned helplessness, for example, the type of situation may affect the way that people respond to difficult tasks. If a person is forced to perform in public, factors such as anxiety may influence performance. In learned helplessness situations, performance deficits mostly result from low motivation due to the beliefs that the person is not in control.

In 1967 Segliman & Maier conducted an experiment that first included two groups of dogs all placed in a box that administered electric shocks. The first group was able to relieve the pain by pressing their nose to a button, while the other group was not. In the second phase of this experiment, all dogs had the ability to escape the electric shock administered, all that was required was to jump over a partition between two chambers. However, the psychologists found dogs without the button in the first phase did not attempt to escape the shock, while the dogs with the button quickly learned to jump over the barrier. From this, three main effects were drawn:

Response Initiation - Animals who adapted to shocks were slower to initiate responses to relieve the shock or did not respond at all

Delayed Learning - Slowed response learning that their actions could control the trauma

Emotional Stress - Stress increased in intensity when the trauma was uncontrollable

After publication, critics argued that these same principles could not be applied to humans, and so, in 1974 an experiment was conducted by D. S. Hiroto using college students. The experiment followed the general pattern of the original but utilized a loud noise rather than a shock. The results of this experiment were remarkably similar as the students in the unescapable (button-free) noise group failed to escape in the second phase and listened to the noise passively while those in the escapable group (with button) were quick to learn how to escape the noise.

Following the findings of Hiroto's experiment, a renovated learned helplessness theory was published in a 1978 article entitled "Learned Helplessness in Humans: Critique and Reformation". In this entry, authors touched on previous inadequacies of the old theory and began to relate them more towards humans.

The main idea of Seligman & Maier's theory focuses on how repeated aversive outcomes will cause an organism to fail to use any means necessary to change the outcomes of its environment. This continuous lack of control over one's environment will lead to a decrease in motivation and will lessen later attempts to solve the situation.

The 1978 theory introduced a new component, attribution, which can affect how broad and constant helplessness may appear in new situations; this can later affect a person's self-esteem when facing those new circumstances.

When an aversive outcome arises, there are two situations that can be at the root:

A person is unable to control the outcome and believes no one else is able to, either. They think they, themselves, are lacking the skills necessary to control an outcome. This distinction marks the difference between universal helplessness and personal helplessness. Therefore, when a person makes an internal attribution that others were able to find the solution to the outcome and they were not, it is deemed personal helplessness. On the other hand, if a person makes an external attribution that the outcome of the situation was independent of their response, that is seen as universal helplessness.

Another dimension of this theory involves the generality of the uncontrollable outcome that will occur. This irregularity is deemed global or specific. Unlike the dichotomy of personal versus universal helplessness, these two categories are a continuum. The term global refers to when helplessness affects a wide range of situations, versus specific, which is when helplessness only occurs in a certain set of situations.[10] The duration of helplessness can also be broken into two categories, long-lived and recurrent (i.e., chronic) or short-lived and nonrecurrent (i.e., transient).

The final division of helplessness outlined by Segliman deals with the stability of the deficit. Stable helplessness is long-lived, while unstable is short-lived. Together, these various dimensions produce different severities and durations of helplessness. The most damaging forms of helplessness mainly pertain to stable factors- for example, if a person feels a lack of intelligence or ability to complete an action. The feeling of helplessness will persist longer as it is something they feel they cannot change about themselves. Self-esteem deficiencies become more likely when internal attributions are paired with stable factors. However, the most severe combination comes when internal, stable and global attributions are all given. In this situation not only does the person blame themselves for their helplessness, but also perceive the factor that will not change, which happens in a wide range of situations. Notably, while attribution can predict the recurrence of the outcome, the expectation of the situation is what determines how often the helplessness occurs. If a person feels they are indeed capable and expects the situation to end positively, then their chances of helplessness are lower versus a person who enters a situation with a negative expectation in mind.

In all cases, however, a clear flow of events can be mapped out to show a person's descent into a helpless mindset. The first connection comes when the person no longer associates their actions with the desired outcome. They then make a conclusion based on the lack of association between the action and the outcome. That association then leads to the person expecting those same aversive outcomes for the future thus hindering any future response they might have that can change the outcome.

Due to the nature of how learned helplessness arises when aversive outcomes lead to a decrease in response, many have come to use Seligman's theory to explain why certain people are more vulnerable to depression. Depression can be described as a person having reduced responses and a negative cognitive set, both of which can be tied to a feeling of hopelessness or helplessness. Once a person makes the connection that response and outcome are independent of one another, they can become vulnerable to a depressed effect. However, the idea of uncontrollability is not sufficient enough for depression to arise on its own. Seligman laid out four different deficits that can make up depression: motivational, cognitive, self-esteem and affective. When a person learns their response no longer affects the outcome, the loss of a desired outcome, or event of an aversive outcome, leads to a belief they are doomed to fail in the future. Additionally, the intensity of the depression is dependent on if the person makes a personal or universal attribution for their helplessness. If seen as personal, their self-esteem decreases as they deem themselves unfit to change the outcome.

This link between personal helplessness versus universal helplessness affecting depression was examined in a study done by Rizley in 1978. In his study, Rizley assigned depressed and nondepressed college students a cognitive task, however, some were destined to fail or to succeed. Once the task was completed they were asked to make an attribution about the outcome. The failed group showed that depressed students made more internal, global, stable attributions, or saw themselves as incompetent, while the non-depressed students made external, specific, stable attributions, like seeing the task as too challenging. Conversely, if the student succeeded the depressed students attributed the positive outcome externally (i.e., deeming the task too easy) while the non-depressed students attributed it internally by praising their own abilities. Thus the relationship between learned helplessness and depression is strong, and the effects of depression can become more far-

reaching if the person continuously faces the challenge of overcoming their helplessness. The lack of response from the person can even lead to a delay in development and learning as well as make them more vulnerable to depression, anxiety and guilt.

People who continuously face uncontrollable situations, especially those that have a high likelihood of being aversive, are much more vulnerable to depression. That depression also becomes more far-reaching once that person begins to make global, stable and internal attributions about the outcome. However, learned helplessness is not necessary for someone to fall into depression, but it is sufficient to develop depression. The combination of uncontrollability, lowered self-esteem, and generality that comes from learned helplessness can have dramatic effects, especially within vulnerable groups such as children and victims of abuse.

In academic settings, academic failure or low academic self-esteem can set students up to feel that their actions no longer affect the outcome of their situations. Students who fall into learned helplessness begin to feel as if they are unable to change their negative outcomes and thus stop applying any effort to their schoolwork at all. They can also begin to feel anxious about schoolwork or attending school, thus depressing their motivation, effort, and chances of success in the future. It also becomes a larger issue when students who may face bullying at school begin to believe there is nothing that can be done to stop it and inadvertently allow their own bullying. They fear that speaking out against their aggressors will not change the negative outcomes later on and adapt to that environment rather than try to change it. This can also be applied to children facing abuse, or any form of trauma at home. They feel all control has been lost, especially when their control is being taken by an adult, and they fear it may never come back. This loss of control from an early age can stunt that child's development and can lead to those negative personal attributions tied to depression and other mental health issues.

These same ideas can be tied to victims of abuse who stay in dangerous situations when so many others tell them to leave. Abusers will subject their victims to repeated abuse, teaching them they have no way of escape from when the abuse will arise or how to control it. They learn very quickly that they have little to no control over the abuse inflicted on them and thus no longer try to change their situation. The abuser thus holds complete control over their victim and forces them into learned helplessness. Once victims are acclimated to their situation, it will normally take intense support and therapy to allow themselves to leave their abusive environment. These victims will also make internal attributions about why their response leads to traumatic outcomes and sees themselves as the root of that abuse.

Each situation will have its own specific solution. For students struggling in school, it is important to implement complimentary actions based on students' effort as well as setting individual goals so that students can see the progress they make as they complete each goal they set for themselves. However, in more advanced cases of learned helplessness, therapy and support can allow people to escape their negative environments. Further, teaching the idea of learned hopefulness can allow people to have a new outlook on response-outcome relationships.

Personality type

Personality type are classified as introverted and extroverted depending on the direction in which they emit their energy. Extroversion and introversion are a central trait dimension in human personality theory. Extraversion tends to be manifested in outgoing, talkative, energetic behavior, whereas introversion is manifested in more reflective and reserved behaviour. Jung defined introversion as an attitude-type characterized by orientation in life through subjective psychic contents and extraversion as an attitude-type characterized by concentration of interest on the external object. (Jung, 1995).

Extraversion and introversion are typically viewed as a single continuum, so to be higher in one necessitates being lower in the other.

Extraversion is the state of primarily obtaining gratification from outside oneself, they tend to enjoy human interactions and to be enthusiastic, assertive and gregarious. They are energized and thrive off being around other people. They take pleasure in activities that involve large social gathering, such as parties, community activities public demonstration and business or political groups.

Introversion is the state of primarily obtaining gratification from one's own mental life. They are typically perceived as more reserved or reflective. They tend to expand through reflection and dwindle during interaction.

Research Question

1. Is there a positive significant relationship between introversion and learned helplessness.
2. Is there a negative significant relationship between extroversion and learned helplessness.
3. Is there gender differences on learned helplessness among young adults.
4. Is there a significant difference in introversion between males and females.

Research Hypothesis

1. There will be a positive significant relationship between introversion and learned helplessness.
2. There will be a negative significant relationship between extroversion and learned helplessness.
3. There will be significant differences in learned helplessness based on demographic variables(age,gender,educational level).
4. Gender will significantly moderate the relationship between introvertism and learned helplessness among university students.
5. There will be a significant difference in introversion between males and females with females scoring higher than males.

Method

This chapter describes the method used for data collection and analysis of this study. This includes the research design, sampling technique, procedure for data collection and the statistical techniques for analysis.

All of these consideration to the findings of this study that would be discussed in later chapter of this study.

Research Setting

The study took place in University of lagos in faculty of social science on the main campus at Yaba, Lagos State, Nigeria.

Population Sample and sampling techniques.

The sample size was 200 students chosen from the faculty of social science at different levels. The age ranges of the students are between 18-35years. The study adopted a Non-probability purpose sampling technique. Accidental sampling was used for the sampling.

Research Design

The study was a correlational survey design, which analysed the relationship between the independent variable- personality types and dependent variables- learned helplessness. While taking into consideration demographic variables of respondents like age, gender and level of education. Gender differences in learned helplessness and personality types was also examined, it also checked if gender will moderate the role of introvertism and learned helplessness. The design is to establish a relationship between two variables. In the case of the study, it is to establish an influential relationship between personality type and learned helplessness. The research will adopt a quantitative, cross-sectional study approach.

Instruments

The study used a pencil and paper research protocol which was made of 1 questionnaire and 2 psychological scales namely (James C. McCroskey,1998) introversion-extroversion personality scale and (France Ward 1988) learned helplessness scale. The questionnaire was divided into three sections. The first section consists of the demographic background of the respondent. The second section is a psychological scale of measure for personality types and the third section is a measure for learned helplessness.

The first section collected data on the demographic variable of the respondent (age, gender, and educational level of respondent).

The second section is the introversion and extroversion scale (James C. McCroskey,1998). The introversion and extroversion personality scale developed by James C. McCroskey in 1998, measures two distinct forms of personality: introversion and extroversion. These two types are considered to be separate

individual, with introversion personality types with an inward focus on energy and extroversion personality types with an outward focus on energy.

Introversion-extroversion Scale

The introversion-extroversion scale by James C. McCroskey (1998), is developed to be distinct from measures of communication apprehension. An examination of the literature on introversion indicated that other introversions scales have included items that were tapping apprehension about communication. Items were drawn from the work of Eysenck, with items which referenced communication excluded. This permits the measurement of introversion without the contamination of communication apprehension items and allows the examination of both introversion and communication apprehension as predictors of communication behaviours independently of each other. The correlations of this measure with the PRCA-24 have been around .30. Alpha reliability estimates have been above .80. Items to measure neuroticism are used as filler items and are not scored with the introversion items.

Learned Helplessness Scale

Section Three will measure learned helplessness; the instrument to be used is the learned helplessness scale by France Ward (1988) is a 20-item, self-report questionnaire that uses a four-point Likert scale to assess learned helplessness ideation. The scores, which range from 20 to 80, reflect varying degrees of learned helplessness. The learned helplessness scale's internal consistency has received extensive validation in healthy groups ($\alpha = 0.8521$ and $\alpha = 0.9227$)

Procedure

The student of the University of Lagos Faculty of Social Science, department of psychology was randomly picked for the research, selected from 200-400 levels. It includes both females and males. 200 questionnaires were administered. The study's goal is to investigate the impact of introversion on learned helplessness and exploring the relationship between gender and learned helplessness and development of learned helplessness in young adults.

Data Analysis

Using the scoring procedure for the personality scale and learned helplessness scale, respondent were scored based on their responses to the questionnaire administered.

The data were then analysed using SPSS. The descriptive statistic was done on the demographic variable of study; including measures such as mean, standard deviation, minimum and maximum. These provided a summary of the characteristics of respondents.

Pearson's correlation coefficient was then used to quantify the strength and direction of the statistical relationship between the variables under study. With these data and evidence, the initially stated hypothesis was tested. As such the study was able to describe the data collected and deduce if they are in support of the study's hypotheses.

Results

This chapter presents the demographic characteristics and the analysis of the study conducted, followed by interpretation of the result. In this study, a total of two hundred questionnaires were analyzed for the purpose of this study

Table 1: Data Presentation on Demographic Characteristics of Respondent.

Social Demographic variables	Freq	Percentage
Gender		
Male	74	37.0
Female	126	63.0
Age		

16-20 years	33	16.5
21-26 years	156	78.0
26-35 years	11	5.5
Educational level		
200	53	26.5
300	112	56.0
400	35	17.5

From the above table, the socio-demographic characteristics of participants that were used for the study, Gender of participants we had participants who are Male 74 (37%) and Female 126 (63%). Age of participants we had who were between 16-20 Years 33(16.5%), 21-26 Years 156(78%), 26-35 Years 11(5.5%). Educational Level of Participants We had participants who were in 200 Level 53(26.5%), 300 Level 112(56%) and 400 Level 35(17.5).

Table 2: Descriptive Statistics Table showing mean and standard deviation of Learned Helplessness and Personality types

	N	Minimum	Maximum	Mean	Std.Deviation
Gender	200	1.00	2.00	1.63	.484
Age	200	1.00	3.00	1.89	.457
Level of Education	200	1.00	3.00	1.91	.659
Introvert	200	1.00	5.00	2.99	.684
Extrovert	200	1.00	5.00	2.99	.678
Learned Helplessness	200	1.00	3.00	2.15	.351

Table 3: Zero-order correlation showing the relationship between Learned Helplessness and Personality types

Variable	Mean	S.D	1	2	3
Introversion	2.99	.684	1	-.998**	.255**
Extroversion	2.99	.678	-.998**	1	-.248**
Learned Helplessness	2.15	.351	.228**	-.232**	1

**Correlation is significant at the 0.01 level (2-tailed)

The reliability of the two scales was tested. It was revealed that Cronbach's alpha coefficients are 0.791 for learned helplessness, 0.828 for personality scale which shows that the scales are reliable.

Table 3 reveal that there exists a significant positive relationship between learned helplessness and Introvertism ($r=.228, p<.01$) and there exists a significant negative relationship between learned helplessness and extrovertism ($r=-.232$).

Hypothesis Testing

This section presents the hypothesis that were tested and results analyzed. Five (5) hypothesis were tested. Hypothesis 1&2 was tested using simple Linear Regression analysis, Hypothesis 3 was tested using Anova

One-Way analysis, Hypothesis 4 was tested with Process macro for the moderation variable, and Hypothesis 5 was tested with t-test for independent measures.

Hypothesis 1: There will be a positive relationship between introversion personality type and learned helplessness.

Table 4: Simple Linear regression results for introversion on learned helplessness.

Variable	β	Beta	T	Sig	R	R ²	Fcal	Pv
Constant	1.798		16.495	.000	.228	.052	10.89	<.01
Introversion	.117	.228	3.301	.000				

Dependent Variable: Learned Helplessness

Table 4 revealed that introversion has a positive relationship with learned helplessness, introverts are more likely to experience learned helplessness among university students given the Beta and P values scores ($\beta=1.798$, $P<.01$). Furthermore, introversion is responsible for 5.2% variance in learned helplessness among university student ($R^2=.052$). which implies that introversion explains 5.2% of the variation in learned helplessness, at such we accept the hypothesis that states that “There will be positive relationship between introversion and learned helplessness”.

Hypothesis 2: There will be a negative relationship between extroversion and learned helplessness.

Table 5: Simple Linear regression results for Extroversion on learned helplessness.

Variable	β	Beta	T	Sig	R	R ²	Fcal	Pv
Constant	2.508		22.840	.000	-.232	.049	11.226	<.01
Extroversion	-.120	-.232	-3.351	.001				

Dependent Variable: Learned Helplessness

Table 5 revealed that extroversion has a negative relationship with learned helplessness, extroverts will not experience learned helplessness among university students given the Beta and P values scores to be ($\beta=2.508$, $P<.01$), we accept the hypothesis which states that “There will be a negative relationship between extroversion and learned helplessness”.

Hypothesis 3: Demographic variables (Age, level, sex) will significantly predict learned helplessness.

Table 6: t-test for independent samples showing the difference in learned helplessness based on demographic variables.

Variables	N	Mean	SD	Tcal	DF	F-Ratio	Pv
Sex							
Male	73	2.10	.306	-1.494	198	.137	>.05
Female	127	2.17	.371				
Levels							
200	50	.13	.31861		2	.743	.477
300	112	2.13	.36870		197		
400	38	2.21	.33395				
Age							

16-20	32	2.18	.359	2	.423	.656
21-25	157	2.13	.352	197		
26-35	11	2.21	.288			

Table 6 showed the difference in learned helplessness based on demographic variables (gender, age and levels). The result revealed no significant difference in learned helplessness based on age $F(2,197)=.423$, $P>.05$ and level $F(2,197)=.743$, $P>.05$. This means that there was no significant difference between the age difference and between the level difference. Also the gender of students showed no significant difference in learned helplessness of Males ($M=2.10$, $SD=0.306$) and Females ($M=2.17$, $SD=0.37$), $t(198)=-1.49$. This implies that there is no significant difference between the score of males and females on learned helplessness. Furthermore sex, age and level are jointly responsible for 2.1% variance in learned helplessness among university students ($R^2=0.21$), which implies that sex, age and level jointly account for 2.1% of the observed variance in learned helplessness among participants at such that we reject the hypothesis which state that ‘Demographic variables (sex, age and level) will significantly predict learned helplessness in participants’

Hypothesis 4: Gender will significantly moderate the relationship between introvertism and learned helplessness

Table 7: One Way Anova showing the relationship among moderating variable, independent variable and dependent variable

Model Summary

Variable	coeff	se	t	P	LLCI	ULCI
(Constant)	2.1070	.0399	52.7639	.000	2.0283	2.1858
Introvert	.1549	.0535	2.8952	.0042	.0494	.2605
Gender	.0701	.0503	1.3959	.1643	-.0290	.1693
Int I	-.0758	.0716	-1.0588	.2910	-.2171	.0654

Dependent Variable: Learned Helplessness

Table 7 shows how gender moderates the relationship between introvertism and learned helplessness, Pvalues for the interaction $P= (.2910)$ shows gender does not significantly moderate the relationship between introvertism and learned helplessness. So we reject hypothesis 4.

Hypothesis 5: There will be a significant difference in introversion between males and females with females scoring higher than males.

Table 8: Introversion t-test independent

Sex	N	Mean	SD	Tcal	Df	Sig	Pv
Male	73	2.8950	.74264	-1.141	198	.256	>.05
Female	127	3.0111	.66247				

Result is not significant at $P>.05$

Table 8 shows that the t-test reveals that there is no statistically significant difference between introversion of Male ($M=2.89$, $SD=.742$) and Female ($M=3.011$, $SD=.663$), $t(198)=-1.14$, $p= .256$, $\alpha=.05$. This implies that there’s no significant difference between the score of male and female in introversion. So we reject hypothesis 5.

Discussion

This main objective of this study is to understand the role of introvertism and extrovertism on learned helplessness of university student. it examined gender differences in learned helplessness, the research sought

to understand if the educational background, age and gender of the students would jointly influence learned helplessness. 200 participants (university students) were used for this study and were administered a standardized test instrument, using the Introversion-Extroversion personality scale developed by McCroskey (1998) and the Learned Helplessness scale developed by Ward (1988).

According to the first result it revealed that introversion is related to learned helplessness among university students. This means that an individual who has an introverted personality is likely to experience learned helplessness because they are less prompted to seek social support and they are inwardly inclined and ponder more on negative emotions. This is compatible with the findings of Tiggemann & Brebner (1982) which found that introverts displayed a much more marked helplessness effect than extroverts. However, these findings contradict the study of Wani (2023) who state that there is a significant relationship between extroversion and learned helplessness that is thinking extroversion is a predictor of learned helplessness. According to Carl Jung, introverted individuals may be more vulnerable to learned helplessness as they may be less inclined to seek social support or new experience, they also dwell on negative emotions, reinforcing feelings of hopelessness and helplessness.

Similarly, another study by Ekeh & Chinenye (2015) investigated the connection between personality characteristics and learned helplessness among maths students with low achievement. The results of the data analysis showed that extraversion demonstrated significant relationships with learned helplessness.

Overall, introversion is related to learned helplessness among university students.

According to the second result it was revealed that extroversion has a negative significant relationship with learned helplessness. This means that extrovert student are not likely to experience learned helplessness because they can confront failure due to their outgoing nature that provides more space for social support and constructive feedback. They seek new ways to solve each problem they face. The current result is compatible with the finds of (Marika,Anthony& John Brebner, 1982) that found that extroversion does not have play role in the development of learned helplessness.

The current study revealed that age does not predict learned helplessness among university students, also, it was revealed that sex does not predict learned helplessness among university students, it was further revealed that level of education does not significantly predict learned helplessness among university students. However age, sex and level of education jointly serve as a significant predictor of learned helplessness among university students. Firstly, a study was carried out by Shami (2020) to ascertain if age has a moderating role on learned helplessness and job involvement, he concluded that age has no impact on learned helplessness but stated as one ages and encounters negative reoccurrence, one more likely to experience learned helplessness.

Also according to the result obtained on sex and learned helplessness, findings reveal that there is no significant difference between males and females on learned helplessness at 5% but can be significant at 15%. However, contrary to the finding of Abimbola (2019) who examined gender differences in learned helplessness and students' perception of lecturer's gender among university students in STEM disciplines in South West, Nigeria. The study suggests a significant difference between male and female students in learned helplessness.

Based on findings from the existing literature it can be deduced that age does not serve as a significant predictor of learned helplessness among university students. Other factors, such as exposure to diversity may play a more influential role in experiencing learned helplessness. Further research is required to gain a deeper understanding of complex dynamics involved in learned helplessness among specific groups.

However, in contrast to the findings of this study, Abimbola(2019) held that sex would have a significant impact on learned helplessness. The reason for its contraction to the finding of this study may be because the study was about STEM disciplines which may be focused only on the scientific part of school.

Based on the empirical evidence reviewed, it can be concluded that sex serves as a significant predictor of learned helplessness among university students. Further research should explore other potential factors that contribute to learned helplessness among university students such as locus of control, individual values and family background.

Research examining the joint effects of age, sex and level of education is limited. However, studies suggest that the interaction between these factors can influence learned helplessness.

The current study also revealed that gender does not moderate the relationship between introvertism and learned helplessness. It implies that the gender of an individual does not change the level of relationship between introvertism and learned helplessness.

The current study obtained that there is no significant difference between the scores of males and females on introversion. Contrary to the finding of Namrah Wani(2023) which suggest that there is a significant difference in thinking introversion with a mean score of females being higher than males.

Also, another finding by Deyoung(2011) found that women tended to score higher than men on warmth, gregariousness and positive emotions in terms of extraversion.

In conclusion, age, sex and level of education jointly predict learned helplessness among university students.

Conclusion

This study investigated the role of introvertism and extrovertism on learned helplessness among university students, it examined gender differences in learned helplessness, identified the personality type that is prone to experience learned helplessness, lastly, the research sought to understand if educational background, age and gender of students would influence learned helplessness. The findings of this research conclude that there is a correlation between introvertism and learned helplessness among university students. The more of negative events an introvert student encounters the more they are likely to experience learned helplessness. This suggests that the personality type of an individual influences learned helplessness. The study also concludes that the environment affects learned helplessness.

Implication of study

The study provided empirical evidence for variables that influence learned helplessness among university students in Lagos state. The variables are personality types and demographic variables. According to the findings of this study personality types of a student is related to learned helplessness. An introverted student is prone to experience learned helplessness in a social environment while an extroverted person is likely to experience learned helplessness in an academic environment. The role of introvertism and extrovertism in the learned helplessness of university students did have several important implications for not only the respondent, but also university authorities, parents, counsellors, and other professionals. The study contributed to raising awareness about the impact of personality type on learned helplessness. It can help students, educators, counsellors, parents, and psychologists understand an individual's personality type's role in learning helplessness.

The findings shed light on how a reoccurring negative event of an individual's life can affect their life. Understanding the underlying mechanisms that reinforce learned helplessness can help develop targeted interventions to challenge and change such perceptions. Also the more an individual goes through reoccurring negative experiences the higher the chance of experiencing learned helplessness.

This is consequently calling the attention of university authorities to provide practising psychologists in a school environment and not just use the lecturers in the psychology department as a therapist too, because of the workload on the lecturers and it might not allow them have full-time counselling for the students.

This study finds that introvert personality type has a significant role in learned helplessness, Also for Counselors, and parents this research shows that there is a need to understand their student personality types in other to know how they think, feel and behave to events in their life.

Limitation of study

The current study has some limitations, one of it is a small sample size, which may not represent the general population accurately, therefore accounting for only the perspective of students alone. Their attitudes and experience may not be representative of the non-student population.

Also because it is a self-report study, participants may not give accurate or honest responses while reporting their personality types and how negative effects had affected them due to social desirability bias. They provide socially acceptable answers, which may not reflect their true attitudes.

There are other factors, such as locus of control, family upbringing and background, which may also contribute to the development of learned helplessness.

Finding from this study may not be generalized to other age groups or populations outside university students. Different demographic groups may have different experiences and attitudes towards learned helplessness.

Measuring learned helplessness can be challenging because it relies on self-reported attitudes, which are subjective. Different participants may have different interpretations of what constitutes learned helplessness, leading to measurement inconsistencies.

The study only captures a snapshot of the participants' attitudes and behaviors during a specific period. Longitudinal studies may be needed to understand how personality type and learned helplessness affect each other happens over time.

Recommendation for the general population

Based on the findings of this study, the researcher would recommend that individuals should be aware of the potential negative impact of reoccurring negative event on their perceptions and attitudes toward life and also how an individual been an introvert can make them to be prone to learned helplessness. This can be done through educational campaigns and workshops that highlight the importance of critical thinking and fact-checking when going through negative event.

It is also a recommendation of the researcher that individuals be empowered to critically evaluate and analyze themselves on daily bases. This includes becoming aware of themselves, how they process their feeling and thinking about the situation they find themselves.

Individuals be encouraged to talk to counsellors about the way they feel and not try to bottle it up, that is they should seek to understand themselves better and also accept themselves for who they are and not the way they want people to see them.

The researcher is of the view that practicing psychologist should be available in school for counseling and not lecturers in psychology department to be used as therapist in other to reduce their workload.

Counselors should also help students understand the gap between the ideal self and the real self in other to understand themselves.

Also school authorities can add emotional stability and cognitive behaviour as a course in school where everybody will have the opportunity to meet the counselor before the end of every session.

Parent can help their children achieve their ideal selves by giving them unconditional positive regard, or unconditional love. In the development of self-concept, positive regard is key. Unconditional positive regard is an environment that is free of formed notions of value. Conditional positive regard is full of conditions of worth that must be achieved to be considered successful.

Overall, these recommendations aim to empower individuals to be self-aware, been mindful of their thought, feelings and behaviour and actively challenge every negative thought and promote acceptance of oneself.

Recommendations for future studies

Based on the findings of the study, the researcher would recommend that future research in this field of study include a larger and more diverse sample size to ensure the validity and generalizability of the findings, it is important to include a larger and more diverse sample of university students. This could include students domiciled outside lagos or other institution in lagos, different socio-economic statuses and different academic disciplines.

Learned helplessness in most research is been used as independent variables so more research on learned helplessness as dependent variable is needed in other to know the cause of it on individuals.

Learned helplessness is influenced by multiple factors, including exposure to diversity, family background and personal experience, other relevant variables should be considered for future studies.

Therefore, it would be important to consider other relevant variables that might also influence learned helplessness such as locus of control, cognitive behaviour, and exposure to early negative occurrence.

While quantitative data can provide valuable insights, conducting qualitative interviews or focus groups with university students can help to better understand their experiences and perceptions related to personality and learned helplessness. This qualitative can provide rich insights help to contextualize the quantitative findings.

In addition to correlational studies, experimental studies can be conducted to establish casual relationship between personality type and learned helplessness. For example, researchers could manipulate they type of event participants are exposed to and then measure changes in how they were able to learn been helpless. This would provide a stronger basis for understanding whether personality types directly influences learned helplessness.

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ARTIFICIAL INTELLIGENCE AND SOCIAL SCIENCE RESEARCH

Does Artificial Intelligence Influence Firm Labour Productivity and Sales Growth in Sub-Saharan African Countries

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Abstract

The fast integration of artificial intelligence (AI) into business operations and labour processes is reshaping global economic landscapes. This study examines the effects of AI adoption on firm labour market outcomes and national sales in selected sub-Saharan African countries. Utilising a firm-level dataset from the World Bank Enterprises, the study employs robust ordinary least squares and high-dimensional fixed effects (HDFE) linear regression techniques to investigate whether AI influences labour productivity and sales growth. The results show that AI has a significant positive relationship/effect on firm labour productivity and sales growth in the selected sub-Saharan African countries, albeit with nuanced differences due to varying industrial structures. There are varying results for the 10 selected countries due to levels of technological readiness. These results underscore the importance of targeted policy interventions, such as upskilling initiatives and supportive regulatory frameworks, to harness AI's benefits while mitigating adverse impacts on workers. This research contributes to the growing literature on technology adoption in developing economies and provides valuable insights for policymakers and business leaders in sub-Saharan African countries.

Keywords: Artificial intelligence, labour productivity growth, sales growth, high-dimensional fixed effects (HDFE) linear regression

Introduction

Artificial intelligence (AI) is the development, application and implementation of new technology (or computer programmes) to solve or simplify tasks that require human ability (Damioli et al., 2021; Czarnitzki et al., 2023; SenGupta, 2025) and to produce a new or improve the production of goods and services. It is challenging to adopt a precise definition of AI. Existing studies have revealed that AI could be influenced by factors such as organizational administration, government policy (Sohn & Kwon, 2020; Nguyen et al., 2022; Kelly et al., 2023; Wang et al., 2025), globalization, among others. There are barriers to the adoption of AI, which include limited infrastructural facilities, lack of know-how or expertise, a lack of access to affordable AI technology, poor data ecosystems, lack of policy that supports AI (Uwagaba et al., 2023; Maswana, 2024) by the government agencies, especially in sub-Saharan Africa countries. One of the consequences of barriers to the adoption of AI is asymmetric information in businesses, where some firms are not aware of new technologies and others (if not the majority) may not be aware of the same technological advancement tools and applications that could enhance productivity. In such a case, the firm's productivity slows down for firms without AI technologies and speeds up for firms with technological know-how. AI is known as a catalyst for an increase in firm labour productivity

The theoretical understanding of AI and labour outcomes relied on neoclassical growth theory. The growth theory started with "The Wealth of Nations" (Solow, 1962). When there is constant steady growth, the national savings are likely to equal the capital-output ratio and the growth rate of the active labour force (or worker). However, as the capital-output ratio (technology, which implies AI) increases, there is a tendency that the employment of skilled workers (professional or information technology (ICT)) will increase and make unskilled workers unemployed. The Neoclassical school of thought remarks that the introduction of technology (change in technology and increase in aggregate production) is likely to contribute to steady growth. On the other hand, improvement in the production of goods and services (brought by technology that AI) is likely to increase national sales of goods and services and improve satisfaction with life.

Empirically, existing studies found that AI has a positive association with labour productivity (Czarnitzki et al., 2023; Maswana, 2024; Tingbani et al., 2025). While studies have revealed that AI might influence labour productivity, it could also lead to a decline in labour income due to a uniform displacement in repetitive tasks (SenGupta, 2025). As the study was based on the neoclassical theory, we hypothesised that AI has the potential to improve labour productivity. Even though AI has the potential to improve labour productivity, the question is whether technology (that is, AI) is likely to influence the labour productivity growth in a large

labour-intensive economy such as sub-Saharan African countries. There is a paucity of studies that have investigated the influence of AI on firm labour productivity growth in the sub-Saharan African context. Also, the current study adopted a high-dimensional fixed effects (HDFFE) estimator to answer a unique question: whether AI influence labour productivity growth and sales growth in selected African firms.

The remaining part of the study includes section 2 for data and methods, section 3 which presents empirical results, section 4 is the discussion of results, and section 5 is the conclusion.

Data and Methods

The current study uses a dataset from the World Bank Enterprise Surveys from various countries for various years from 2007 to 2024. The World Bank Enterprise Surveys (WBES) are conducted over an enormous number of countries and cover diverse firm-level business environment data, including conditions that affect firms. It is important to note that the question constitutes both subjective and objective data collected on firm business conditions (Mohammed & Bunyaminu, 2021; Chukwuma-Ume & Ume, 2025). The survey uses standardised questionnaires and uniform sampling methods. They produce rich data concerning a firm's characteristics as well as information on perceived constraints, including labour productivity, sales growth, innovation-related questions (Khan et al., 2024), firm age, and being certified internationally, among others. The data collection was initiated in 2006 in a standardised manner, which allows consistent overtime and comparative analysis across countries (Bhattacharya & Rath, 2020; Xiao et al., 2022).

The outcome variables are labour productivity growth and sales growth. The study followed Shekar (2025) to compute labour productivity and sales growth. First, the labour productivity growth variable was generated from permanent full-time workers three financial years ago (labour 3 years ago) and permanent full-time workers at the end of the last financial year (size of employment) in the survey questionnaire. We generated the previous labour value from past sales dollar conversion divided by labour in 3 years ago, and the current labour value from current sales dollar conversion divided by current labour full time or size of employment. We calculate labour productivity growth by generating the current labour value divided by the previous labour value, multiplied by one divided by the current year minus the previous year, minus one. Sales growth computation follows the same process as labour productivity growth. The sales-related question is what this establishment's total annual sales for all products and services (current sales) are, and what the establishment's sales 3 years ago (previous sales). We generated sales dollar conversion for both current and previous sales. Sales growth was calculated by using the previous year's sales to divide current sales by one minus the difference between the current year and the previous year.

Furthermore, the AI is derived by generating an index of various innovation questions, which comprises New or significantly improved products introduced in the last three years, New or significantly improved products. Improved organisational structure introduced in the last 3 years. During the last 3 years, did it give employees time to develop new ideas, and did it establish spending on formal R&D activities? The study uses multiple correspondence analyses to generate the AI index. Also, the study generates information asymmetry from the mechanisms of international certification, a firm being Publicly Listed on the Stock Exchange (with shareholders or otherwise) and having an external audit. It is interesting to note that variables for artificial intelligence and information asymmetry are dummy variables. In the computation, the study uses the MCA command in Stata version 18 and predicts the index and multiplies it by minus one to take care of possible errors that could occur in the coordinate. Other variables include firm size (that is, micro, small, medium and large firms), firm age, and industries are listed as dummy variables.

Table 1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Labour Productivity growth	11723	0.102	2.74	-0.927	195.32
AI index	12461	-0.12	0.86	-1.438	7.122
Firm age	12461	16.952	14.315	0	220
Firm size					
Micro	11851	0.532	0.499	0	1
Small	11851	0.292	0.455	0	1
Medium	11851	0.12	0.325	0	1
Large	11851	0.055	0.229	0	1
IA index	12462	-0.037	0.954	-5.105	5.156
Legal status	12461	0.084	0.278	0	1
Certified international	11844	0.121	0.327	0	1
Certified auditor	11474	0.439	0.496	0	1
Sales growth	11772	-0.048	0.982	-1	36.283
Foreign own	12462	0.069	0.254	0	1
Industries					
Fabricated metal	8698	0.038	0.191	0	1
Food and beverages	11529	0.085	0.28	0	1
Furniture	6916	0.014	0.116	0	1
Garments	10630	0.056	0.229	0	1
Nonmetallic	8848	0.031	0.174	0	1
Publishing	6916	0.014	0.118	0	1
Other manufacturing	12462	0.113	0.317	0	1
Other services	12462	0.111	0.314	0	1
Repair sales of motor vehicles	6916	0.01	0.099	0	1
Wholesales	6916	0.016	0.124	0	1
Hotel and restaurant	9818	0.037	0.189	0	1
Retails	11825	0.088	0.284	0	1
Transportation	8698	0.024	0.154	0	1
Manufacturing panel	8698	0.036	0.186	0	1
Retail panel	6916	0.023	0.148	0	1
Other service panel	6916	0.017	0.13	0	1

Table 1 presents the summary of the dependent variable, labour productivity growth means is 0.102, which ranges between a minimum of -0.927 and a maximum of 195.32. Sales growth ranges between a minimum of 1 and a maximum of 36. The average age of the firm is 16 years, and it ranges between 0 to 220 years. The average of the IA index is -0, and the standard deviation is 1. It ranges between -5.105 and 5.16.

Methods

The study first employed robust ordinary least squares (OLS), which examines the relationship between dependent and independent variables and controls for the model to maintain stability and perform the estimation despite the uncertainty, disturbance or outlier in the model. Also, the employed high-dimensional fixed effect estimator accounts for unobserved heterogeneity that may otherwise bias results and is nested with robust standard error instead of absorbing cluster identification.

The model is as follows:

$$Labour\ productivity\ growth_{it} = \beta_0 + \beta_1 AI_{it} + \beta_2 Firm\ age_{it} + \beta_3 IA_{it} + \beta_4 X_{it} + \varepsilon_{it}$$

Where AI_{it} denote artificial intelligence; AI_{it} implies information asymmetry; X_{it} denote other independent variables. β_0 is an intercept or a constant. β_1 , β_2 , β_3 , and β_4 are the coefficients of the variables.

Results

Table 2 presents a correlation between the dependent and independent variables. The correlation suggests that labour production growth and AI index are likely to be positively correlated ($r=0.016$). Also, labour productivity and information asymmetry are positively correlated ($r=0.033$). The labour productivity and

foreign ownership are positively correlated (0.018). While labour productivity and firm age are negatively correlated ($r = -0.020$)

Table 2: Matrix of correlations

Variables	(1)	(2)	(3)	(4)	(5)
(1) Labour productivity	1.000				
(2) AI	0.016	1.000			
(3) Firm age	-0.020	0.094	1.000		
(4) IA index	0.033	0.050	0.132	1.000	
(5) Foreign own	0.018	0.139	0.111	0.155	1.000

Table 3 presents the VIFs of the independent variables, which are moderately correlated as they satisfy the rule of thumb. The rule of thumb of variance inflationary factor (VIF) states that VIFs must be less than 10. If not less than 10, it implies that there is a possibility of multicollinearity in the analysis.

Table 3: Variance Inflation Factor

	VIF	1/VIF
Foreign ownership	1.05	.952
IA index	1.039	.962
Firm age	1.033	.968
AI	1.027	.974
Mean VIF	1.037	.

Table 4: Labour Productivity Growth and AI by Firm Size: Robust OLS

	(1)	(2)	(3)	(4)	(5)
Firm size		Micro	Small	Medium	Large
Variables	Labour Productivity Growth	Labour Productivity Growth	Labour Productivity Growth	Labour Productivity Growth	Labour Productivity Growth
AI	0.0549* (0.0329)	-0.0337 (0.110)	0.0181 (0.0233)	0.0101 (0.0168)	0.00807** (0.00365)
Firm age	-0.00491*** (0.00156)	0.000207 (0.00299)	-0.00293*** (0.00114)	-0.00125*** (0.000382)	-0.000115 (8.15e-05)
IA index	0.119** (0.0463)	0.172* (0.0969)	-0.00463 (0.0167)	0.0237*** (0.00892)	0.00147 (0.00236)
Foreign ownership	0.175 (0.141)				
Sales Growth		1.990*** (0.681)	1.235*** (0.364)	0.839*** (0.0661)	0.341*** (0.0169)
Constant	0.205*** (0.0482)	0.178*** (0.0602)	0.242*** (0.0589)	0.0545*** (0.0195)	-0.0334*** (0.00494)
Observations	11,722	6,204	3,442	1,421	656
R-squared	0.003	0.327	0.296	0.670	0.598

Robust standard errors in parentheses: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$; IA index denotes information asymmetric index; AI implies artificial intelligence; Legal status means company with shareholders and without shareholders

Table 4 column (1) presents that there is a significant positive relationship between labour productivity growth and AI (Czarnitzki et al., 2023). Also, information asymmetry has a significant positive relationship with labour productivity growth. However, firm age has a significant negative relationship with labour productivity growth. Column (2) presents that the information asymmetry has a significant positive relationship with labour productivity growth for micro-scale enterprises. Sales growth has a significant positive relationship with labour productivity. However, firm age has a significant negative relationship with labour productivity growth. This implies that as the firm age increases, there is a tendency to be unable to comply or cope with technological advancement in sub-Saharan African countries. There is a positive relationship between labour productivity and sales growth. Sales growth in micro-scale enterprises is highest compared to other types of enterprises, such as small-scale enterprises.

Column (3) presents that the firm age has a significantly negative relationship with labour productivity growth for small-scale enterprises. Sales growth has a significant positive relationship with labour productivity. Sales growth in small-scale enterprises follows that of micro-scale enterprises. It is higher than medium and large enterprises. Column (4) presents that information asymmetry has a significant positive relationship with labour productivity growth for medium-scale enterprises. Sales growth has a significant positive relationship with labour productivity. While firm age has a significant negative relationship with labour productivity growth. Column (5) presents that artificial intelligence has a significant positive relationship with labour productivity growth for large-scale enterprises. This is expected because there is a possibility that large-scale enterprises can expand their production capacity using capital-intensive technology. Also, sales growth has a significant positive relationship with labour productivity. Sales growth in large-scale enterprises is the lowest compared with others, such as micro, small-scale and medium enterprises.

Table 5: Sales Growth and AI by Firm Size: Robust OLS

Firm size Variables	(1) Sales Growth	(2) Micro Sales Growth	(3) Small Sales Growth	(4) Medium Sales Growth	(5) Large Sales Growth
AI	0.0262** (0.0119)	0.130*** (0.0258)	-0.0128 (0.0174)	0.0161 (0.0178)	-0.0248** (0.0113)
Firm age	-0.00185*** (0.000477)	-0.00152 (0.00112)	-2.96e-05 (0.000833)	-0.000162 (0.000646)	0.00114*** (0.000320)
IA index	0.0574*** (0.0142)	0.0897*** (0.0249)	0.0424*** (0.0164)	0.0793* (0.0465)	0.0739*** (0.00607)
Foreign ownership	0.0954* (0.0546)				
Constant	0.00453 (0.0135)	0.105*** (0.0277)	-0.0789*** (0.0227)	-0.144*** (0.0329)	-0.210*** (0.0152)
Observations	11,771	6,237	3,454	1,424	656
R-squared	0.008	0.013	0.005	0.011	0.295

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1; IA index denotes information asymmetric index; AI implies artificial intelligence; Legal status means company with shareholders and without shareholders

Table 4 column (1) presents that there is a significant positive relationship between AI and sales growth (Czarnitzki et al., 2023). Also, information asymmetry has a significant positive relationship with sales growth. Foreign ownership has a significant positive relationship with sales growth. However, firm age has a significant negative relationship with sales growth. Column (2) presents that AI has a significant positive relationship with sales growth for micro-scale enterprises. The information asymmetry has a significant positive relationship with sales growth for micro-scale enterprises. Column (3) presents that the information asymmetry has a significant positive relationship with sales growth for small-scale enterprises. Column (4) presents that information asymmetry has a significant positive relationship with sales growth for medium-scale enterprises. Column (5) presents that artificial intelligence has a significant negative relationship with sales growth for large-scale enterprises. Notwithstanding, information asymmetric has a significant positive relation with sales growth.

High-dimensional Fixed Effects (HDFE) Linear Regression

For a robustness check of robust OLS, the study employs high-dimensional fixed effects (HDFE) linear regression nested with the correction of standard error. following the study of Zhu, Zuo, and Li (2021).

Table 6: Labour Productivity and AI Using HDFE Estimator

Firm size Variables	(1) Labour Productivity Growth	(2) Micro Labour Productivity Growth	(3) Small Labour Productivity Growth	(4) Medium Labour Productivity Growth	(5) Large Labour Productivity Growth
AI	0.0549* (0.0329)	-0.0337 (0.110)	0.0181 (0.0233)	0.0101 (0.0168)	0.00807** (0.00365)
Firm age	-0.00491*** (0.00156)	0.000207 (0.00299)	-0.00293*** (0.00114)	-0.00125*** (0.000382)	-0.000115 (8.15e-05)
IA index	0.119** (0.0463)	0.172* (0.0969)	-0.00463 (0.0167)	0.0237*** (0.00892)	0.00147 (0.00236)
Foreign ownership	0.175 (0.141)				
Sales growth		1.990*** (0.681)	1.235*** (0.364)	0.839*** (0.0661)	0.341*** (0.0169)
Constant	0.205*** (0.0482)	0.178*** (0.0602)	0.242*** (0.0589)	0.0545*** (0.0195)	-0.0334*** (0.00494)
Observations	11,722	6,204	3,442	1,421	656
R-squared	0.003	0.327	0.296	0.670	0.598

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1; IA index denotes information asymmetric index; AI implies artificial intelligence; Legal status means company with shareholders and without shareholders

Table 6 column (1) presents that AI has a significant positive impact on labour productivity growth. The information asymmetry has a significant positive impact on labour productivity growth. While firm age has a significant negative effect on labour productivity growth. Column (2) presents that information asymmetry has a significant positive impact on labour productivity growth for micro-scale enterprises. Sales growth has a significant positive positive impact on labour productivity. Column (3) presents that the firm age has a significantly negative impact on labour productivity growth for small-scale enterprises. Sales growth has a significant positive on labour productivity. Column (4) presents that information asymmetry has a significant positive effect on labour productivity growth for medium-scale enterprises. Sales growth has a significant positive impact on labour productivity. While firm age has a significant negative impact on labour productivity growth. Column (5) presents that artificial intelligence has a significant positive effect on labour productivity growth for large-scale enterprises. Also, sales growth has a significant positive impact on labour productivity.

Table 7: Sales Growth and AI Using HDFE Estimator

Variables	(1) Sales Growth	(2) Micro Sales Growth	(3) Small Sales Growth	(4) Medium Sales Growth	(5) Large Sales Growth
AI	0.0262** (0.0119)	0.130*** (0.0258)	-0.0128 (0.0174)	0.0161 (0.0178)	-0.0248** (0.0113)
Firm age	-0.00185*** (0.000477)	-0.00152 (0.00112)	-2.96e-05 (0.000833)	-0.000162 (0.000646)	0.00114*** (0.000320)
IA index	0.0574*** (0.0142)	0.0897*** (0.0249)	0.0424*** (0.0164)	0.0793* (0.0465)	0.0739*** (0.00607)
Foreign ownership	0.0954* (0.0546)				
Constant	0.00453 (0.0135)	0.105*** (0.0277)	-0.0789*** (0.0227)	-0.144*** (0.0329)	-0.210*** (0.0152)
Observations	11,771	6,237	3,454	1,424	656
R-squared	0.008	0.013	0.005	0.011	0.295

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1; IA index denotes information asymmetric index; AI implies artificial intelligence; Legal status means company with shareholders and without shareholders

Table 7 column (1) presents that AI has a significant positive impact on sales growth. The information asymmetry has a significant positive effect on sales growth. Foreign ownership has a significant positive

impact on sales growth. However, firm age has a significant negative effect on sales growth. Column (2) presents that AI has a significant positive impact on sales growth for micro-scale enterprises. The information asymmetry has a significant positive effect on sales growth for micro-scale enterprises. Column (3) presents that information asymmetry has a significant positive effect on sales growth for small-scale enterprises. Column (4) presents that information asymmetry has a significant positive impact on sales growth for medium-scale enterprises. Column (5) presents that artificial intelligence has a significant negative effect on sales growth for large-scale enterprises. While firm age and information asymmetry have a significant positive impact on sales growth.

Table 8: Labour Productivity and AI by Country

Variables	(1) Central African Republic Labour Productivity Growth	(2) Ethiopia Labour Productivity Growth	(3) Ghana Labour Productivity Growth	(4) Kenya Labour Productivity Growth	(5) Lesotho Labour Productivity Growth
AI	3.67e-05 (3.68e-05)	-0.00762** (0.00338)	-0.0626 (0.113)	-0.00186*** (0.000592)	4.16e-05* (2.31e-05)
Firm age	-6.23e-06 (7.45e-06)	0.000980*** (0.000173)	0.0335 (0.0244)	0.000210*** (3.41e-05)	-1.03e-06 (1.68e-06)
IA index	0.000799 (0.000554)		0.429 (0.311)	0.00121 (0.000857)	
Sales growth	-0.987*** (0.0681)	1.727*** (0.0583)	7.554*** (0.331)	0.901*** (0.0148)	-0.924*** (0.0788)
o.IA index		-			-
Constant	0.000515** (0.000250)	0.793*** (0.0357)	6.636*** (0.273)	-0.0485*** (0.00535)	4.84e-05 (4.75e-05)
Observations	71	867	465	1,853	114
R-squared	0.755	0.760	0.944	0.851	0.816

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1; o.IA index implies information asymmetric omitted in some countries; IA index denotes information asymmetric index; AI implies artificial intelligence; Legal status means company with shareholders and without shareholders

Table 8 column (1) presents that sales growth has a significant negative relationship with labour productivity growth for the Central African Republic. Column (2) presents that sales growth and firm age have a significant positive relationship with labour productivity growth for Ethiopia. AI has a significant negative relationship with labour productivity. Column (3) displays that sales growth has a significant positive relationship with labour productivity growth for Ghana. Column (4) presents that the AI has a significant negative relationship with labour productivity growth for Kenya. Firm age and sales growth have a significant positive relationship with labour productivity in the same country. Column (5) presents that artificial intelligence has a significant positive relationship with labour productivity growth for Lesotho. While sales growth has a negative relationship with labour productivity growth.

Table 9: Labour Productivity and AI by Country

Variables	(1) Nigeria Labour Productivity Growth	(2) Rwanda Labour Productivity Growth	(3) Sierra Leone Labour Productivity Growth	(4) South Africa Labour Productivity Growth	(5) Tanzania Labour Productivity Growth
AI	0.0121*** (0.00426)	-0.0970 (0.105)	0.000305 (0.00154)	0.00194*** (0.000535)	9.92e-06 (8.16e-06)
Firm age	0.000371* (0.000223)	-0.00677 (0.00422)	7.75e-06 (0.000192)	0.000112*** (2.22e-05)	-8.44e-07* (4.70e-07)
IA index	-0.000127 (0.00278)	-0.00614 (0.143)		-0.000580 (0.000609)	
Sales growth	0.946*** (0.0127)	529.9*** (176.6)	0.956*** (0.0281)	0.857*** (0.0244)	-0.940*** (0.0357)
o.IA index			-		-
Constant	-0.0351*** (0.00463)	529.6*** (176.4)	-0.0149*** (0.00452)	-0.0189*** (0.00145)	8.64e-05*** (1.38e-05)
Observations	5,419	295	449	1,781	408
R-squared	0.985	0.390	0.747	0.783	0.729

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

Table 9 column (1) presents that AI has a significant positive relationship with labour productivity growth in Nigeria. Also, firm age has a significant positive relationship with labour productivity growth in Nigeria. Similarly, sales growth has a significant positive relationship with labour productivity growth. Column (2) presents that sales growth and firm age have a significant positive relationship with labour productivity growth for Rwanda. Column (3) displays that sales growth has a significant positive relationship with labour productivity growth for Sierra Leone. Column (4) presents that AI has a significant positive relationship with labour productivity growth in South Africa. Also, firm age has a significant positive relationship with labour productivity growth in South Africa. Similarly, sales growth has a significant positive relationship with labour productivity growth. Column (5) presents that firm age has a significant negative relationship with labour productivity growth for Tanzania. Also, sales growth has a significant negative relationship with labour productivity growth.

Table 10: Sales Growth and AI by Country

Variables	(1) Central African Republic Sales growth	(2) Ethiopia Sales growth	(3) Ghana Sales growth	(4) Kenya Sales growth	(5) Lesotho Sales growth
AI	-3.02e-05 (7.12e-05)	0.00832*** (0.00283)	-0.0767 (0.0949)	0.00120 (0.00153)	5.51e-05 (3.88e-05)
Firm age	7.05e-06 (1.69e-05)	-0.000602*** (0.000147)	0.00500 (0.00988)	-0.000302*** (9.22e-05)	3.51e-06 (5.16e-06)
IA index	0.000590 (0.00126)		0.171* (0.0976)	-0.00267 (0.00227)	
o.IA index		-			-
Constant	0.000504 (0.000552)	-0.592*** (0.00346)	-0.685*** (0.161)	-0.349*** (0.00266)	0.000195** (9.06e-05)
Observations	71	868	490	1,854	115
R-squared	0.015	0.026	0.006	0.014	0.021

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

Table 10 column (1) presents that AI has a insignificant negative relationship with sales growth for the Central African Republic. Column (2) presents that AI has a significant positive relationship with sales growth for Ethiopia. Firm age has a significant negative relationship with labour productivity. Column (3) displays that information asymmetry has a significant positive relationship with sales growth for Ghana. Column (4) presents that firm age has a significant negative relationship with sales growth for Kenya. Column (5) presents that artificial intelligence has an insignificant negative relationship with sales growth for Lesotho.

Table 11: Sales Growth and AI by Country

Variables	(1) Nigeria Sales growth	(2) Rwanda Sales growth	(3) Sierra Leone Sales growth	(4) South Africa Sales growth	(5) Tanzania Sales growth
AI	0.129*** (0.0308)	-0.000148 (0.000190)	-0.00603** (0.00294)	-0.00228* (0.00119)	1.54e-05 (1.22e-05)
Firm age	-0.000393 (0.00172)	-2.28e-05** (1.09e-05)	0.000419 (0.000354)	-0.000240*** (4.30e-05)	1.07e-06 (6.61e-07)
IA index	-0.0267 (0.0233)	-7.68e-05 (0.000206)		0.0130*** (0.00122)	
o.IA index			-		-
Constant	0.256*** (0.0291)	-0.998*** (0.000296)	-0.0856*** (0.00649)	-0.0515*** (0.00146)	0.000121*** (1.70e-05)
Observations	5,436	296	450	1,782	409
R-squared	0.014	0.008	0.031	0.091	0.010

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

Table 11 column (1) presents that AI has a significant positive relationship with sales growth in Nigeria. Column (2) presents that firm age has a significant negative relationship with sales growth for Rwanda. Column (3) displays that AI has a significant negative relationship with sales growth for Sierra Leone.

Column (4) presents that AI has a significant negative relationship with sales growth in South Africa. Similarly, firm age has a significant positive relationship with sales growth. Information asymmetry has a significant positive relationship with sales growth in South Africa. Column (5) presents that AI has an insignificant negative relationship with sales growth for Tanzania.

Table 12: Labour Productivity Growth and AI by industry

Variables	(1) Labour Productivity Growth	(2) Labour Productivity Growth	(3) Labour Productivity Growth	(4) Labour Productivity Growth	(5) Labour Productivity Growth	(6) Labour Productivity Growth
AI	0.0755*** (0.0166)	0.0561 (0.0362)	0.0943*** (0.0215)	0.0462*** (0.0120)	0.0568*** (0.0147)	0.0934*** (0.0215)
Firm age	-0.00190*** (0.000565)	-0.00465*** (0.00168)	3.44e-05 (0.00134)	-0.00322*** (0.000436)	-0.00466*** (0.000704)	-4.03e-06 (0.00135)
IA index	0.0442** (0.0194)	0.105** (0.0433)	0.0495** (0.0241)	0.0344** (0.0159)	0.0429** (0.0198)	0.0524** (0.0251)
Fabricated metal	-0.0196 (0.0588)					
Food & beverages		0.0365 (0.140)				
Furniture			0.609** (0.254)			
Garment				-0.102*** (0.0296)		
Nonmetallic mineral					-0.0753 (0.0678)	
Publishing						0.0622 (0.146)
Constant	0.141*** (0.0158)	0.182*** (0.0464)	0.147*** (0.0237)	0.0788*** (0.0136)	0.111*** (0.0170)	0.156*** (0.0234)
Observations	8,067	10,793	6,286	9,920	8,139	6,286
R-squared	0.007	0.002	0.013	0.007	0.007	0.008

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

Furthermore, we look at the industry to investigate whether the contribution from a specific industry contributes to labor productivity growth. Table 12 column (1) shows that AI and information asymmetry have a significant positive relationship with labour productivity growth, but fabricated metal has an insignificant negative relationship with labour productivity growth. Column (2) revealed that information asymmetry has a significant positive relationship with labour productivity growth, but Food and beverages have an insignificant positive relationship with labour productivity growth. Column (3) displays that AI and information asymmetry have a significant positive relationship with labour productivity growth, and furniture has a significant positive relationship with labour productivity growth. Column (4) shows that AI and information asymmetry have a significant positive relationship with labour productivity growth, but garment has a significant negative relationship with labour productivity growth. Column (5) shows that AI and information asymmetry have a significant positive relationship with labour productivity growth, but nonmetallic mineral has an insignificant negative relationship with labour productivity growth. Column (6) shows that AI and information asymmetry have a significant positive relationship with labour productivity growth, but publishing has an insignificant positive relationship with labour productivity growth.

Table 13: Labour Productivity Growth and AI by Industry

Variables	(1) Labour Productivity Growth	(2) Labour Productivity Growth	(3) Labour Productivity Growth	(4) Labour Productivity Growth	(5) Labour Productivity Growth
AI	0.0512 (0.0353)	0.0542 (0.0348)	0.0918*** (0.0213)	0.0938*** (0.0215)	0.0633 (0.0435)
Firm age	-0.00560*** (0.00175)	-0.00486*** (0.00150)	6.73e-05 (0.00134)	2.86e-05 (0.00135)	-0.00583** (0.00243)
IA index	0.0958** (0.0417)	0.0995** (0.0418)	0.0535** (0.0251)	0.0528** (0.0250)	0.129** (0.0547)
Other manufacturing	0.264 (0.181)				
Other services		-0.0734 (0.0461)			
Repair sales of motor			0.797** (0.371)		
Wholesales				-0.187* (0.109)	
Hotel & restaurant					0.0112 (0.0847)
Constant	0.174*** (0.0404)	0.201*** (0.0493)	0.147*** (0.0229)	0.160*** (0.0233)	0.229*** (0.0642)
Observations	11,723	11,723	6,286	6,286	9,083
R-squared	0.003	0.002	0.015	0.009	0.002

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

Table 13 column (1) shows that information asymmetry has a significant positive relationship with labour productivity growth, but other manufacturing has an insignificant positive relationship with labour productivity growth. Column (2) revealed that information asymmetry has a significant positive relationship with labour productivity growth, but other services have an insignificant negative relationship with labour productivity growth. Column (3) shows that AI and information asymmetry have a significant positive relationship with labour productivity growth. Also, the repair sales of motor vehicles have a significant positive relationship with labour productivity growth. Column (4) shows that AI and information asymmetry have a significant positive relationship with labour productivity growth, but wholesales have a significant negative relationship with labour productivity growth. Column (5) shows that information asymmetry has a significant positive relationship with labour productivity growth, but hotels and restaurants have an insignificant positive relationship with labour productivity growth.

Table 14: Labour Productivity Growth and AI by Industry

Variables	(1) Labour Productivity Growth	(2) Labour Productivity Growth	(3) Labour Productivity Growth	(4) Labour Productivity Growth	(5) Labour Productivity Growth
AI	0.0487 (0.0360)	0.0761*** (0.0166)	0.0710*** (0.0167)	0.0889*** (0.0214)	0.0894*** (0.0213)
Firm age	-0.00503*** (0.00156)	-0.00180*** (0.000565)	-0.00205*** (0.000565)	-8.05e-05 (0.00134)	-0.000434 (0.00136)
IA index	0.102** (0.0433)	0.0436** (0.0193)	0.0458** (0.0194)	0.0537** (0.0250)	0.0455* (0.0252)
Retails	-0.128*** (0.0491)				
Transportation		-0.152*** (0.0455)			
Manufacturing panel			0.339*** (0.106)		
Retail panel				0.578*** (0.148)	
Other service					0.716***

panel					(0.213)
Constant	0.217*** (0.0501)	0.142*** (0.0158)	0.129*** (0.0155)	0.144*** (0.0228)	0.149*** (0.0228)
Observations	11,088	8,067	8,067	6,286	6,286
R-squared	0.002	0.008	0.012	0.016	0.017

Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

Table 14 column (1) shows that information asymmetry has a significant positive relationship with labour productivity growth, but retail has a significant negative relationship with labour productivity growth. Column (2) revealed that information asymmetry has a significant positive relationship with labour productivity growth, while transportation has a significant negative relationship with labour productivity growth. Column (3) displays that AI and information asymmetry have a significant positive relationship with labour productivity growth, and the manufacturing panel has a significant positive relationship with labour productivity growth. Column (4) shows that AI and information asymmetry have a significant positive relationship with labour productivity growth, and the retail panel has a significant positive relationship with labour productivity growth. Column (5) shows that AI and information asymmetry have a significant positive relationship with labour productivity growth, and other service panel has a significant positive relationship with labour productivity growth.

Discussion

The empirical analysis produces an insight into how AI can influence labour productivity and sales growth in the case of sub-Saharan African countries using a dataset from WBES. The study selected 10 countries in sub-Saharan Africa, which are growing economies in terms of gross domestic product (GDP). We generated an AI variable from the proxy of innovation-related variables in the enterprise survey dataset. We computed labour productivity and sales growth following Czarnitzki et al. (2023). With a large population that is available in Africa, investment in AI is likely to be a lucrative investment in a fast-changing environment. The study hypothesised that technology (that is, AI or skilled workers) is likely to have a positive influence on labour productivity and sales growth.

Conclusion

The current study investigated the relationship between artificial intelligence (AI) and labour productivity growth, as well as sales growth at the firm level. The results revealed that AI is an enabler of improving productivity (Damioli, Van Roy, & Vertesy, 2021; Gao & Feng, 2023) through improvement in capacity building, professional advancement and understanding of timely technological advancement. It is noteworthy that harmonising investment in capacity building and enabling innovation in organisations are prerequisites for the AI and labour productivity outcomes. When the firms move with or along with technological advancements and creativity in their production. The innovation of goods and services from the firms is likely to attract customers and consumers, and that will lead to a spillover effect on sales growth.

However, the effects of AI on labour productivity and sales growth are heterogeneous with firm size. The finding shows that micro-scale enterprises have the highest contributions to labour productivity and sales growth (Gao & Feng, 2023). The results show an upward-downward trend for firms such that large firms made the least contribution to the labour productivity in Africa, followed by medium-scale enterprises. The small-scale enterprises' contribution was higher than that of medium and large-scale enterprises. Also, the result shows that AI and labour productivity and sales growth have diverse outcomes for the selected countries. Countries such as Ethiopia and Nigeria have a significant positive relationship between their AI and labour productivity (Girmay, 2019; Vaikosen & Magini, 2025). AI has a significant positive relationship with labour productivity and sales growth; there is a varied outcome for the industries. Industry such as furniture, repair sales of motor vehicles, manufacturing panels, retail panels, and other service panels have an influence on labour productivity growth.

Overall, the results underline the strategic importance of AI not only as a technological upgrade but as a catalyst for firm performance and growth in sub-Saharan Africa countries. We suggest a government policy recommendation and industry strategies that facilitate a smooth transition of AI driven initiative and thrive. The study made a significant contribution to literature by improving our understanding of AI and labour productivity using firm datasets and employing techniques that control endogeneity and standard error. Future

research should explore longitudinal impacts, sectoral differences, and inclusive AI deployment in shaping sustainable firm outcomes.

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Artificial Intelligence and Peace Education in Africa: Potential and Challenges

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Abstract

The study examines Artificial Intelligence and peace Education in Africa: potential and challenges. The research utilized secondary sources of data, Transformative Learning Theory was used to guide the study. The empirical studies identifies significant barriers to AI adoption in Africa, including low digital literacy, inadequate infrastructure, and the risk of exacerbating existing inequalities. It underscores the importance of developing regionally tailored AI strategies and policies to ensure equitable and effective implementation. Finding from the study revealed that Artificial Intelligence holds immense potential to transform peace education in Africa by enabling innovative, scalable, and personalized learning solutions. It can help bridge educational gaps, support conflict resolution efforts, and empower youth with tools for dialogue and understanding. However, this potential is accompanied by significant challenges, including infrastructural limitations, lack of localized data, ethical concerns, and socio-political complexities. The study recommends that, Governments and stakeholders should invest in digital infrastructure to bridge the technological divide, especially in rural and marginalized communities. It is equally important to promote the development of localized AI systems that reflect African languages, cultures, and conflict dynamics, ensuring relevance and accessibility.

Keywords: Artificial Intelligence, peace education, conflict resolution, Transformative Learning Theory

Introduction

In recent years, Artificial Intelligence (AI) has emerged as a transformative force across various sectors globally, including education, governance, healthcare, and conflict resolution. In the African context, where development is often challenged by political instability, economic inequality, and social fragmentation, AI offers promising tools for supporting peace education and conflict prevention (Taherdoost & Madanchian, 2023). At the same time, it presents unique ethical, technical, and infrastructural challenges that must be addressed for its effective implementation.

Peace education, which seeks to promote understanding, tolerance, and conflict resolution, plays a critical role in fostering stable and inclusive societies. Integrating AI into peace education can enhance outreach, personalize learning experiences, detect early signs of conflict through data analysis, and provide platforms for virtual dialogue and reconciliation (Osee, 2024).

However, Africa faces significant barriers in harnessing the full potential of AI in this context. These include limited access to digital infrastructure, lack of skilled personnel, socio-political resistance, and concerns over data privacy and algorithmic bias. Additionally, there is a growing need to ensure that AI applications are ethically aligned with local cultural values and peace building goals (Varzaru, 2022).

This paper (or discussion) explores the role of AI in advancing peace education efforts in Africa, focusing on both its transformative potential and the complex challenges it brings. Understanding this dynamic is crucial for shaping future policies and strategies that leverage AI for sustainable peace across the continent.

Research Methodology

This study uses a qualitative methodology. It draws on diverse sources, including, academic literature, government documents, and online resources, to answer its core research questions. The research aims to provide a comprehensive understanding of the research topic, aligning with the principle that research objectives should guide methodological choices.

Artificial Intelligence

Artificial Intelligence (AI) is the field of computer science that focuses on creating smart machines capable of performing tasks that normally require human intelligence. These tasks include reasoning, learning from experience, understanding language, recognizing patterns, and solving problems. AI is all around us in voice assistants like Siri and Alexa, recommendation systems like Netflix and YouTube, and in technologies like self-driving cars and facial recognition (Osee, 2024). The goal of AI is not just to mimic human intelligence but to improve efficiency, accuracy, and decision-making in various industries.

Artificial Intelligence systems work by processing large amounts of data, identifying patterns, and making predictions or decisions with minimal human intervention. As technology advances, AI continues to evolve, shaping the future of how we live and work. **Artificial Intelligence (AI)** is the ability of a computer or machine to perform tasks that typically require human intelligence (Masunda, 2024). These tasks include learning, reasoning, problem-solving, understanding language, and recognizing images or sounds.

Artificial Intelligence refers to the simulation of human intelligence in machines that are programmed to think like humans and mimic their actions. It enables computers to perform human-like cognitive functions (Osee, 2024). Artificial Intelligence is transforming the way we live, work, and interact with technology. From automating routine tasks to solving complex problems, AI has the potential to greatly enhance productivity and innovation across all sectors. While it brings exciting opportunities, it also raises important ethical and societal questions that must be carefully considered. As AI continues to evolve, it is essential to ensure that it is developed and used responsibly, for the benefit of humanity.

Peace Education

Peace Education is an essential educational approach that seeks to build a culture of peace in individuals, communities, and societies. It involves teaching and learning about the values, knowledge, attitudes, and behaviors that promote peace, nonviolence, tolerance, equality, justice, and respect for human rights. In a world marked by conflict, violence, inequality, and injustice, Peace Education plays a vital role in helping individuals understand the root causes of conflict and develop the skills needed to resolve disputes peacefully (Doe et al., 2024). It is not limited to avoiding war but extends to creating conditions where all people can live with dignity and security. **Peace Education** is a process of promoting the knowledge, skills, attitudes, and values needed to bring about behavior changes that will enable individuals, groups, and nations to prevent conflict and violence, both overt and structural; resolve conflict peacefully; and create the conditions conducive to peace, whether at an individual, community, national, or global level. Peace is more than the absence of war. It is about building societies where everyone has equal opportunities, where diversity is celebrated, and where problems are solved through dialogue rather than violence. Boateng (2021) pointed out that Peace Education:

- 1) Encourages critical thinking and empathy.
- 2) Promotes nonviolent communication and conflict resolution.
- 3) Builds awareness of global interdependence and social responsibility.
- 4) Helps learners challenge injustice, inequality, and discrimination.

Peace Education is a powerful tool for fostering a culture of peace, nonviolence, and mutual understanding in our increasingly interconnected world. By equipping individuals with the knowledge, values, and skills needed to resolve conflicts peacefully and promote social justice. Peace Education lays the foundation for sustainable development, human rights, and global citizenship. It goes beyond preventing war or violence it seeks to address the root causes of conflict, such as inequality, discrimination, and lack of communication. Through Peace Education, learners become more empathetic, tolerant, and active participants in creating a more just and harmonious society (Varzaru, 2022). In essence, Peace Education is not just a subject but a lifelong process of learning to live together, respecting diversity, and working collaboratively to build a better, more peaceful future for all.

Let me know if you'd like this in a more formal or simplified version!

Artificial Intelligence and Peace Education in Africa

The intersection of Artificial Intelligence (AI) and Peace Education in Africa has the potential to foster transformative change, especially in regions affected by conflict, inequality, or lack of access to quality education.

Kumar and Green (2024) breakdown of how AI and Peace Education can intersect and contribute to Africa's development:

1. The Role of Peace Education in Africa

Peace education promotes values like:

- Non-violence
- Tolerance and respect for diversity
- Dialogue and conflict resolution
- Human rights and social justice

In many African countries, peace education is vital due to histories of colonialism, ethnic conflict, political instability, and social inequality.

2. Opportunities: How AI Can Support Peace Education

a. Access to Education

AI-powered e-learning platforms can reach rural or conflict-affected areas.

Translation tools (like real-time translation apps) can help teach peace concepts across multiple African languages.

b. Personalized Learning

AI can tailor peace education content to individual learners' levels and cultural contexts, increasing engagement.

c. Early Warning Systems

Machine learning models can analyze social media, news, and other data to predict conflict trends, enabling early intervention and peacebuilding.

d. Chatbots for Peace

AI chatbots can provide real-time support for mental health, mediation, and peer conflict resolution, especially for youth.

e. Virtual Reality (VR) & AI Simulations

AI-driven VR can simulate conflict scenarios to teach empathy, negotiation, and peace strategies in immersive ways.

The Potential of Artificial Intelligence and Peace Education in Africa

Africa stands at a critical juncture in its pursuit of sustainable development, social stability, and inclusive growth. As the continent continues to grapple with complex challenges ranging from armed conflict and political unrest to social inequality and educational gaps innovative solutions are urgently needed. Among the most promising is the integration of Artificial Intelligence (AI) into educational and peace building frameworks (Kumar & Green, 2024).

AI, with its capacity to process vast data, provide personalized learning, and enable real-time communication, is rapidly transforming sectors worldwide. In the African context, where educational resources are often scarce and conflict can disrupt traditional learning, AI offers unique opportunities to expand access to peace education and enhance its effectiveness (Edwards, 2024). Peace education, which fosters values such as tolerance, empathy, conflict resolution, and human rights awareness, is vital for nurturing a culture of non-violence and coexistence.

The convergence of AI and peace education in Africa presents a powerful avenue for equipping the continent's youth with both the technological skills and the ethical mindset needed to build and sustain peaceful societies. However, this potential can only be realized through inclusive, ethical, and context-sensitive strategies that address existing technological and socio-political barriers.

The synergy between Artificial Intelligence (AI) and Peace Education offers immense potential to address some of Africa's most pressing socio-political and educational challenges. When applied thoughtfully, AI can enhance the reach, quality, and impact of peace education, especially in regions where traditional systems are under strain due to conflict, poverty, or lack of infrastructure.

1. Enhancing Access to Peace Education

AI-driven educational platforms can reach remote, underserved, and conflict-affected areas with limited access to teachers or schools. Through mobile learning apps, intelligent tutoring systems, and language

translation tools, learners from diverse backgrounds can access tailored peace education content in their native languages and at their own pace.

2. Personalized and Culturally Relevant Learning

AI can adapt educational content based on the learner's behavior, knowledge level, and cultural context. This personalized learning approach ensures that peace education is more relevant and engaging, fostering deeper understanding of concepts like conflict resolution, empathy, and non-violence.

3. Predictive Tools for Peacebuilding

Machine learning and data analytics can be used to monitor social media, news, and communication networks to identify early warning signs of violence or unrest. These tools allow governments, NGOs, and community leaders to intervene proactively and promote dialogue before tensions escalate.

4. AI-Powered Dialogue and Mediation Tools

AI chatbots and virtual assistants can facilitate real-time conversations around peace and conflict. These tools can be used in schools, youth centers, and online communities to support discussions on ethics, tolerance, and human rights, especially in regions lacking trained facilitators.

5. Immersive Peace Learning Experiences

Technologies like AI-driven virtual reality (VR) and augmented reality (AR) can immerse learners in realistic scenarios that simulate conflict and cooperation. These tools help develop emotional intelligence, critical thinking, and negotiation skills—core competencies in peacebuilding.

6. Empowering a New Generation of Peacebuilders

Integrating AI into peace education also helps African youth build essential 21st-century skills. By learning both ethical decision-making and technological literacy, students are better prepared to contribute to sustainable peace and innovation-driven development.

Challenges of Artificial Intelligence and peace Education in Africa

The integration of Artificial Intelligence (AI) into peace education holds great promise for Africa, it is not without significant challenges. The continent faces a unique set of social, economic, technological, and political hurdles that complicate the widespread and ethical adoption of AI technologies in educational and peace building contexts. From limited digital infrastructure and internet access in rural areas to the shortage of skilled professionals and relevant datasets, the digital divide remains a major obstacle. Additionally, AI systems developed outside Africa often lack cultural sensitivity, which can result in biases or misrepresentations when applied to peace education content across diverse African communities.

Moreover, there are ethical concerns surrounding data privacy, surveillance, and the potential misuse of AI in already fragile or authoritarian environments. These issues raise critical questions about who controls the technology, whose values it reflects, and how inclusive it truly is. To fully harness the power of AI for peace education, Africa must confront these challenges head-on—through inclusive policies, regional collaboration, investment in local innovation, and the development of ethical and culturally relevant AI systems. Edward (2024) pointed out that despite the exciting potential of Artificial Intelligence (AI) in transforming peace education across Africa, several critical challenges hinder its implementation and effectiveness. These challenges span technological, social, ethical, and educational dimensions. Edward (2024) pointed out the following challenges which include;

1. Digital Divide and Infrastructure Gaps

Limited access to electricity, internet connectivity, and digital devices in many rural or conflict-affected regions makes it difficult to deploy AI-based educational tools. Schools often lack the technological infrastructure needed to integrate AI into their curricula.

2. Lack of Localized and Culturally Relevant Content

Many AI systems are developed in Western contexts, using datasets that do not reflect African cultures, languages, or social realities. This can lead to miscommunication, cultural insensitivity, or the reinforcement of stereotypes in peace education content.

3. Shortage of Skilled Professionals

There is a significant shortage of AI experts, data scientists, and educators trained in both technology and peace education across the continent. This skills gap hinders the creation, customization, and maintenance of AI tools relevant to African contexts.

4. Ethical and Privacy Concerns

AI systems often collect and analyze large amounts of data, raising concerns about data privacy, consent, and surveillance, especially in politically unstable or authoritarian environments. There's also the risk of AI tools being used to manipulate public opinion or suppress dissent, contradicting the core values of peace education.

5. Inadequate Policy and Regulatory Frameworks

Many African countries lack clear policies or regulations on the ethical use of AI in education and peace building. The absence of legal standards makes it difficult to ensure accountability, fairness, and protection of users' rights.

6. Funding and Resource Constraints

Investment in AI research and educational technology is still limited across much of Africa. Peace education programs often operate on tight budgets, making it hard to adopt emerging technologies like AI without external support.

7. Resistance to Technological Change

Teachers, parents, and community leaders may be skeptical of new technologies due to a lack of awareness or fear of job displacement. Resistance to change can slow the adoption of AI tools in schools and community learning spaces.

8 Infrastructure Limitations: Many African regions face challenges such as limited internet connectivity, unreliable electricity, and a shortage of qualified teachers, which can hinder the effective deployment of AI in education.

9 Language and Cultural Barriers: AI models often struggle with African languages and cultural contexts, necessitating the development of localized solutions.

10. Ethical and Governance Issues: The use of AI in peacebuilding raises concerns about data privacy, algorithmic bias, and the potential for misuse in conflict situations.

Addressing these challenges requires a coordinated effort involving governments, educators, technologists, civil society, and international partners. By developing inclusive policies, investing in digital infrastructure, and promoting local innovation, Africa can unlock the full potential of AI in fostering peace and sustainable development.

Theoretical framework

Transformative Learning Theory

Transformative Learning Theory was propounded by Jack Mezirow, an American sociologist and adult education theorist. Mezirow introduced the theory in 1978, emphasizing that adult learning can lead to profound changes in perspective through critical reflection. According to Mezirow, true learning goes beyond acquiring facts it's about transforming how individuals see themselves and the world, often in response to a disorienting dilemma. This theory is particularly powerful in contexts like peace education, where changing attitudes, values, and beliefs is key to fostering long-term social change.

Transformative Learning Theory, proposed by Jack Mezirow, is grounded in several key assumptions about how adults learn and grow. Central to the theory is the belief that learning is a process of meaning-making, where individuals interpret and re-interpret their experiences to understand the world around them. A major assumption is that critical reflection is essential for transformation learners must examine their long-held beliefs, values, and assumptions, especially when faced with a disorienting dilemma, or a life event that challenges their worldview. The theory assumes that adult learners are autonomous and self-directed, capable of engaging in reflective discourse and taking ownership of their learning journey. Dialogue with others is considered crucial in this process, as it helps learners test new ideas and perspectives in a safe, collaborative environment. Additionally, the theory emphasizes that experience is central to adult learning, and that real change occurs not simply through acquiring new knowledge, but through a deep shift in one's perspective. These assumptions make the theory particularly powerful in settings like peace education, where individuals are encouraged to rethink societal norms, confront biases, and adopt more inclusive and empathetic ways of thinking.

While Transformative Learning Theory has been widely praised for its emphasis on critical thinking and deep personal change, it is not without criticism. One of the major critique by Merriam and Ntseane (2018) is that the theory places too much emphasis on rational and cognitive processes, often overlooking the emotional, cultural, and spiritual dimensions of learning. Critics argue that transformation is not always a

logical or conscious process and that Mezirow's original model does not fully account for intuition, imagination, or relational aspects of learning. Additionally, the theory has been critiqued for being Western-centric, relying heavily on individualism and rational discourse, which may not align with collectivist or non-Western worldviews, including many African cultural contexts. Some scholars also point out that the theory assumes all learners will benefit from critical reflection in the same way, ignoring the diverse learning styles, power dynamics, and socio-political realities that may hinder open dialogue or self-directed learning. As a result, while Transformative Learning Theory offers a strong foundation, it requires adaptation and expansion to be fully inclusive and applicable across different cultures and educational settings.

Despite its criticism Transformative Learning Theory is highly relevant to the integration of Artificial Intelligence (AI) in peace education in Africa, as it provides a strong foundation for understanding how technology can support deep, meaningful change in attitudes, behaviors, and social values. In the African context, where communities are often shaped by historical conflict, inequality, and rapid socio-technological shifts, peace education requires more than knowledge transfer—it demands a shift in mindset. AI technologies, such as intelligent tutoring systems, language translation tools, or conflict simulation platforms, can facilitate critical reflection, enabling learners to engage with diverse perspectives, challenge prejudices, and rethink their roles in promoting peace. When aligned with transformative learning principles, AI can personalize content, simulate real-world peace scenarios, and foster dialogue across cultural and linguistic boundaries. However, the challenges of AI—including limited access, digital divides, and ethical concerns—must be addressed to ensure that its use truly empowers learners rather than reinforces exclusion. Thus, Transformative Learning Theory serves as a valuable lens through which to evaluate and guide the ethical, inclusive, and culturally relevant application of AI in African peace education systems

Empirical Literature

It is appropriate to review researches that have been conducted which relate closely with Artificial Intelligence and peace Education in Africa: potential and challenges.

Masunda (2024) conducted a study on Artificial Intelligence and Peace Education in Zimbabwe: A Curriculum Perspective. The study explores how AI can enhance peace education at the tertiary level in Zimbabwe. It proposes integrating AI modules to promote critical thinking, collaborative learning, and personalized educational experiences. The research identifies challenges such as limited technological infrastructure, insufficient training for educators, and concerns about data privacy.

Osee (2024). Conducted a study Integrating Artificial Intelligence: A Step towards the African Peace and Security Architecture. The study discusses the potential of AI in enhancing the African Peace and Security Architecture (APSA). It highlights AI's capabilities in conflict prevention, crisis management, and coordination of peacekeeping operations. The study emphasizes the need for ethical and inclusive approaches to AI adoption to ensure positive impacts on peace and security.

Madden and Kanos, (2021) conducted a research on responsible AI in Africa—Challenges and Opportunities. This research identifies significant barriers to AI adoption in Africa, including low digital literacy, inadequate infrastructure, and the risk of exacerbating existing inequalities. It underscores the importance of developing regionally tailored AI strategies and policies to ensure equitable and effective implementation

These studies and initiatives collectively demonstrate AI's potential to enhance peace education and conflict resolution in Africa. However, they also highlight the necessity of addressing infrastructural, educational, and ethical challenges to ensure that AI's integration into peace building efforts is both effective and equitable.

Conclusion

Artificial Intelligence holds immense potential to transform peace education in Africa by enabling innovative, scalable, and personalized learning solutions. It can help bridge educational gaps, support conflict resolution efforts, and empower youth with tools for dialogue and understanding. However, this potential is accompanied by significant challenges, including infrastructural limitations, lack of localized data, ethical concerns, and socio-political complexities. To truly harness AI for peace education, African nations must invest in inclusive digital infrastructure, develop culturally relevant content, build human capacity, and implement policies that ensure the ethical and equitable use of AI. Collaboration between governments,

educators, technologists, and communities is crucial to ensuring AI becomes a force for peace, rather than division. With the right approach, Africa can lead in shaping a future where technology supports not just development, but also unity and peace.

Recommendations

To harness the potential of Artificial Intelligence in advancing peace education in Africa, it is essential to address the underlying challenges through strategic and inclusive actions:

- i. Governments across African countries should adopt and fund national broadband plans modeled like South Africa's approach, prioritizing connectivity for educational institutions and community centers. This would ensure that AI tools and peace education digital content reach marginalized communities.
- ii. African governments should establish subsidies for low-income families and teachers to acquire affordable digital devices (tablets, laptops) and pre-install AI-powered peace education apps. This will mitigate the device access gap, enabling equitable participation in AI-driven learning.
- iii. African governments should partner with tech firms, telecom operators, and NGOs to create AI solutions tailored for peace education (e.g., conflict resolution simulations in local languages). Such partnerships can also fund training programs, ensuring local talent contributes to AI solutions rather than importing foreign-only technologies.
- iv. Governments should launch nationwide digital literacy campaigns leveraging radio, SMS, and mobile apps to teach citizens basic digital skills, critical for engaging with AI-driven peace education resources. Community radio can demystify AI and explain its role in promoting peace.
- v. African governments should jointly invest in regional AI Centers of Excellence focusing on AI applications for peace education, conflict prediction, and mediation tools. These centers should actively share research outputs across the continent and provide scholarships for underrepresented groups, helping bridge both the digital divide and knowledge divide.

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AI Chatbots and the Transformation of Service Delivery: Evidence from Nigeria's Public and Private Institutions

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Abstract

The adoption and utilisation of artificial Intelligence (AI) have expanded significantly in recent years, driven by its adaptability to diverse organisational functions. Among these applications, AI-mediated interfaces, particularly chatbots, have emerged as a critical tool for enhancing service delivery across various sectors. This study investigates the adoption and implementation of AI-powered chatbots in service provision within Nigeria's public and private sectors. It focuses on comparing adoption and its impact on service efficiency and responsiveness. Utilising a mixed-methods approach, this research adopted secondary qualitative data from internet sources to highlight institutions' adoption and integration of AI chatbots in service delivery. Primary quantitative data was collected through surveys to measure the responsiveness and efficiency of chatbots in service delivery. The results showed that the advanced digital maturity of Nigeria's private sector, characterised by a proliferation of digital service platforms, corresponds to a robust adoption of chatbots. This contrasts with relatively slow digital transformation within the public sector, which has just begun to adopt chatbots in Service delivery. Results from the assessment of responsiveness and efficiency of chatbot show that its adoption in service delivery in Nigeria has helped to improve service efficiency, although not to a convincing extent, but not so much with responsiveness, a factor linked to the limited functionality of most chatbot services in Nigeria. The study therefore recommends improvements in chatbots' functionality through the integration of advanced AI technologies, which improve the capacity of chatbots to serve customers'/citizens needs.

Introduction

Digital Transformation has gained a foothold across institutions, both in Nigeria's public and private sectors, given the growing citizens' demand for more efficient ways of engaging and conducting business with institutions. Consequently, Nigeria's economic advancement is leveraging partially on digitalisation, which has appreciated in recent years. Nigeria's digital economy is projected to reach \$18.30 billion by 2026, a major surge from its 2021 valuation of \$9.97 billion (Agboola, 2022). Within this digital transformation, AI can resolve systemic inefficiency, bureaucratic bottlenecks, inequitable access to services, and other issues that lead to delayed service accessibility. More so, the adoption of AI technology in service delivery at both the public and private sectors presents a chance to improve efficiency, transparency, and citizens' satisfaction (Igbokwe, 2024).

Artificial Intelligence, the most rapidly growing technology of the fourth industrial revolution, has found adoption in various forms, most prominently being chatbots. (Wagobera Edgar Kedi et al., 2024) According to X. Wang et al. (2022), AI is providing opportunities for institutions to address various challenges in today's rapidly evolving service landscape, with Kaun & Männiste (2025) contending that the precise scale of chatbot adoption is challenging, currently valued at approximately USD 5.13 billion, with a projected growth rate to exceed 23% over the next seven years.

Ridha & Haura Maharani (2022) opine that the imperative of AI Chabot in service delivery is its capacity to provide good customer service that is responsive to customers' needs, through the provision of quick and accurate information, as well as friendly services that create customer/citizen satisfaction. Thus, in the private sector, chatbots are gaining widespread adoption across various industries because of their ability to lower the costs associated with customer support while enabling more personalised user experiences. Given these benefits, governments globally are now exploring the use of chatbots for internal administrative tasks, including responding to citizen inquiries and facilitating the delivery of public services. (T. Chen et al., 2024) In the public sector, AI technologies can support a wide range of functions, including information sharing, optimising internal operations, aiding decision-making processes, and citizen engagement, with the potential to enhance public value and strengthen the relationship between governments and citizens (T. Chen & Gasco-Hernandez, 2024)

The adoption of chatbots in the public sector has seen substantial global expansion in recent years. As reported in the 2022 United Nations E-Government Survey, the share of UN member states incorporating AI-powered chatbot features on their national portals increased from 14.5% in 2018 to 30.1% in 2020 and further to 35.8% by 2022 (T. Chen & Gasco-Hernandez, 2024). Similarly, in the private sector, Zhang et al. (2023) highlight that conversational commerce through artificial intelligence chatbots is on the rise, with an expected exponential increase in global customer interactions.

In Nigeria, as reflected in global trends, chatbot adoption is on the rise, particularly within the private sector. Prominent areas in Nigeria's private sector where AI chatbot is deployed include banking, telecommunication, health, e-commerce, education, etc. (Oludele, 2024). In the public sector, Oyelami et al. (2023) note that conversational systems are largely absent, which shows the significant gulf between the private sector and the public sector in Nigeria. Therefore, the expected benefits that chatbots confer on service institutions in the private sector are absent in the public sector, and this significantly affects the quality of service delivery and citizens' satisfaction with government institutions.

Therefore, this study aims to evaluate the adoption trends of chatbots in Nigeria's private and public sectors and examine the responsiveness and efficiency of chatbot services in Nigeria. The study is grounded in the Digital Ambidexterity Theory, which explains how organisations can balance exploitative (incremental improvements) and explorative (innovative breakthroughs) use of digital technologies, like AI chatbots, to enhance institutional performance and responsiveness to citizen needs.

The study is divided into several sections, beginning with the introduction, conceptual clarification, literature review, and theoretical framework. The methodology section follows with the presentation of the results and the discussion of the findings. The conclusion and recommendation section ends the study.

Conceptual Clarification and Review of Literature

What are Chatbots and AI Chatbots

Andrade & Tumelero (2022) define a chatbot as a conversational platform that enables message exchange over a network or communication channels. It provides an online environment where users can interact freely, using text, voice, or a combination. With the emergence of artificial Intelligence and Natural Language Processing (NLP), AI chatbots have been developed, enabling more intelligent and context-aware responses. (Vashishth et al., 2024) Thus, Wagobera Edgar Kedi et al. (2024) define AI chatbots as Software applications that mimic human conversation through text or voice interactions, utilising natural language processing (NLP), machine learning (ML), and data analytics to interpret and respond to user inputs accurately. According to Stoilova, (2021) AI chatbots can be integrated into websites, messaging platforms, mobile apps, or other digital spaces to handle a wide range of tasks, with these tasks determined by the organisation's objectives, the platform it operates on, and its target audience whether clients, partners, or employees.

Review of Literature

AI Chatbots, Digital Transformation, and Service Delivery

Artificial Intelligence constitutes one of the most disruptive emerging technologies in modern society, with ambidextrous applicability to diverse organisational needs, while also driving large-scale digital transformation. According to Das (2024), a digitalised, intelligent, and sustainable society cannot be attained without being established on digital transformation. Specifically, digitalised service delivery has enabled quick access to information and services, and AI chatbots play an essential role in this transformation process. As explained by Lee (2020), chatbots have evolved from their simplistic use in answering inquiries to more sophisticated and expansive functions such as managing deliveries, returns, and cancellations, purchases, scheduling appointments and interviews, offering product recommendations, addressing public service complaints and a host of other convenience capabilities. Artificial Intelligence has greatly enhanced this transformative capability of chatbots from a narrow to a more complex functionality, helping organisations rapidly adapt to the changing dynamics of present times. (X. Wang et al., 2022)

Misischia et al. (2022) specifically highlight that the incorporation of chatbots into service delivery is fast gaining momentum as a way to improve customer service. Zhang et al. (2023), notes that since the so-called "year of the chatbot" in 2016, the service industry has seen a growing adoption of chatbots powered by artificial Intelligence, particularly after major tech companies such as Microsoft, Google, and Amazon forecasted that conversational commerce would become a major trend in the near future.

It offers advantages such as personalised customisation of services for customers and employees, which helps increase revenue and automates internal processes for better efficiency and cost reduction. It also minimises service errors and failures, leading to a better utilisation of resources. (Bhattacharya & Sinha, 2022). Zhang et al. (2023) add that a key advantage of chatbots in service delivery is their ability to deliver instant, 24/7 support, emphasising that many people prefer interacting with chatbots over human agents when it leads to time savings. This brings about chatbot responsiveness, which, as defined by J.S. Chen et al. (2021), is a readiness to help a customer by offering accessible services instantly to bring about convenience.

Furthermore, institutions utilising chatbots are perceived to be more innovative and efficient, leading to increased and consistent patronage. Efficiency in the context of chatbot involves assertive, effective, fast and functional services, by streamlining processes and automating routine tasks (Durach & Gutierrez, 2024), Ai chatbots perform diverse functions, depending on the need of the organisation adopting it, and its utility offers both internal benefits to the organisations and also to its stakeholders, particularly customers and citizens. In addition, Hofisi and Chigova (2023) averred that the government stands to benefit from digital transformation to resolve local issues, arguing that digital technology can help the government bridge the challenge of delivering their policy goals, while also fulfilling their constitutional obligations through improved service delivery and enhanced public value.

AI Chatbot in Private Institutions

Misischia et al. (2022) explain that offering digital services to customers has become non-negotiable for businesses, with companies transitioning to the provision of digital services to meet customers' needs, which, if met, helps to create a positive attitude that ensures customer satisfaction and loyalty. The growing phenomenon of E-commerce has brought about the indispensability of technology-mediated service options, which provide more convenient options for business transactions. Thus, artificial intelligence technologies have emerged as key tools for engaging end customers throughout the business value chain. These technologies facilitate interaction at every stage of the consumer journey, before, during, and after the purchase. Their primary focus is on enhancing support services and strengthening sales assistance functions. (Nichifor et al., 2021). This is further evident in Chong et al. (2021), asserting that by 2025, chatbots will power 95% of consumer interactions in online services, significantly driving efficiency and engagement, and are expected to contribute approximately \$112 billion to retail sales, highlighting the growing economic impact of AI-driven customer service solutions.

Companies' adoption of AI chatbots starts with the need to optimise existing internal processes, which, if well executed, are essential to customer satisfaction. Andrade & Tumelero (2022) state that AI technology can help companies enhance operational efficiency, which is key to market competitiveness and the retention of customers to meet the strategic goals and objectives. AI chatbots have found significant use and benefit for companies, particularly in customer service. Mustafa (2024) affirms that it has helped reshape how businesses approach personalisation and responsiveness through algorithms that interact with customer data, thus providing services that align with each individual's preferences and behaviours. In addition, the seamless collaboration between human agents and chatbots enhances customer engagement by delivering prompt responses while preserving the option for human support when needed. (Mustafa, 2024)

In diverse service sectors such as banking and finance, hospitality and tourism, health care and education, human resources, transport, etc., and across different scales in large corporations and small businesses, a general observable effect of AI chatbot adoption is increased service efficiency. (Stoilova, 2021; Nawaz & Gomes, 2019; Vashishth et al., 2024) The AI chatbot application enhances service efficiency by being assertive, effective, and fast, offering agile, available, and uninterrupted support. It transforms lengthy human calls into quick and efficient interactions within mere seconds. Designed to handle simple and routine queries, the chatbot assists many users by serving as the initial layer of customer service. Its interactions are swift, highly focused, and solution-oriented. As a result, it has helped reduce congestion at call and customer service centres, enabling human agents to focus on more complex issues, thereby improving overall service delivery. (Andrade & Tumelero, 2022)

In Africa, Natural Language Processing chatbots have emerged as a potential to optimise service delivery efficiency through effective communication and accessibility across several sectors (Teibowei & Agbai, 2023; Okan, 2024). Timothy et.al (2024) believe that chatbots have become common features in service delivery and prominent in the private sector. In Kenya, chatbots provide healthcare services, thus reducing

physical hospital visits. Zenvus offers farmers data-driven services in Nigeria, while Mukuru and Mama Money offer fast financial transaction services in South Africa.

Despite the above lofty benefits which AI Chatbot adoption bequeath upon private entities, Wagobera Edgar Kedi et al. (2024) highlight that some challenges exist such as initial cost adoption, as well as the compatibility with user experience needs regarding the design of the chatbot application, as a poorly designed chatbots can lead to user frustration and dissatisfaction among customers. Equally important are concerns surrounding data privacy and security, given that chatbots frequently manage sensitive customer information. Additionally, a significant challenge lies in the ongoing need to monitor, refine, and update chatbot systems to maintain their effectiveness and relevance in a dynamic environment. (Wagobera Edgar Kedi et al., 2024; Nyongesa et al., 2020)

Furthermore, the adoption of AI chatbots is subject to various factors such as organisational, technological and external factors, which include the perceived benefits, such as cost reduction, enhanced customer experience (CX), and timely support, all contributing to the overall perceived usefulness of the technology. Top management support, as leadership sets the strategic direction, allocates necessary funding, and translates innovation policies into actionable goals. Similarly, regarding the willingness and availability of IT and financial resources, organisational readiness determines how smoothly a company can implement chatbot solutions. Compatibility with existing systems, such as integration with human customer support, ease of use for user acceptance, availability and readiness of technology, including infrastructure, security, and reliability, external pressures such as customer demand for faster and more responsive service, industry competition, and the general need for automation also drive adoption. Finally, government regulations shape the implementation process by setting standards and compliance requirements that organisations must adhere to. (Nyongesa et al., 2020).

Overall if properly adopted and implemented by private entities, X. Wang et al. (2022) opine that AI chatbot use in businesses can help to improve business agility, which entails a company's ability to effectively leverage its human resources, technology, processes, and knowledge to identify and respond to opportunities and threats, such as shifts in the market, evolving customer expectations, and emerging technologies. Chatbots empower companies to respond to customer inquiries and resolve issues more efficiently. By analysing interactions, organisations can gain deeper insights into customer behaviour, anticipate needs, and detect shifts in market demand. This enhanced understanding allows for more targeted marketing and tailored service delivery. As a result, businesses can meet customer expectations more effectively, adapt quickly to change, and enhance their overall agility. (X. Wang et al., 2022)

AI Chatbots in the Public Sector

The primary goal of using technology as part of digital transformation programs in the public sector is to foster public value. (Babšek et al., 2025) Thus as captured by Larsen & Følstad (2024), chatbots are the most adopted Artificial intelligence technology in the public sector of most countries, used as an additional service delivery platform enhancing government's organisations capacity to improve public value, with impact on the quality of service provided and smoothening the relationship between agencies and citizens. Androutsopoulou et al. (2019) highlight that the adoption of chatbots by government agencies has been largely driven by the observed benefits from private entities, particularly efficiency gains, used in various service sectors like health, social welfare, public safety, taxation, education, etc.

Kaun & Männiste (2025) argue that chatbots are being increasingly adopted to facilitate citizen interaction with public sector institutions, and constitute alongside other emerging technologies that embed themselves into everyday processes, effectively transforming the relationship between the state and its citizens into analysable data points. This benefits both the government and citizens by helping the government with efficient resource allocation and enabling the citizens to derive maximum service benefits from the government. Government functions find expedient AI use in cases of resource allocation, handling large datasets, addressing the shortage of experts, managing predictable situations, executing routine and repetitive tasks, as well as aggregating and summarising diverse data. (T. Chen et al., 2024) with extant benefits such as reducing costs, easing the workload of civil servants, enhancing productivity, generating new job opportunities, resolving resource distribution challenges, and improving the delivery of public services (Androutsopoulou et al., 2019; Ma'rup & Rokhman, 2024).

For citizens, several benefits accrue through government AI chatbots, such as minimising waiting times for accessing services and offering rapid access to domain-specific information through direct links. (Makasi et al., 2021; Nirala et al., 2022) Similarly, Følstad & Skjuve (2019) add that it helps to improve public trust and confidence in government among citizens by improving accessibility and inclusion in the government's decision-making process. The availability of analysable data points, as discussed above by Kaun & Männiste (2025), helps to ensure that citizens' feedback from the analytics of discussions and enquiries made on AI chatbots is fed into the policy and decision-making process for better and improved service outcomes.

Some empirical examples of government institutions across countries using chatbots in service delivery include Singapore, which uses chatbots for specific public services, aiming to serve as digital representatives for citizens. In the United States, the Citizenship and Immigration Services agency utilises chatbots capable of accurately responding to around 500,000 queries each month. In Australia, the Tax Office implemented a chatbot to assist citizens with tax-related questions, resulting in a first-contact resolution rate of 80%, surpassing the industry average of 60%–65%. In Greece, three government agencies have adopted a three-tier chatbot architecture to enhance AI-driven communication between the state and its citizens. Botby Bonn, a German city government chatbot, enables citizens to pay their bills and taxes in Germany. (Y. Wang et al., 2022; T. Chen et al., 2024)

T. Chen et al. (2024) and Makasi et al. (2020) discuss that a chatbot in the public sector performs three major functions. The first is providing information to citizens' service queries, the second is providing transactional services requiring the user's details to provide a personalised response, and the third, which is the most complicated, is service negotiation. The authors explain that the capacity of public sector chatbots to perform service negotiation depends on government agencies' interoperability to share ideas and databases for seamless one-point delivery interaction of government services.

AI chatbots in the public sector are not without their own unique challenges, especially through phases of adoption, implementation and uptake by citizens. In the adoption and implementation phase, Androutsopoulou et al. (2019) point out that various ethical and social challenges hinder the adoption of AI technologies in the public sector, driven by concerns over job displacement due to automation and a general lack of public trust in machine intelligence. Regarding implementation, the authors note that the needed expertise to build the chatbot's knowledge base can be lacking, as it requires codifying the knowledge of government experts along with a wide range of data, such as legislative and operational information, into formats that machines can process. As regards the uptake challenge, Følstad & Skjuve (2019) and Makasi et al. (2020) address issues of equality and trust as important public values which AI technology, particularly in the form of chatbots, sometimes lacks, alienating certain members of the public from accessing, thus preventing their use.

Theoretical Framework

Digital Ambidexterity Theory

This theory draws from the literal meaning of ambidexterity, which means being able to perform two functions simultaneously. Digital ambidexterity theory emanates from organisational studies, robustly discussed in March 1971, which explains how resources can be used for either incremental changes or innovative procedures. (Magnusson et al., 2020) These changes are broadly classified into explorative changes and exploitative changes. Exploitative innovation leverages existing designs through small, incremental changes, catering to ongoing societal changes, particularly citizen needs. Exploitative innovations reinforce and build upon existing knowledge, skills, processes, and structures. In contrast, exploratory innovation introduces new principles that can redefine the public sector by opening up new bureaucratic procedures and establishing novel service delivery channels. (Cao et al., 2023)

Within the institution's adoption of digital technologies, digital ambidexterity means balancing efficiency with innovation. Efficiency, understood as the "ongoing enhancement of current services and processes," aligns with the concept of exploitation. In contrast, exploration, described as "the pursuit and development of entirely new knowledge and services," is associated with innovation. Magnusson et al. (2020) stress that with the growing digitalisation in society, institutions should be better equipped for digital ambidexterity, essential for improved performance and the success of organisational goals.

Within the context of Chatbot adoption in service institutions in Nigeria, the theory helps explain how its use can bring about both incremental changes and new procedures in service delivery. Aside from its use for

customer care enhancement through round-the-clock services, chatbots also offer new service delivery channels for institutions, as services can be traded on the platforms without changing geographic locations. Overall, the theory of digital ambidexterity sheds light on digitalisation trends within organisations. This theory also helps explain how organisations continually balance leveraging current digital opportunities while pursuing new ones.

Methodology

A mixed-methods approach was adopted for this study, which involved the use of secondary qualitative data from internet sources and primary quantitative data through a semi-structured questionnaire. For adoption in Nigeria's public and private sectors, a search using keywords such as *private sector institutions using chatbot services in Nigeria* and *public sector institutions using chatbot services in Nigeria* was conducted on a Google search engine to compile a list of institutions in both sectors. The primary quantitative data elicited responses, use, and awareness of service chatbots. In addition, literature on AI chatbot service delivery, particularly functions mostly performed by customers/citizens on chatbots, was used to ask questions on the type of service chatbots were most used for. Measures for responsiveness were adapted from (J. S. Chen et al., 2021) and (Durach & Gutierrez, 2024), while measures for efficiency were adapted from (Durach & Gutierrez, 2024). Questions on challenges were also developed based on (Ghosh et al., 2024) and (Huseynov, 2023), which addressed AI chatbots' service delivery challenges. Constructs for responsiveness and efficiency used a five-point Likert-type scale, with scores ranging from 1 strongly agree to 5 strongly disagree. The questionnaire was divided into four sections with seven items of demographic response, eight questions for awareness and use, nine questions for responsiveness, 7 for efficiency and 7 for challenges, making a total of 31 items.

Sampling and Data Collection

The population for the study was Nigerians, and the sample frame was defined by those who had used a chatbot service delivery. Thus, a non-probability sampling, using a purposive convenience sampling, was used to select and administer the questionnaire, which was hosted on Google Forms and distributed to messenger apps like WhatsApp. To ensure accuracy, contacts were asked through a simple prompt message, "Have you used a service chatbot before?". Given that the exact population of chatbot users cannot be established, and for scientific justification, the study adopted a 95% confidence level and a 10% margin of error, thus requiring a minimum of 96 respondents for statistical significance. Contacts who responded with yes were shared a copy of the questionnaire, those who were not sure were explained to, and in their assertion of use were also shared, while those who responded no were not shared a copy of the questionnaire. A cover letter accompanied the questionnaire, providing details about the study's purpose and instructions on completing and returning the questionnaire. The respondents were assured that their identities would remain anonymous and confidential, with no connection made between them and their responses. In total, 120 answers were received, and after data cleaning, 109 were analysed using SPSS through descriptive statistics.

Results and Discussion

Secondary Data presentation of results

Table 1: Adoption Trends in Nigeria's Public and Private Sectors

S/N	Sector	Sectoral Service	Ai integration	Functional Sophistication	Branding
1	Private	Banking, Telecommunication, E commerce, Education, health, transportation etc	Ranks from moderate to very high	Slightly sophisticated performing functions of Transactions, account inquiries, loans. product guidance, recommendations Airtime/data top-up, SIM registration Maternal health, chronic illness, care navigation. Ticket booking, fare estimates, ride support. Learning support,	(Leo, Ziva, Ada Jumia Bot, Jiji Bot Zigi, Enin, GloBot Tatafo, SimbiBot, Sabi

				academic tracking, tutoring.	
2	Public	Ministries department and agencies across Immigration, national identity, elections, health, public service operations, tax, business and entrepreneurship	Moderate to low.	Less interactive, and more informational, with overall limited functionality	Generic names such as NIN Assistant Service-Wise GPT ImmigrationBot CBN Virtual Assistant CAC Assistant JAMB BoT Corps Assistant INEC CVR Chatbot COVID-19 Chatbot LagosConnect EdoDida Bot

Source: Author's compilation 2025

The table 1.0 above shows chatbot adoption in Nigeria's private and public sectors. In the private sector, chatbot adoption is prominent in finance, telecommunication, education, transport, etc. This is unsurprising given the advanced digital maturity levels of institutions in Nigeria's private sector, with some chatbot adoption dating back to 2018. Notable examples include the banking industry, such as Guarantee Trust Bank, Telecommunication, e.g. MTN and a host of others. The advanced digital maturity of private sector institutions in Nigeria implies their long-standing culture and robust provision of services on AI chatbot platforms.

Their adoption aligns with global e commerce trends, particularly the alternate provision of services noted by (Nichifor et al., 2021) who affirms that Ai chatbot services enables businesses to provide more convenient options for business transactions, and to engage end customers throughout the business value chain, with the major aims of enhancing support services and strengthening sales assistance functions. Thus, AI chatbots have helped decongest 'usual' service channels, providing more convenient round-the-clock services to meet customers' needs and improving the agility of business establishments. According to Phillips Consulting Limited (2023), the use of financial services chatbots can help banks reduce human resource expenses by as much as \$11 billion, while also saving customers approximately four minutes per inquiry, ultimately enhancing customer satisfaction.

In the public sector, areas such as education, election, health, revenue and finance, Immigration, etc., at the federal level, are seeing a gradual uptake of chatbot services. It is imperative to note that the extent of the integration of these chatbots into service delivery in Nigeria's public sector varies. Similarly, for most of these institutions, the chatbot services are relatively new, with most adopted in the last year. Furthermore, these implementations are part of Nigeria's broader digital transformation strategy to improve government service delivery and citizen engagement, which began to pick up pace between 2020 and 2024. Despite this, their use isn't as much popular amongst citizens, buttressed by the survey data, where only 9% of total respondents have patronised government Chabot service.

At the state level, only Lagos State and Edo State have substantial infusion of chatbots into government services. Lagos state, with a robust chatbot service channel across its institutions, can be attributed to its significant revenue, enabling it to digitise government services, and also its proximity to Nigeria's most densely populated private sector institutions with advanced digital maturity. In addition, the influence of its robust tech ecosystem, which serves as the major innovation hub for Nigeria, may contribute to the state government's adoption of chatbot services. Edo state is one of the states in Nigeria with a comprehensive digital economy framework through which it has digitised a host of government services in the state, with the adoption of various digital platforms and an Artificial Intelligence chatbot platform. Thus, as documented by Oyelami (2023), government-based chatbot services for citizens are limited in Nigeria. Although there has been a surge in adoption in recent years, their functionality lies at just informational rather than interactive, which inhibits their usefulness to citizens. The private sector is ahead in using chatbots, offering more innovative features and better user experiences, compared with the public sector.

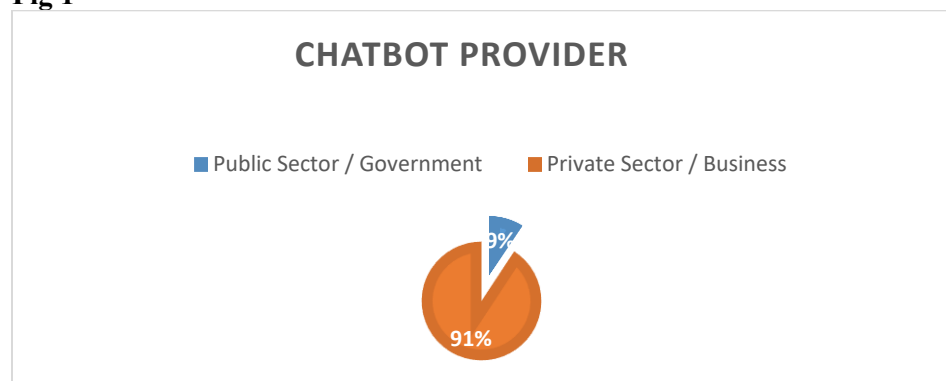
Survey Data Results

Table 2.0: Demographic characteristic

Sex	Percent
Male	52.3
Female	47.7
Age	
18-25 years	34.9
26-35 years	58.7
36-45 years	4.6
46-55 years	1.8
Level of Education	
Secondary	1.8
Tertiary	98.2
Employment Status	
Student	14.7
Employed	82.6
Unemployment	2.8
Employment Type	
Public Sector	17.4
Private Sector	64.2
Trade or Business Owner	15.6
Artisan	2.8
Marital Status	
Single	87.2
Married	12.8
Religion	
Christainity	89.9
Islam	10.1

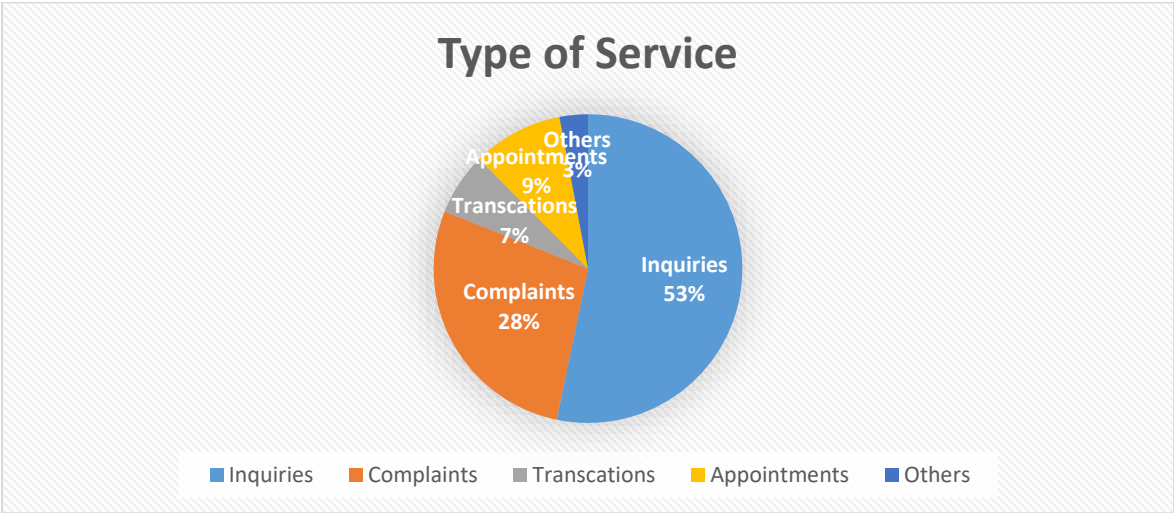
The table above shows the demographic characteristics of respondents, along with dimensions of sex, age, level of education, employment and marital status. Male respondents dominate the total number of responses with 52.3% against female responses of 47.7%. Regarding age categorisation, the overwhelming response was from a youthful demographic, with most around the age group 26-35 years, followed by the 18-25 age group. The remaining 36 and above respondents constitute 6.4% of the total respondents. The table further shows that the majority of respondents are highly educated, having completed tertiary education, with the majority being employed, especially in Nigeria's private sector, accounting for 64.2%, public sector 17.4%, while others are self-employed across trade and artisanal skills, accounting for a cumulative of 18.4%. 87.2% are single, while the rest are married, and for religion, 89.9% are Christians against a Muslim respondent of 10.1%

Fig 1



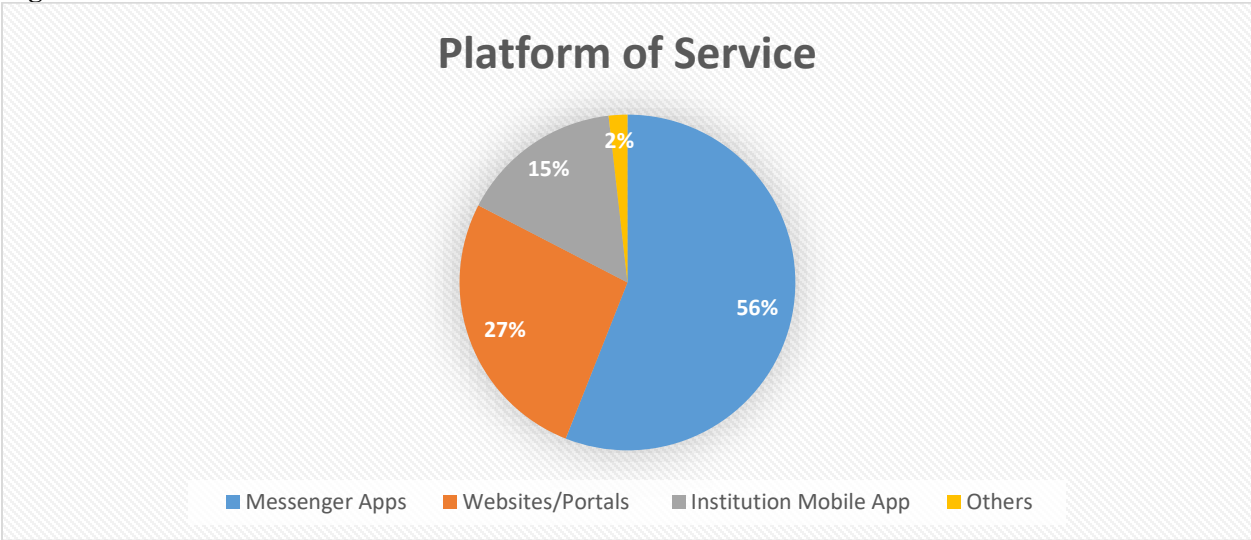
The chart above offers insight into chatbot technologies' ownership and deployment landscape across sectors. It reveals a significant disparity between private and public sector adoption of chatbot services. An overwhelming 91% of chatbot services are provided by the private sector, including Banks and financial institutions, Telecommunications companies, E-commerce platforms, etc. This dominance indicates that businesses in Nigeria are leading in digital transformation, leveraging chatbots for Customer service automation, Operational efficiency, and cost-effectively scaling service delivery. It reflects a market-driven push to meet consumer expectations for fast, seamless, and 24/7 interactions. On the contrary, only 9% of chatbot deployments are attributed to the public sector and government institutions, showing a slower adoption rate and low citizen usage.

Fig 2



The chart above shows the major functions chatbots perform across various sectors. This distribution reflects user demand trends and the strategic focus of institutions deploying chatbot technologies. Based on service types in the literature, the most common type of service chatbots are used for is inquiries at 53%, which involves seeking clarifications on services offered by institutions, such as frequently asked questions (FAQs), service information, policy guidance, account or product details. Next is complaints at 28% through which citizens/customers seek to redress issues in unsatisfactory service delivery, such as service disruptions, billing issues, delays or errors in delivery, etc. Chatbot services also facilitate the scheduling of appointments between institutions and customers, particularly in government, health, and education sectors, and this is helpful to avoid delays and unnecessary queues when visiting institutions. Transactions constitute 7%, meaning that only a few AI chatbot services have evolved to provide digital services in Nigeria. While relatively lower, this category is vital in demonstrating the capacity of chatbots to go beyond support and act as secure, interactive transaction platforms, especially in banking, e-commerce, transportation, and government service functions.

Fig 3



The chart above provides valuable insights into user preferences and institutional strategies for deploying AI-powered assistance across various digital touchpoints. The flexibility of the chatbot technology ensures that it can be hosted on a primary digital platform. With 56%, messenger apps (such as WhatsApp, Facebook Messenger, and Telegram) dominate the landscape of chatbot service platforms. This overwhelming preference reflects a shift toward user-friendly, real-time communication tools that integrate seamlessly into everyday life. Web-based platforms account for 27% of chatbot usage, indicating that institutional websites and portals remain a significant channel for delivering automated services. Institutions often embed chatbots on their websites to assist visitors navigating services, especially in finance, consulting, and transportation sector. With 15%, institution-branded mobile applications serve as another avenue for chatbot deployment. These apps offer integrated service experiences combining chatbot support with other app functionalities like account management, transactions, or learning modules. The 'Others' category, with just 2%, represents less conventional platforms, possibly including SMS-based bots, email assistants, or AI voice-based systems.

Table 3: Major Service Areas

Service	Percentage (%)
Banking	57.8%
Telecommunications	19.3%
Education	11.0%
Transportation	8.3%
Finance	4.6%
Health	2.8%
Business/Consulting	2.8%
Entertainment	1.8%
Food Delivery	1.8%
Software/IT	0.9%
Structural Analysis/Writing	0.9%
Tax	0.9%
Electricity	0.9%
Career Advancement (Medicine)	0.9%

The table provides insight into the dominant service areas where chatbot platforms are most utilised, highlighting sectoral adoption and user engagement across different industries in Nigeria. Below is a narrative analysis of the data. Topping the chart with (57.8%), the banking sector has overwhelmingly embraced chatbot technology. This dominance reflects the sector's need for 24/7 customer interaction, seamless financial transactions, and self-service functionalities such as fund transfers, account inquiries, loan applications, and bill payments. Banks like Access, UBA, GTBank, and First Bank have created sophisticated chatbots such as Tamada, Leo, and GTB Chat, integrated across WhatsApp, mobile apps, and websites to meet customer demands and reduce the workload on human agents. This heavy investment signifies a broader push for digital banking transformation in response to rising customer expectations for speed, convenience, and security.

At (19.3%), the telecommunications sector ranks second in chatbot adoption. Companies like MTN, Airtel, Glo, and 9mobile deploy chatbots such as Zigi and Airtel Care to handle tasks like data and airtime purchase, SIM registration, balance inquiries, and service troubleshooting. The sector's broad customer base and frequent inquiries around subscriptions and network issues necessitate such digital solutions. These bots are mostly active on WhatsApp, Facebook Messenger, and websites, ensuring easy access for millions of users. Ranking third at (11.0%), the education sector demonstrates increasing integration of AI chatbots in learning and academic support. Platforms like SimbiBot, Tatafo, and Sabi are designed to support students with exam preparation (e.g., UTME/Post-UTME), learning recommendations, progress tracking, and English language tutoring.

The transportation sector, at (8.3%), utilises chatbots to support ticket bookings, travel information, customer service, and trip guidance. Notable examples include GIGM, Uber Nigeria, and Lara.ng, offering digital assistance through websites, apps, and WhatsApp. Public finance constitutes the next category, at 4.6%, dominated mainly by government financial institutions, notably revenue institutions. Others include the health, business and consulting, entertainment, food delivery, software/IT, tax, electricity, structural analysis/writing, and career advancement (medicine), each accounting for less than 3% of chatbot use.

Efficiency and Responsiveness of Chatbots in Service Delivery in Nigeria

Table 4: Efficiency

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low	54	49.5	49.5	49.5
	High	55	50.5	50.5	100.0
	Total	109	100.0	100.0	

The table presents data on the perceived efficiency of chatbots in service delivery, categorised into two groups: Low and High efficiency. Out of 109 respondents, 54 individuals (49.5%) rated chatbot efficiency as low, while 55 individuals (50.5%) rated it as high. This nearly equal distribution indicates a divided perception of chatbot performance among users in Nigeria. While half of the respondents recognise chatbots' positive impact and effectiveness in delivering services, the other half remain unconvinced, likely due to factors such as limited functionality, poor user experience, or infrastructure issues. This balance suggests that while chatbots hold promise, there is still significant room for improving their efficiency and user satisfaction.

Table 5: Responsiveness

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low	62	56.9	56.9	56.9
	High	47	43.1	43.1	100.0
	Total	109	100.0	100.0	

The table shows the distribution of user perceptions regarding chatbot responsiveness in service delivery. Out of 109 respondents, 62 individuals (56.9%) rated chatbot responsiveness as low, while 47 individuals (43.1%) rated it as high. This indicates that most users find chatbots slow or unresponsive, suggesting delays in replies, poor real-time interaction, or insufficient understanding of user queries. This also aligns with the findings of

(Abdulquadri et al., 2021), which discovered that even in the private sector, where chatbots are widely adopted, the responsiveness levels are low. The lower responsiveness rating highlights a critical area for improvement, as prompt and accurate responses are essential for building trust and enhancing user experience with chatbot services. Consequently, while chatbots hold a transformational capacity on service delivery in Nigeria, their benefits are yet to be fully achieved, as most users are still unconvinced by their assertiveness and functionality in the delivery of services.

Table 6: Challenges of Chatbot Use in Service Delivery in Nigeria

Rank	Challenge	Percentage
1	Limited chatbot functionality	30.5%
2	Data privacy concerns	20.2%
3	Poor infrastructure (internet connectivity)	19.2%
4	Limited language support	12.2%
5	Low digital literacy	7.5%
6	Customer resistance	6.6%
7	Others	3.8%

The table outlines the key challenges affecting chatbot service delivery in Nigeria, highlighting limited chatbot functionality as the most frequently mentioned issue (30.5%). This indicates that many chatbots cannot handle complex or diverse user needs, limiting their usefulness. This explains the perceived low responsiveness in the data above and the slightly significant efficiency issue. Data privacy concerns (20.2%) are closely followed, reflecting users' fears about how their personal information is handled. Poor infrastructure, particularly unreliable internet connectivity (19.2%), hampers effective Chatbot usage, especially in rural areas. Other notable challenges include limited language support (12.2%), which restricts access for non-English-speaking users, and low digital literacy (7.5%), which makes it difficult for some users to interact with chatbots. Additionally, customer resistance (6.6%) shows that some users hesitate to adopt chatbot technology, possibly due to trust issues or a preference for human interaction. A small portion (3.8%) falls under "Others," pointing to miscellaneous or context-specific problems. These challenges highlight the need for more robust, inclusive, and user-friendly chatbot solutions in Nigeria.

In summary, while the private sector has embraced AI chatbots across banking, telecommunications, education, and other sectors with notable sophistication, the public sector lags, both in terms of chatbot deployment and functional capabilities. The private sector's advanced digital maturity is reflected in its superior adoption, innovative design, and platform versatility, especially through messenger apps like WhatsApp and institution-branded apps. Furthermore, the analysis finds that Survey findings reveal a significant gap in the perceived responsiveness and efficiency of chatbots in service delivery. While chatbot efficiency scored an almost even split between high and low perceptions, most users rated responsiveness lower, indicating a lack of timely and accurate interaction. The most common functions performed by chatbots were handling inquiries and complaints, with limited use in transaction-based services. Major challenges include limited functionality, data privacy concerns, poor infrastructure, and low digital literacy.

Conclusion and Recommendation

A significant public-private divide marks the adoption of AI chatbots in Nigeria's service delivery landscape. The private sector demonstrates robust and innovative chatbot deployment, driven by market competition and customer engagement imperatives. In contrast, the public sector is still in its early stages of chatbot adoption, hindered by institutional inertia, limited expertise, and infrastructural challenges. Although AI chatbots have the potential to improve service efficiency and responsiveness, current implementations have yet to realise these benefits fully. User experience is marred by limited chatbot capabilities and inadequate real-time interaction, especially in complex or transactional inquiries. Despite these limitations, the growing digital economy in Nigeria presents an opportunity for both sectors to scale up their use of AI for improved service delivery.

Thus, several strategic recommendations are proposed to improve the effectiveness of chatbot use in service delivery across Nigeria. First, there is a critical need to enhance chatbot functionality by integrating advanced AI technologies such as improved Natural Language Processing (NLP) and machine learning algorithms to enable better contextual understanding and transactional capabilities, particularly within the public sector. Secondly, public sector institutions should prioritise investments in digital infrastructure and capacity building, including funding for AI chatbot development, staff training, and the integration of interoperable systems across agencies. In addition, chatbots must be designed with localisation in mind, featuring multi-language support and user-friendly interfaces to cater to Nigeria's linguistically and educationally diverse population. To build trust and drive adoption, government and private entities should invest in public awareness campaigns that emphasise chatbot technologies' benefits, functionality, and data privacy protections.

Furthermore, implementing hybrid support systems that allow seamless transitions from chatbot interactions to human agents is essential for addressing complex service needs and improving user satisfaction. Equally important is developing robust ICT infrastructure, especially in underserved regions, to ensure reliable access and operational efficiency of chatbot platforms. Finally, institutions must establish continuous monitoring and evaluation mechanisms, including feedback loops and data analytics, to assess and improve chatbot responsiveness and efficiency based on user experiences and evolving service demands.

By addressing these recommendations, AI chatbots can become a more integral and effective tool in Nigeria's digital service delivery ecosystem, promoting operational efficiency and citizen satisfaction in private and public institutions.

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Leveraging Artificial Intelligence for the Early Detection and Personalised Treatment of Alzheimer's Disease: A Machine Learning Approach in Nigerian Healthcare Systems

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Abstracts

Background: Alzheimer's disease (AD) is a progressive neurodegenerative disorder and a leading cause of dementia worldwide. Nigeria's prevalence has risen sharply over the past decades, driven by population ageing, limited public awareness, and inadequate diagnostic infrastructure. Early detection and individualised intervention remain challenging, particularly in low-resource healthcare systems. Artificial intelligence (AI) advances present new opportunities for early diagnosis, risk stratification, and tailored treatment planning, yet these tools are underutilised in sub-Saharan Africa.

Methods: This study proposes the development and validation of a culturally adapted, AI-powered diagnostic model tailored to the Nigerian healthcare context. A total of 600 participants will be recruited across three groups: diagnosed AD patients ($n = 300$), cognitively healthy controls ($n = 200$), and high-risk individuals ($n = 100$). Multimodal data will be used to train and test interpretable machine learning algorithms, encompassing neuroimaging, cognitive assessments, genomics, comorbidities, lifestyle factors, and socio-demographics. RandomForest and XGBoost will be the core model due to their high performance and explainability.

Results: Preliminary simulations indicate the proposed model can achieve a diagnostic accuracy exceeding 85%, with high sensitivity and specificity for early-stage detection. Key predictive features include cognitive scores (e.g., MMSE), memory performance indices, comorbidity burden, and age. The recommendation engine will generate personalised treatment pathways encompassing pharmacological therapies, neuropsychological rehabilitation, caregiver education, and follow-up schedules.

Conclusion: This study aims to bridge the gap between global AI innovation and local clinical applicability by embedding machine learning tools into Nigeria's evolving neurological care systems. Emphasising cultural relevance, ethical deployment, and clinical usability, this research could redefine AD care in sub-Saharan Africa and serve as a model for other low- and middle-income countries.

Keywords: Alzheimer's disease, artificial intelligence, Nigerian healthcare, machine learning, early detection, personalised treatment, neurocognitive assessments

Introduction

Alzheimer's disease (AD) is a progressive and irreversible neurodegenerative condition characterised by cognitive decline, memory loss, behavioural disturbances, and impaired daily functioning (World Health Organisation [WHO], 2023). It accounts for approximately 60–70% of global dementia cases and disproportionately affects older adults, particularly in low- and middle-income countries (LMICs) where resources for diagnosis and management are limited (Prince et al., 2015). In Nigeria, the burden of AD is rising sharply due to increasing life expectancy, urbanisation, and insufficient public health interventions targeting cognitive disorders (Adeloye et al., 2019). Between 1995 and 2015, dementia prevalence in Nigeria increased by more than 400%, yet early diagnosis remains rare (Gureje et al., 2020).

Delayed recognition of AD in Nigeria is often driven by a combination of low public awareness, cultural interpretations of dementia as a regular part of ageing, and a lack of routine cognitive screening in clinical practice (Akinyemi et al., 2016). An overburdened health system with limited access to neurologists, neuropsychologists, and imaging technology further compounds these challenges. Consequently, individuals are often diagnosed at moderate or advanced stages, when the window for effective intervention has narrowed significantly.

In contrast, recent advances in artificial intelligence (AI) and machine learning (ML) have shown great promise in improving early detection, classification, and treatment planning for AD in high-income countries. With speed and precision, these tools can analyse complex datasets, including neuroimaging, genomics, cognitive assessments, and lifestyle data, thereby enabling more accurate predictions of disease onset and progression (Jo et al., 2019; Rane et al., 2023). AI has been successfully applied to differentiate AD from other dementias, predict conversion from mild cognitive impairment (MCI) to AD, and tailor treatment recommendations (Koksalmis et al., 2024). However, most of these systems are trained on Western datasets and are not readily transferable to African populations, whose clinical, genetic, and socio-cultural profiles may differ significantly.

There is a critical need for context-specific AI applications that reflect the realities of LMICs such as Nigeria. These must address technical accuracy, cultural appropriateness, ethical data use, and integration within existing healthcare workflows (Oladipo et al., 2024). To this end, this study proposes designing and implementing a locally adapted, AI-powered diagnostic system for early detection and personalised management of AD in Nigerian healthcare settings. By leveraging multimodal patient data and training interpretable ML models, the project aims to provide practical clinical tools that align with local constraints and optimise patient outcomes. This paper details the study's theoretical foundations, methodological approach, expected outcomes, and implications for AI-driven cognitive healthcare in sub-Saharan Africa.

Theoretical Framework

This study is grounded in a multidisciplinary theoretical framework that integrates psychological, neurological, and sociocultural perspectives on Alzheimer's disease (AD). Four major theories inform the conceptual foundation of the research: the Psychodynamic Theory of Dementia, the Cognitive Reserve Theory, the Working Memory Model, and the Socioemotional Selectivity Theory. Together, these frameworks provide a comprehensive lens through which to design an AI-powered diagnostic system that is both clinically robust and culturally sensitive.

Psychodynamic Theory of Dementia

The psychodynamic approach, rooted in Freudian theory, postulates that dementia may reflect a form of psychological regression triggered by unresolved internal conflicts or traumatic losses (Freud, 1917/1957). Though largely outdated in contemporary neuropsychology, this perspective remains useful in highlighting the psychological and emotional layers that often accompany neurodegenerative decline. In the Nigerian context, where dementia symptoms are sometimes misattributed to spiritual or emotional disturbances, acknowledging psychodynamic insights can help inform caregiver education and culturally attuned interpretations of behavioural symptoms.

Cognitive Reserve Theory

The cognitive reserve theory posits that individuals with higher levels of education, occupational complexity, and engagement in cognitive or social activities possess a 'reserve' that enables them to better withstand neurodegenerative pathology before exhibiting clinical symptoms (Stern, 2002). This theory is particularly relevant in diverse societies, such as Nigeria, where significant educational and socioeconomic disparities exist. Variables associated with cognitive reserve, such as years of formal education, language proficiency, and social participation, will be incorporated as predictive features in the AI model to enhance the cultural adaptability of risk stratification.

Working Memory Model

Developed by Baddeley and Hitch (1974), the working memory model emphasises the role of short-term memory systems in supporting complex cognitive tasks. Disruption in these systems, particularly the central executive and phonological loop, is a hallmark of early-stage AD. This model underpins the design of the cognitive assessment battery used in the study. Working memory deficits, measured through tools such as the Montreal Cognitive Assessment (MoCA) and the Mini-Mental State Examination (MMSE), will be key indicators for AD classification within the machine learning framework.

Socioemotional Selectivity Theory

Carstensen's (1992) socioemotional selectivity theory posits that as individuals age, they shift their priorities toward emotionally meaningful goals and relationships, often at the expense of acquiring new knowledge. This theory informs the development of the personalised treatment recommendation engine, ensuring that care plans for older adults align with their emotional goals, social contexts, and cultural values. It also guides the integration of caregiver support and emotional well-being into the AI-generated interventions.

Empirical Review

A growing body of literature supports the application of artificial intelligence (AI) in the early detection and management of Alzheimer's disease (AD). This section highlights selected studies that inform the design and justification of the present research.

Neuroimaging and AI Diagnostics

Several studies have demonstrated the accuracy of machine learning (ML) models using neuroimaging data to distinguish AD from other neurocognitive conditions. Rudroff et al. (2024) employed deep learning algorithms on positron emission tomography (PET) scans and achieved over 90% diagnostic accuracy in early-stage AD classification. Similarly, Yang and Mohammed (2020) utilised convolutional neural networks (CNNs) with MRI data. They reported sensitivities ranging from 75% to 90%, underscoring AI's capacity to detect subtle brain changes before clinical symptoms become evident. While these methods are powerful, they rely heavily on high-resolution imaging, which limits their applicability in low-resource settings, such as Nigeria. The current study addresses this limitation by prioritising cognitive, functional, and sociodemographic data, which are more accessible and equally informative when analysed in aggregate.

Personalised Prediction Models

Koksalmis et al. (2024) developed a multimodal prediction model using neuropsychological and biomarker data, achieving over 85% accuracy in differentiating mild cognitive impairment (MCI) from AD. Importantly, their model also incorporated a rule-based recommendation system, an approach adopted and culturally extended in the present study. Raza et al. (2024) developed a non-invasive, AI-based classification model utilising routine clinical variables, achieving a macro F1-score of 0.87. This model was a blueprint for the low-cost, high-performance ethos adopted in the current Nigerian application.

Challenges in LMIC Adoption

In the Nigerian context, Adigwe et al. (2024) identified key barriers to AI adoption in healthcare, including a lack of training, inadequate infrastructure, and insufficient policy frameworks. This study addresses these gaps directly by incorporating capacity-building components, clinician explainability features, and stakeholder engagement into its design. Furthermore, Oladipo et al. (2024) advocated for more inclusive datasets and cautioned against direct transposition of Western models to African populations due to bias and reduced accuracy. The current project addresses this by developing its training dataset locally, ensuring ecological validity and cultural sensitivity.

Methods

Study Design

This study adopts a mixed-methods cohort design to develop and validate an AI-powered system for early detection and personalised management of Alzheimer's disease (AD) in Nigeria. The project integrates quantitative neurocognitive, demographic, and clinical data with qualitative insights from local healthcare contexts to inform the design and deployment of the model. Data collection and validation will be conducted across teaching hospitals in Nigeria's South-Western region.

Participants and Sampling

A total of 600 participants will be recruited through purposive sampling across three groups:

- Group A: 300 participants diagnosed with Alzheimer's disease according to DSM-5 criteria and the National Institute of Neurological and Communicative Disorders and Stroke (NINCDS) and the Alzheimer's Disease and Related Disorders Association (ADRDA) guidelines (McKhann et al., 2011)
- Group B: 200 cognitively healthy, age-matched individuals with no known neurological or psychiatric disorders
- Group C: 100 individuals identified as high-risk for AD due to factors such as family history, mild cognitive complaints, or comorbid conditions (e.g., hypertension, diabetes)

Inclusion criteria include Nigerian nationality, age 60 years or older, and capacity to provide informed consent or assent. Exclusion criteria include comorbid primary psychiatric conditions (e.g., schizophrenia) or acute medical instability.

Cognitive and Functional Assessments

Participants will complete a battery of culturally adapted cognitive and functional assessments, which include:

- Cognitive screening tools: Mini-Mental State Examination (MMSE; Folstein et al., 1975), Montreal Cognitive Assessment (MoCA; Nasreddine et al., 2005)
- AD-specific assessments: Clinical Dementia Rating (CDR), Alzheimer's Disease Assessment Scale–Cognitive Subscale (ADAS-Cog)
- Functional and behavioural tools: Instrumental Activities of Daily Living (IADL), Geriatric Depression Scale (GDS), Neuropsychiatric Inventory Questionnaire (NPI-Q)

To ensure cultural and linguistic validity, a pilot phase involving 30 participants will assess tool comprehensibility, reliability, and relevance, following procedures recommended for cross-cultural neuropsychological adaptation (van de Vijver & Tanzer, 2004).

Data Collection and Preprocessing

Data will be collected in electronic and paper-based formats and securely stored in encrypted local servers. The dataset will consist of:

- Demographic data: Age, gender, education, socioeconomic status
- Cognitive scores: MMSE, MoCA, ADAS-Cog, etc.
- Lifestyle and functional data: Diet, physical activity, sleep, social engagement, IADL
- Comorbidities and medical history
- Optional imaging and genomic data, where available

Preprocessing steps will include:

- Imputation of missing values using k-nearest neighbours (KNN)
- Feature scaling using min-max normalisation
- One-hot encoding for categorical variables
- Dimensionality reduction using Principal Component Analysis (PCA) and t-distributed Stochastic Neighbour Embedding (t-SNE) for exploratory visualisation

Machine Learning Model Development

An XGBoost and Random Forest classifier will be employed due to their superior accuracy, ability to handle heterogeneous data, and model interpretability (Chen & Guestrin, 2016). The model will be trained on diverse data, including neuroimaging (MRI/PET), cognitive

Scores, genomic markers, patient outcomes, and socio-demographics to classify participants into three categories: low-risk, high-risk, and confirmed AD cases. Training will be performed using an 80/20 split with stratified 10-fold cross-validation to ensure generalisability. Hyperparameters will be tuned using grid search. Feature importance will be ranked to facilitate clinical interpretability. Natural Language Processing (NLP), SHapley Additive exPlanations (SHAP), and Local Interpretable Model-agnostic Explanations (LIME) techniques will extract insights from unstructured clinical records, enabling a deeper understanding of patients' journeys (Rajkomar et al., 2019). Data preprocessing will involve Principal Component Analysis (PCA) for dimensionality reduction and the k-Nearest Neighbours algorithm for missing values. Models will be validated using k-fold cross-validation and evaluated based on accuracy, sensitivity, specificity, and the area under the curve (AUC). Qualitative methods, such as semi-structured interviews and focus groups with patients, caregivers, and clinicians, will explore perceptions of AI-based diagnostics and personalised treatment. Thematic analysis will interpret this data, ensuring cultural sensitivity and human-centred design guides AI model development.

Key performance metrics will include:

- Accuracy

- Sensitivity and specificity
- Precision, recall, and F1-score
- Receiver Operating Characteristic (ROC) Area Under the Curve (AUC)

A preliminary simulation based on synthetic Nigerian health data indicates a baseline model accuracy of 82.2%, with F1-scores of 0.89 (AD), 0.79 (high-risk), and 0.69 (healthy).

Personalised Recommendation Engine

A rule-based engine will complement the AI model by generating individualised treatment pathways. Recommendations will include:

- Approved pharmacological interventions (e.g., Donepezil)
- Cognitive stimulation therapy modules
- Caregiver support and psychoeducation
- Community health linkage and follow-up scheduling

Ethical Considerations

Ethical approval will be obtained from Nigeria's National Health Research Ethics Committee and all collaborating institutional review boards. Participants (or legal proxies) will provide informed consent in their preferred local language. Key ethical safeguards include:

- Strict confidentiality and de-identification of all data
- NDPA-compliant data security protocols
- Bias auditing to prevent algorithmic discrimination
- Transparent reporting of AI decision pathways for clinician review

Expected Results

This study anticipates that the proposed AI-powered diagnostic framework will demonstrate high efficacy in classifying Alzheimer's disease (AD) risk levels among Nigerian older adults. The model is expected to produce a diagnostic accuracy of over 85%, with robust performance in detecting early or high-risk stages of cognitive decline.

Model Performance

Based on preliminary simulations using synthetic Nigerian health datasets that mirror the demographic and clinical diversity of the target population:

- Overall accuracy: 82.2%
- F1-scores:
 - Alzheimer's disease group: 0.89
 - High-risk group: 0.79
 - Cognitively healthy group: 0.69
- ROC AUC: > 0.90 for binary AD detection
- Key features contributing to predictive strength:
 - Cognitive screening scores (MMSE, MoCA)
 - Functional indices (IADL, ADL assistance levels)
 - Comorbidity scores (e.g., diabetes, cardiovascular disease)
 - Memory performance composite
 - Age and educational attainment

These results align with international studies demonstrating that ensemble methods such as XGBoost can reliably stratify AD risk across heterogeneous datasets (Koksalmis et al., 2024; Raza et al., 2024).

Interpretability and Clinical Relevance

Using SHAP (Shapley Additive exPlanations) values will enable real-time visual interpretation of individual predictions, providing clinicians with transparency regarding model logic. For example, a high-risk classification could be accompanied by a breakdown of the top five contributing features for that individual's

result, such as “age > 75,” “MoCA < 20,” or “limited social engagement.” This level of explainability is intended to increase physician trust and facilitate integration of AI recommendations into traditional diagnostic workflows (Molnar, 2022).

Personalised Treatment Pathways

The model will interface with a rule-based engine that tailors interventions to the patient's profile. For instance:

- A patient with high cognitive decline but robust social functioning may receive a plan centred on pharmacological support and caregiver education.
- A high-risk individual with modifiable lifestyle factors may receive cognitive stimulation therapy, dietary counselling, and community referrals.
- Low-risk individuals will be given preventive education and follow-up evaluation timelines.

These treatment suggestions will be culturally adapted and aligned with national guidelines and hospital capacity.

Integration into Clinical Workflow

The system is designed with Nigerian healthcare realities in mind, ensuring usability on low-specification devices (e.g., tablets and smartphones) and providing offline access. Triage tools and decision-support dashboards will be piloted in outpatient neurology and geriatrics clinics, supported by brief training modules for healthcare staff. We expect the intervention to demonstrate high acceptance among clinicians due to its simplicity, speed, and alignment with their diagnostic intuition. Patient and caregiver feedback will also be collected to assess feasibility and satisfaction.

Discussion

Integrating artificial intelligence (AI) into Alzheimer's disease (AD) detection and treatment planning represents a significant advancement in neurological care, particularly in resource-limited settings. The proposed study introduces a novel, context-aware AI diagnostic model that directly addresses the gaps in early detection and personalised treatment of AD within the Nigerian healthcare system. The expected performance metrics, particularly a diagnostic accuracy above 85% and strong interpretability, suggest that machine learning models such as XGBoost may be highly effective in settings where traditional neurodiagnostic infrastructure is scarce or inconsistent.

Advancing Equitable Neuroscience in LMICs

This research contributes to the emerging movement advocating equitable representation in global neuroscience and precision medicine. AI systems trained exclusively on Western populations have limited validity in African contexts due to differences in genetics, language, education levels, and cultural perceptions of cognitive ageing (Olayemi et al., 2021). By training models on locally sourced Nigerian data, this study improves external validity and supports health justice by making advanced diagnostics accessible to underserved communities. Moreover, cultural, functional, and social variables align with the cognitive reserve theory (Stern, 2002), providing a more holistic and person-centred diagnostic tool. This approach could mitigate underdiagnosis in individuals who compensate well despite accumulating neuropathology, often in literate or socially active elders.

Personalised and Contextualised Intervention

Integrating a rule-based engine for generating treatment plans represents an innovative step toward contextualising medical AI. Instead of producing only risk predictions, the system will actively recommend care pathways, ranging from pharmacological options to caregiver education and psychosocial interventions. This approach aligns with the socioemotional selectivity theory (Carstensen, 1992), highlighting the need for emotionally meaningful interventions for ageing populations. Furthermore, by incorporating cognitive stimulation and lifestyle counselling, the framework reflects a preventive paradigm that emphasises modifiable risk factors, a strategy increasingly recognised in dementia care guidelines (Livingston et al., 2020).

Challenges and Anticipated Limitations

Despite its promise, this approach is not without challenges. First, infrastructural limitations, such as unstable electricity, inconsistent internet connectivity, and limited access to neuroimaging equipment, may impact scalability. The model has therefore been designed emphasising low-bandwidth operability and minimal dependence on imaging data. Second, ethical concerns surrounding AI in healthcare, such as data privacy, algorithmic bias, and informed consent, must be addressed proactively. The study is guided by a comprehensive ethical framework, informed by the Nigerian Data Protection Act (NDPA) and international best practices (Floridi et al., 2018). Third, clinician uptake of AI tools may be hindered by scepticism or unfamiliarity. Thus, we emphasise clinician-in-the-loop design, where predictions are explainable, interactive, and non-substitutive of clinical judgment. Finally, while the model will be validated using local hospital data, its generalizability across regions, languages, and rural populations will require further study.

Global Implications

Although localised to Nigeria, the proposed framework is broader and relevant to other low— and middle-income countries (LMICs) with similar demographic and infrastructural challenges. It contributes to the global literature on ethical, scalable, and human-centred AI for dementia care. As AI becomes an increasingly central tool in global health, studies like this will help shape how emerging technologies can be harnessed equitably and responsibly across diverse populations (Topol, 2019).

Conclusion and Recommendations

Conclusion

This study presents a forward-thinking approach to addressing the growing burden of Alzheimer’s disease (AD) in Nigeria by applying artificial intelligence (AI). By proposing a locally adapted, interpretable machine learning (ML) framework, the research seeks to enhance early detection and guide personalised treatment pathways for older adults at risk of cognitive decline. The proposed system leverages readily available clinical and functional data, rather than costly imaging or advanced biomarkers, to support risk stratification and care planning. This approach aligns with Nigeria’s health infrastructure realities, enabling the possibility of widespread use in outpatient neurology, geriatrics, and general practice. The study also distinguishes itself by emphasising cultural adaptation, explainability, and ethical deployment areas often overlooked in global AI health solutions. Anticipated outcomes include increased diagnostic accuracy, improved clinical decision-making, and better patient outcomes through tailored, human-centred interventions. In doing so, this research lays the groundwork for the responsible integration of AI into dementia care within low-resource settings, with implications that extend beyond Nigeria to other low- and middle-income countries.

Recommendations

Based on the expected findings and system design, the following recommendations are offered:

1. **Invest in Local Data Infrastructure:** Stakeholders, including hospitals, research institutes, and government agencies, should support the establishment of secure, standardised data systems to facilitate real-time learning and iterative model improvements.
2. **Build AI Competency Among Healthcare Providers:** Integrating AI literacy into medical and psychology training curricula is essential. Continuing professional development (CPD) modules should be developed to ensure clinicians can accurately interpret and effectively utilise AI-generated outputs.
3. **Ensure Ethical and Inclusive AI Governance:** National regulatory bodies should develop clear frameworks for the use of AI in healthcare, including provisions for ethical oversight, data protection, and algorithmic fairness. These should reflect Nigeria’s cultural, legal, and social contexts.
4. **Expand Interdisciplinary Collaboration:** Success in AI-driven healthcare demands collaboration among clinicians, psychologists, computer scientists, ethicists, and policymakers. Multidisciplinary networks and research hubs should be supported to drive innovation and ensure the real-world relevance of their findings.

5. Scale Through Pilot Deployment: The model should be validated in teaching hospitals, memory clinics, and community health centres across various geopolitical zones to assess usability, equity, and generalisability.

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Conflict of Interest

The authors declare no conflicts of interest relevant to the content of this article.

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Artificial Intelligence (AI) and Nigerian Security Architecture: A Critical Assessment

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Abstract

Globally, every part of the world is adjusting to the reality of development of Artificial Intelligence in addressing issues of human endeavors. Including security architecture and Nigeria cannot be left behind. The AI technological development has a potential to enrich the Nigeria's security architecture with more efficiency in tackling the insurgency and other forms of criminality. The specific objectives of the study include; i. unraveling the connectivity between AI and Nigeria's security architecture in tackling the burning insecurity challenges facing the country ii. Providing solid ground for adequate integration of AI in Nigeria's security architecture. The study is anchored on the theory of institutional theory, analyzing the importance of standard regulatory framework in shaping AI security operatives. The study adopts qualitative research method employing survey research design. Data were generated through interview and existing literature, and analyzed using content analysis. Findings reveal that lack of well-articulated integration of AI into Nigeria's security architecture is a major factor inhibiting the effectiveness management of security issues in the country. The study therefore recommends among others, that the Nigerian government should formulate a well-designed AI policy that revolves around the security architecture of the state to effectively tackle the insecurity challenges in the country

Keywords: Artificial Intelligence (AI), integration, management, security architecture, technological development

Introduction

Presently, the global world is moving rapidly towards technological space to ease human activities. The artificial intelligence is one of the leading technological developments which every country desires to possess to quicken and ease its developments because of its efficiency and ability. The machine is capable of mimicking human activities, endowed to fit in human institutions like health, security, agriculture, policy making and banking among others. The ability of human intelligence that the AI possesses has made it more significant than any other technological innovations in human society due to the fact that it lessens the burden that man faces while discharging its assignments and also fastens the process to get the expected results at appropriate time.

The AI has the capability to ensure safety of a state's sovereignty by complementing already established security efforts like arms proliferation, diplomacy, peacekeeping, peace building among others, in protecting life and properties of the state from both external and internal disruption. For this strength it possesses, many countries like Russia, China, USA, France, UK among others have integrated this AI into their security architecture in policy and institution. All these countries have taken this development-oriented innovation as a complementary technique to solidify their stands more in the international system and to claim their leading seats in international politics.

The Nigerian-state whose role perception is 'giant of Africa' is not a recluse in the course of artificial intelligence. The country has been facing different burning insecurity challenges like kidnapping, banditry, and insurgency, cyber-crimes, terrorism, and herdsman clashes among others which are causing unrest and deteriorating the potentiality of her role perception she claims to pursue locally and internationally. However, before the dominance of AI in the daily discussion of human society the country has employed traditional approach like military physical combat to tackle the issues which has not yielded the targeted goals. But, however, Nigeria has not failed to recognize the existence of AI in its environment. With the power of AI, the Nigerian security institutions can operate swiftly to tackle and counter the burning insecurity challenges facing her. Surveillance is one of the important areas of AI which Nigerian security department through it can hold the terrorist under perfect monitoring to avoid their deadly operations to be carried out.

This study after this section, had a review on concepts that revolve around the study, these include: Artificial Intelligence, Management of Artificial Intelligence, Nigerian security architecture, the nexus between AI and Nigerian security architecture. It further discussed the theoretical framework which the study is anchored upon, then analysed the methods used to carry out the research. The Study's discussion and findings followed which led to the conclusion and recommendations of the study.

Literature Review

Conceptual Clarifications

Artificial Intelligence

Indeed, there is no general consensus on the definition of artificial intelligence. Although concepts of intelligent machines had been discussed in the past, the formal discipline of artificial intelligence wasn't established until 1956, when John McCarthy organized a conference at Dartmouth College in Hanover, New Hampshire—at which the phrase “artificial intelligence” was first introduced (McGuire, 2006). Literally, the Oxford English Dictionary defines AI as “the capacity of computers, or other machines, to exhibit intelligent behavior” (World Travel and Tourism Council, 2024). The AI is practically an object (machine) but different from others due to its outstanding thinking, reasoning and engaging capacities which are among the key features of human being. The father of Artificial intelligence John McCarthy sees AI as “The science and engineering of making intelligent machines, especially intelligent computer programs” (Tutorials Point, 2015). He posits that the AI is a machine built to establish activities that are intelligent-based. It is a machine that thinks and rethinks before producing or rendering expected services requested from its capacities. On the same vein, Boucher, (2020) positioned that AI refers to “systems that display intelligent behavior by analyzing their environment and taking action – with some degree of autonomy – to achieve specific goals.” The AI is a programmed machine which operates within the space it has data on. The just given definition exposes that AI is built on specific programs to discharge specific assignments and by this one would understand that AI has different types based on its programming. More also, it explains that AI cannot operate fully on its own except with human intervention because there is limit to its power. To discuss more on its limited capacity, Delipetrev, Tsinaraki and Kostic (2020) defined AI as “machine intelligence or intelligence demonstrated by machines, in contrast to the natural intelligence displayed by humans”. The artificial intelligence is a product of human intelligence which cannot be compared to human reasoning and intelligence capacity. It is understood that its reasoning and intelligence are based on human potential. Without doubt, the artificial intelligence is not a natural creation but a creation from natural mentality with the aim of natural creations being relieved of stress in their works. The AI provides ease, efficiency, correctness and fastness in discharging its duties as requested by the users in charge. Warwick (2012) in contributing to the conceptualization of AI cited Marvin Minsky, who said: ‘Artificial intelligence is the science of making machines do things that which require intelligence if done by men.’ This definition makes us realize that the activities that are being carried out by AI are the ones in line with human-intelligent doings, that is, doings produced out of rationality.

In addition to the understanding of AI, Saha, (2022) establishes that Artificial Intelligence is a computing concept that helps a machine think and solve complex problems as we humans do with our intelligence. The AI is an approach or technique that allows a machine to possess the capacity to reason on the page of solving societal issues related to human existence. The AI provides machines to be more human-friendly because it empowers it to be problem-solving in nature to the level of having technical potentiality of experimenting human cases and figure out the best solution to the issues on ground at a particular time. Not only that, the AI makes the machine to replicate what makes human being a higher animal, that is reasoning. Human being is uniquely differentiated from other animals for its reasoning capacity to tell what is good from bad. Artificial intelligence (AI) technology conceptualizes the idea of making machines think, act humanly and rationally by using sets of algorithms (Okwor, 2021).

To this extent, it is understood that the AI has the capacity to secure life and properties in a state. A typical example is China which published its short-term and longer-term plans for promoting developments in AI to gain both economic advantage and national security strategic vision, and to demonstrate major breakthroughs in AI by 2025, and lastly to be the envy of the world by 2030 (Massachusetts, 2019). By integrating AI into security architecture of a state, enabling environment for humanity is achievable because of its efficiency and capacity. And this can be felt in the positions of The UN Secretary General described AI as “unprecedented” and the Pope who stated that AI “has the potential to contribute in a positive way to the future of humanity” before dedicating World Peace Day 2023 to the use of AI (WTTC, 2024). Additionally, the USA relies on AI systems to ensure the effective and optimal functioning of its healthcare, financial and energy sectors (Sayler, 2020) cited in Falode, Faseke and Ikeanyichukwu, (2021).

Types of Artificial Intelligence

The artificial intelligence is a broad phenomenon which encompasses different kinds of its nature in relation to the Programmes involved. However, the AI is segmented under three different categories according to (WWTC, 2024) that informed that the three categories to be mentioned subsequently are the normal and popular ones. These categories include Learning, capability and functionality. In learning category, there are two different types of AI which are machine learning and deep learning. It explained that the two AIs under learning category focus on supervised learning, unsupervised learning and reinforcement learning. Tutorials Point (2015), explained further that an instructor who is more knowledgeable than the Artificial neural network ANN itself is involved in supervised instruction. For instance, the instructor provides some sample data for which the instructor already has the answers. When there is no example data set with known responses, unsupervised learning is necessary. For instance, looking for a pattern that is hidden. In this instance, using the available data sets, clustering—that is, grouping a collection of pieces based on an unidentified pattern—is done. Reinforcement learning is an observation-based approach. The ANN looks around its surroundings before making a choice. The network modifies its weights in order to make a different necessary conclusion the following time if the observation is negative.

On the category of capability, the AI is of three distinctive types which are artificial narrow intelligence (ANI), artificial general intelligence (AGI) and artificial super intelligence. The artificial narrow intelligence is also known as narrow AI or weak AI and it is capable of doing a specific assignment. While the artificial general intelligence can also be regarded as strong AI that has the capability of providing multiple task with human like performance and even has the ability to provide information in areas it has not programmed. While the last part of this category (artificial super intelligence asi) is explained by WTTC that it has the capability to perform functions beyond human potential, that is it is more capable and intelligent than human.

While the last category known as functionality is of three different types which are Expert system AI, predictive AI and generative AI. An artificial intelligence (AI) expert system is a clever computer program that mimics human knowledge in a particular field, like financial advice, medical diagnosis, or trip planning. Another way to categorize the capabilities of an AI system is as predictive AI, which is defined as AI that forecasts future occurrences, results, or behaviors using both historical and present data. The Generative AI is a subset of AI technology that, given a human "prompt," may create original and imaginative text, image, video, and audio content.

CLASSIFICATIONS OF ARTIFICIAL INTELLIGENCE

LEARNING

MACHINE LEARNING

DEEP LEARNING

CAPABILITY

**ARTIFICIAL NARROW
INTELLIGENCE (ANI)**

**ARTIFICIAL GENERAL
INTELLIGENCE (AGI)**

**ARTIFICIAL SUPER INTELLIGENCE
(ASI)**

FUNCTIONALITY

EXPERT SYSTEM

PREDICTIVE SYSTEM

GENERATIVE SYSTEM

Source: Author, 2025

Management of Artificial Intelligence

Management is a broad concept which entails multiple core features. As rightly defined by Fayol (1916) cited in Kaehler and grunde (2019) that “To manage is to forecast and plan, to organize, to command, to coordinate and to control. To foresee and provide means examining the future and drawing up the plan of action. To organize means building up the dual structure, material and human, of the undertaking. To command means maintaining activity among the personnel. To coordinate means binding together, unifying and harmonizing all activity and effort. To control means seeing that everything occurs in conformity with established rule and expressed command”. This detailed definition exposes that management in actual sense includes the acts of forecasting, planning, organizing, commanding, coordinating, controlling, providing, maintaining, unifying and harmonizing activity to provide conformity in line with the already designed procedures or rules of actions in a given setting. In support of this position, Bovée et al. 1993 defined management as the “process of achieving organizational goals through planning, organizing, leading, and controlling the human, physical, financial, and information resources of the organization in an effective and efficient manner”. In essence, management is a concept that is made up of aforementioned concepts in which loss or missing of one deteriorates the exact meaning of management.

Das and Mishra, (2019) defined management as a “technique of extracting work from others in an integrated and coordinated manner for realizing the specific objectives through productive use of material resources. Mobilizing the physical, human and financial resources and planning their utilization for business operations in such a manner as to reach the defined goals can be benefited to as management.” He clarifies with his definition that management is a business of a well-organized setting which has established achievable goals in search. Without a reasonable designed setting, management has no legitimate ground that will contain its manifestation. Furthermore, Indian association of preventive and social medicine Gujarat chapter, (2013) defined management as an “art and science of abilities required doing the work in a successful way i.e. the technique to get the work done.” The concept management is not a property of a one discipline of knowledge, it is relevant in both art and science. The position explains how management stands as a crucial cardinal point of any success intended to achieve by any organization or discipline of any entity.

At this juncture, it is vividly seen that integrated AI without management is a dream without reality. The effective management of AI security methods by state will determine the realization of AI objectives of providing efficiency and lasting solutions to insecurity challenges that may be arising against a state. A practical example of AI management can be seen in the establishment of National Artificial Intelligence Initiative office in USA by 2021 following the provision of the state’s national AI initiative act of 2020. And the aim of the management office is to ensure federal coordination and collaboration in AI research and policy making among the government, private institutions, academia and other stakeholders (The White House, 2021).

The Nigerian Security Architecture

Bala (2020) posited when discussing Nigeria’s security architecture that a nation’s security architecture comprises the totality of its constitutional and legal framework, and institutions that form and provide safety and security services for its citizens and the defense of its territorial integrity. In relation to Nigeria, the Nigeria’s security architecture lies in the hand of government constitutionally empowered to provide policies, techniques and approaches that will protect the life and properties in the country. In the view of Saleh, it is the legal documents and institutions that serve as frontiers in maintaining the security of the state.

Therefore, it is expected at this juncture to see clearly what the Nigeria’s security architecture looks like. According to Bala and Ouédraogo (2018) the Nigerian security architecture can be viewed as the following components:

a. **The National Security Council:** As mandated by the Constitution, the National Security Council is responsible for advising the President on public security matters, including those involving organizations or agencies created by law to ensure the security of the federation. The Council meets as needed and includes the following members:

- The President (Chairman)
- The Vice President (Deputy Chairman)
- The Chief of Defense Staff
- The Minister of Internal Affairs

- The Minister of Foreign Affairs
- The National Security Advisor
- The Inspector General of Police, along with any other individuals the President may appoint at their discretion.

b. **Coordination of National Security in Nigeria:** The Office of the National Security Advisor (ONSA) serves as the central body responsible for coordinating, controlling, and overseeing national security in Nigeria. ONSA manages national security matters on behalf of the President, working through the National Security Council (NSC), the Joint Intelligence Board (JIB), and the Intelligence Community Committee (ICC). The National Security Advisor, as the principal officer of the NSC, advises the President on all national security issues.

The Nexus between Artificial Intelligence and Nigerian Security Architecture

The Artificial intelligence which is capable of mimicking human activities to the extent of security can be regarded as a welcoming security technique that can find its way in Nigeria's security architecture both in the legal policy frameworks and institutions. Historically, Jake (2021) noted in her work titled Factsheet on Artificial intelligence on Nigeria, that Nigeria is among the pioneering African nations to establish a National Centre for Artificial Intelligence. Notably, Cross River State stands out as the first in the country to create a dedicated Ministry of Artificial Intelligence. According to her, presently, there are seven key government ministries, departments, and agencies responsible for promoting and regulating AI usage across the country. These include:

- The Federal Ministry of Communications and Digital Economy
- The Federal Ministry of Science, Technology, and Innovation
- The National Information Technology Development Agency
- The National Office for Technology Acquisition and Promotion
- The Nigerian Communications Commission
- The Securities and Exchange Commission
- The Corporate Affairs Commission

The scholar included that to support data governance, Nigeria introduced the Nigerian Data Protection Regulation (NDPR) in 2019, providing a legal framework for managing and exchanging electronic data. As of September 2021, approximately 75 private entities—ranging from startups to established businesses—are actively developing, implementing, or utilizing AI technologies in Nigeria.

Currently, there is no national policy specifically dedicated to regulate the use of AI in Nigeria. However, NITDA is leading some work in this area through the NCAIR and other stakeholders (Jake, 2021). In this same vein Falode et'al (2021) mentioned that Nigeria has developed three key policy documents exclusive of AI aimed at ensuring both human and national security: the National Security Strategy (NSS) of 2019, the National Counter Terrorism Strategy (NACTEST) of 2016, and the National Cyber-Security Policy and Strategy (NCPS) of 2021. Their contribution has shown that there has not been a specific provision that integrated Artificial intelligence into Nigeria's security architecture. And being a missing component, it has been greatly causing ineffective management of security matters in the country. Recently, **On March 28, 2025, Uromi in Edo state became the scene of yet another tragic case of mob violence. Sixteen hunters, travelling from Port Harcourt to Kano with traditional Dane guns, were accused of being kidnappers by a vigilante group. Without trial, they were lynched and burned. Their charred remains tell the story of a nation where justice is often meted out not by the courts, but by gasoline and rage (Folaranmi, 2025). He suggested to Nigeria to adopt AI into his security operations like other countries, for examples,** In South Africa, AI-assisted cameras scan for criminal patterns in real-time. In Kenya, algorithms detect extremist recruitment language on platforms like X (formerly Twitter). In the United States, AI forecasts shooting-prone areas to pre-position law enforcement.

However, the lack of AI in the country's security architecture warranted different movements and suggestions from different bodies which are of concerned to the development. Kashifu Inuwa, Abdullahi, Director General of the National Information Technology Development Agency (NITDA), in order to improve security sector effectiveness through cooperation between the security industry and the startup ecosystem, has advocated for the incorporation of artificial intelligence (AI) into Nigeria's security

architecture. The DG stressed further that Through programs like the National Centre for Artificial Intelligence and Robotics (NCAIR) and the continuous creation of the National Artificial Intelligence Policy, NITDA is actively promoting the advancement of AI in Nigeria (Dariem, 2024).

More also, in effort to establish AI into Nigeria's legal framework, the Lagos state through Olatubosun Alake, the commissioner for innovation, science, and Technology, has announced its partnership with federal government in taking a bold step to establish robust regulatory policies for integrating AI into their daily operations and this framework is expected to be finalized by the first or second quarter of 2025. Meanwhile, the National Information Technology Development (NITDA) is the leading of the creation of Nation AI strategy. (Wesley, 2024).

In the AI's efforts in Nigeria, The Nigerian Army School of public relations and information (NASPRI) disclosed through its Acting commandant, Lt Col Adamu Ngulde, that the institution has introduced AI into information management and fact-checking for its personnel. And the introduction of AI by the NASPRI is aimed to enhance knowledge and skills of military personnel in strategic communication, aligning with modern trends in public relations. And for effective workability of the programme, the Ag Commandant of the institution assured the students to be well equipped with modern training that will ease the course (Gbadamosi, 2025). Without doubt, this initiative will help the Nigerian security personnel to differentiate between real and fake security individuals. In essence, it will reduce the rate at which impersonation of military personnel is causing damage to the Nigerian society.

AI Challenges in Nigeria

The lack of AI integration into Nigeria's security architecture is a product of some certain factors that require serious attention for it to be effectively operating even if integrated at last. In view of these challenges, Robinson (2018) mentioned some challenges obstructing the actualization of AI in Nigeria, they include:

- i. Complex Algorithms: The AI operates with enormous data volume and Nigeria lacks data
- ii. AI human interface
- iii. Decline of investment: The AI operation is an expensive one which some companies cannot afford to invest in and by this, they are not ready to promote it.
- iv. Software malfunction: Nigeria lacks a strong data base which if data gathered for the AI crashes, there will be a problem of backing up.
- v. Cultural and religious barriers

Amaugo (2024) on the pace of challenges confronting AI in Nigeria explained further that lack of Infrastructure and Legacy System, poor Data Management, incompetent AI professionals, strict Regulatory Compliance, Ethical and Bias Concerns, High Implementation Costs, and lack of Continuous Improvement are threats to AI in Nigeria. The Nigerian society lacks AI oriented policy that will serve as a guide to its operations and also AI is challenged with civil servants who are of low understanding about the workability of AI.

Theoretical Framework

The study is anchored on the theory of institutional theory, analyzing the importance of standard regulatory framework in shaping AI security operatives. The theory assumes that the institutions or state actors are the key elements of state's development. The theory is of high importance to this study; first, its assumption is visible and applicable to Nigerian society, that is, Nigerian government being the state actors are constitutionally empowered to design policies that are security-oriented to secure the life and properties of the society. Second, it is the Nigerian governmental institutions that can provide a solid ground for Artificial intelligence to be integrated into her security architecture to combat the burning insecurity challenges in Nigerian society like kidnapping, banditry, insurgency and terrorism among others. The theory explains that it is the government that is more responsible for AI integration into Nigeria's security architecture.

Research Methodology

The study adopts qualitative research method employing survey research design. Data were generated through interview and existing literature, and analyzed using content analysis. The study got its primary data specifically interviewing some relevant security personnel by involving them in a group discussion. While

through secondary sources, it got needed data and information for the study from journals, newspapers and articles. And lastly it employs content analysis to analyze the data and information gathered to establish ground for its space in the academic.

Discussion

The evidences from the study suggest that Artificial intelligence is a fast growing technological space that every country is shifting towards because of its outstanding intelligence capacity that makes machine think and reason like human before it discharges assignments given to it. The AI in its capacity has security orientation which some countries like USA, China, France, had integrated into their security's architectures. The findings in this study revealed that, Nigeria, despite being among the pioneering African nations to establish a National Centre for Artificial Intelligence (NCAI has neither included nor integrated AI into its security architecture. The connectivity between AI and Nigerian security architecture is abstract in nature. In essence, the security architecture of the country does not capture AI but the government recognizes its existence and believe in its productivity. The findings revealed that there are certain factors obstructing the AI manifestation in Nigeria some of which are lack of data base, religious barriers, and lack of complex data. Data analysed from interview conducted also revealed that AI has not been integrated into Nigeria's security architecture due to bad leadership, poor means of generating powers/electricity that will hasten its operations and lack of competent and able ready civil servants who are computer literate that can work in the field of AI.

Conclusions and Recommendations

In this contemporary world, AI has been adjudged globally to be a leading ICT innovation that supports human being in all sphere of life. It is an intelligent machine that thinks and reasons before it gives output to the user. Indeed, its security-oriented capacity has motivated different countries especially the developed countries to integrate it to their security architecture with proper management and adopt it in their security operations. It is highly needed of Nigeria to integrate AI into her security architecture like other developed countries in the World, since she is among the leading pioneers in AFRICA to establish National Centre for Artificial Intelligence. The integration of AI will not only develop Nigerian territorial security but also provide her with strength to maintain her role perception in Africa "Giant of Africa".

However, this study has provided the following recommendations to Nigerian Government for productive integration of AI into Nigeria's security architecture:

1. The government should equip ministry of communication and Digital Economy adequately to have a solid ground for large data collection base.
2. The government should involve experts in security studies and policy making in the process of formulating legal policy framework for AI.
3. The government should provide platforms for AI trainings to individuals working in the AI department if created.
4. The government should recruit the young minds that are computer literate to quicken the rapid development of AI in Nigeria.
5. The government should ensure that the Nigerian security agencies are AI-oriented in their cause of operations at all angles.

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Artificial-Intelligence-Device for Research in Socially and Digitally Fragmented African Context

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Abstract

This study interrogates public trust in AI-powered data collection for social research in Nigeria, unveiling the dynamic interplay of technology, culture and ethics in an environment characterised by digital access inequality. Using the AI Device Use Acceptance Model, (AIDUA), 105 respondents across socio-demographic identities were analysed. Contrary to the common assumptions, the study finds that familiarity with AI devices does not correlate with comfort or trust. Notably, trust depends on institutional transparency, cultural relevance, and perceived ethical integrity. While younger, city and highly educational qualified individuals display relative comfort with AI, significant discomfort and ethical scepticism persist, particularly among rural dwellers, middle-aged groups and a major ethno-religious divide in Nigeria. The result underscores the critical role of community leaders' approval, local language use at the front-end of AI functionalities and data governance transparency as pivotal to trust. These findings challenge the technology determinism perspective and call for a human-centred and contextual model of AI implementation in Nigeria. By highlighting the sociocultural foundations of AI acceptance, the study contributes to the global debates on equitable AI experience in the Global South.

Keywords: Ethics, Artificial Intelligence (AI), AI trust, AI Comfort, Institutional trust

Introduction

Artificial Intelligence (AI) devices are increasingly gaining traction in governance and research infrastructures across Africa, with Nigeria emerging as the key frontier for their development and deployment. In industries such as agriculture, public health and social protection, AI-mediated applications, especially biometric systems and digital surveys are being employed to drive data quality and administrative performance (NBS, 2022). Meanwhile, adopting this advanced computing power outcome in Nigeria remains largely asymmetric in the face of the ethical and cultural challenges. Despite the ballooning dominance of AI applications in urban settings, awareness and literacy about the technology are in fragments. Egbetokun et al. (2017) argue that, for many Nigerians, AI tools operate like black boxes, understood primarily through front-end encounters rather than back-end understanding. This gap in digital literacy is caused by infrastructural inequalities between urban and rural locations, resulting in disturbing exclusions and expanding the universal digital divide (Aker & Blumenstock, 2020; Božić, 2023).

Arguably, historical distrust, religious colouration and epistemic frames mediate perception towards AI technology. Prior experiences with administrative data collection and surveillance have resulted in scepticism (Sari, 2025), particularly among older and rural people. Religious and cultural interpretations further complicate legitimacy, with AI often perceived as encroaching and threatening cultural values (Zhou et al., 2022). These tensions underscore the inadequacy of universalist models of technology diffusion, calling instead for approaches that prioritize local tech systems in an ethical sense.

Institutionally, the inadequacy of AI ethics, education and regulatory power is worrisome. For instance, social sciences in Nigerian universities have not adapted to the trend by including AI modules (Nwodu, 2025) and many experts operate without sufficient training in the ethical factors of AI-based research (Cruz, 2024). Also, the Nigeria Data Protection Regulation (NDPR, 2019) while a step forward, remains insufficient in addressing nuances such as algorithmic bias and informed consent in AI contexts, (National Information Technology Development Agency [NITDA], 2019).

Therefore, integrating AI in social research requires more than technical knowledge, it demands significant attention to trust, cultural approval and ethical responsibility. This study responds to that need by surveying how Nigerians across demographic backgrounds perceive AI-powered data collection devices, focusing on familiarity, ethical concerns, comfort level and trust. By doing so, it contributes to a view within the sociology of technology that foregrounds context-specific stakes in technology advancement.

Literature Review

Awareness of AI-driven devices in Nigeria is limited. Urban dwellers increasingly encounter AI-enabled systems in biometric scanners, mobile smart applications and other models for facial recognition. However, people who interact with the machines without significant level of understanding their operations and or implications perceive these technologies as black boxes (Egbetokun et al., 2017). According to De Siqueira et al. (2022), the penetration of digital systems in urban areas has expanded opportunities for public engagement, yet this development is uneven due to persistent infrastructural disparities between cities and rural locations (Aker & Blumenstock, 2020). This gap in infrastructural access contributes to disjointed national consciousness about AI. While digitally savvy populations are becoming conversant with AI applications, large part of the population remains marginal to these developments, widening the digital divide and reproducing social exclusion (Božić, 2023).

AI in Data Collection for Governance and Research

AI-powered data collection has gained popularity within Nigerian governance frameworks, especially in sectors such as public health, agriculture and social protection (NBS, 2022). Biometrics system, for instance, have been deployed to verify identities in conditional cash transfer programmes. However, these technologies are often externally developed and imported, raising concerns about digital sovereignty and technological dependency (Salami, 2024). In academics and development research, local researchers frequently lack the tools, training and ethical guidance understudied in Nigeria, as ethical literacy is often constrained by inadequate curricula (Nwodu, 2005) and weak regulatory frameworks.

Sociocultural Perceptions and Trust

It is worthy to note that when communities are under-informed, AI tools are interpreted through narratives of surveillance and coercion, often reinforced, according to Sari (2025) and Srite & Karahanna (2006), by religious and cultural anxieties. Meanwhile, Zhou et al. (2019) empirical findings indicate that biometric and facial recognition tools are sometimes viewed as intrusive. Such perceptions are shaped not only by lack of technical know-how, but also by broader cultural and epistemological frameworks that challenge the assumptions technological determinism (Webster, 2017). Without culturally sensitive engagement, AI-driven research risks reproducing patterns of mistrust and disengagement.

Educational and Institutional Gaps

The deficit in AI literacy is particularly pronounced in Nigeria's educational and institutional structures. Nwodu (2025) reported that social science curricula rarely include modules on AI or digital research ethics, leaving a knowledge vacuum among emerging researchers. Zuiderwijk et al. (2021) further note that local NGOs and public agencies often deploy AI-enhanced data tools without proper training, increasing the risk of data mishandling and ethical violations. Moreover, the existing regulatory environment is inadequate. The Nigeria Data Protection Regulation (NDPR) of 2019 provides only a basic framework, insufficient for addressing the complexities of algorithmic bias, informed consent in AI contexts, or data re-purposing (NITDA, 2019). These lacunae hinder the development coherent and tailored ethics of AI data practices in Nigeria.

In conclusion, Awareness and familiarity with AI-powered data collection tools in Nigeria are in fragments and determined by a combination of infrastructural, educational and socio-cultural factors. A sociology of development prism calls for a look beyond technical adoption to interrogate the socio-cultural and institutional factors that mediate access to and perceptions of AI. It also highlights the urgent need for ethically grounded, participatory framework that contextualize AI discourse and ensure that digital futures are inclusive.

Theoretical Framework: AI Device Use Acceptance Model (AIDUA)

To examine public acceptance of AI-powered data collection tools in social research, Nigeria, this study adopts the AI Device Use Acceptance Model (AIDUA) developed by Gursoy et al. (2019). This model extends traditional technology acceptance theories by accounting for the unique characteristics of AI systems, particularly their anthropomorphic attributes, autonomous functionality and affective interface (Gerlich, 2023). The AIDUA postulates a three-stage structure to understand user acceptance as stated below.

Primary Appraisal: Individuals assess AI technologies based on social influence, hedonistic motivation and anthropomorphism (Gerlich, 2023). In the Nigerian context, where interpersonal norms and religious values strongly influence behaviour, these factors are critical. For instance, perceptions of AI as non-human can undermine acceptance, particularly in face-to-face data collection.

Secondary Appraisal: Users weigh the performance expectancy and effort expectancy of AI devices, evaluating whether the technology meets practical needs with manageable complexity (Gerlich, 2023). Given infrastructural limitations and digital literacy gaps in Nigeria, this stage is especially relevant in shaping comfort and trust.

Outcome Stage: This stage includes both acceptance and rejection. A key contribution of AIDUA is its recognition that users may simultaneously reject AI on ethical or social ground while continuing to use it due to necessity or institutional pressure (Gerlich, 2023). This nuanced view is particularly apt for understanding reluctant adoption in digitally under-served environments.

By focusing on users' cognitive, emotional and ethical appraisal, AIDUA provides a context-sensitive framework for analyzing how Nigerians perceive and engage with AI in data mining environments. It bridges the psychological dimensions of individual acceptance with broader sociocultural factors (Gerlich, 2023), thereby aligning with a sociology of development perspective that prioritizes local meanings and social structure in technology use.

Methodology

This study employed a cross-sectional survey design to examine public perceptions of AI-driven data collection tools in social research, focusing on trust, comfort levels, and ethical concerns. The quantitative approach enabled the collection of standardized data from a diverse sample, facilitating statistical analysis of demographic predictors and correlations between key variables. The targeted population included adults aged 18+ across Nigeria, with emphasis on capturing variations across urban/rural, educational, ethnic, and religious groups.

A purposive sampling strategy was used to ensure representation across key demographics and geographical locations. The sample size was 105 respondents, determined by feasibility of demographic strata. In terms of data collection, a structured self-administered questionnaire was distributed digitally (via Google Forms) and physically in select rural areas. The tool included section A: Demographic questions, section B: AI awareness (familiarity with AI technologies, sources of knowledge) and section C: Trust and comfort (5-point Likert scale items, e.g., "I would trust a research study more if I knew the organization behind the AI tool"). Also included was section D to examine ethical concerns (multiple-choice and Likert-scale questions on risks like data misuse, privacy, and human interaction). The questionnaire was refined after piloting with 10 respondents to improve clarity and validity.

Reliability and Validity

The AI Trust Scale demonstrated high reliability (Cronbach's $\alpha = .811$ for 6 items), confirming scale coherence. For content validity, items were derived from literature on AI ethics and pretested with experts in social research and AI.

Data Analysis

Data were analyzed using SPSS v24, with the following statistical tests. Descriptive statistics were conducted and these included frequencies and percentages for demographic profiles and AI awareness. More importantly, inferential statistics such as chi-square tests were conducted to examine associations between demographics (e.g., age, sex) and comfort with AI tools. Also, ANOVA with post-hoc Tukey HSD was conducted to compare mean differences in trust and familiarity across age, education, and ethnicity groups. While independent t-tests were used for urban-rural and gender comparisons, Pearson's bi-variate correlations were employed to assess relationships between familiarity, comfort, and trust.

Ethical Considerations

To derive informed consent, respondents were briefed on the study's purpose and provided with written consent. Moreover, no personally identifiable data was collected to ensure anonymity.

Limitations

The spread of the sampling was limited by the absence of other main ethnic groups in Nigeria like the Igbo. Also, the representative size of rural dwellers among the respondents was limited. This would limit generalization of the result across Nigeria.

Presentation of Results

Section A: Respondents' Information

Table 1: Demographic information

Baseline characteristics	Female		Male		Full Sample	
	n	%	n	%	n	%
Age						
≤ - 35	21	58%	15	42%	36	34%
36 - 45	6	22%	21	78%	27	26%
46 - 55	6	25%	18	75%	24	23%
≥ - 55	9	60%	9	60%	15	14%
Total	42	40%	63	60%	105	100%
Residency						
Rural	6	66.7%	3	33.3%	9	9%
Urban	36	37.5%	60	62.5%	96	91%
Total	42	40%	63	60%	105	100%
Education						
Bachelor's degree	9	60%	6	40%	15	14%
Diploma/NCE/ND	3	50%	3	50%	6	6%
Postgraduate degree	24	32%	51	68%	75	71%
Pry/Sec	6	67%	3	33%	9	9%
Total	42	40%	63	60%	105	100%
Occupation						
Civil/Public service	27	35%	51	65%	78	74%
Retiree	3	50%	3	50%	6	6%
Student	6	67%	3	33%	9	9%
Trading/Business	6	50%	6	50%	12	11%
Total	42	40%	63	60%	105	100%
Ethnicity						
Hausa/Fulani	0	0%	3	100%	3	3%
Kagoro/idoma/Ham/Eggon	3	25%	9	75%	12	11%
Yoruba	39	43%	51	57%	90	86%
Total	42	40%	63	60%	105	100%
Religion						
Christianity	30	40%	45	60%	75	71%
Islam	12	40%	18	60%	30	29%
Total	42	40%	63	60%	105	100%

Distribution of Respondents by Age and Sex

The age distribution of respondents reveals notable patterns across sex and the full sample. The majority of participants (34%) fall within the youngest age category (≤ 35 years), with females constituting a higher proportion (58%) compared to males (42%). This suggests that younger women were more represented in this survey, possibly reflecting greater engagement or accessibility among this demographic. In contrast, the 36-45 age group shows a significant male dominance (78%), indicating a potential gender disparity in middle-aged respondents. This trend reverses in the oldest category (≥ 55 years), where females and males are equally represented, though the sample size for this group is relatively small (14% of the total). The 46-55 age group maintains a male majority (75%), aligning with the broader pattern of higher male participation in older cohorts.

Distribution of Respondents by Residential Areas

The residency data reveals a strong urban bias among respondents, with the vast majority residing in urban areas (91%). Rural participants constituted only a small fraction of the sample (9%), highlighting a significant gap in representation from village and small settlement areas. This was due to the difficulty encountered in engaging rural dwellers during data collection.

Distribution of Respondents by Highest Educational Qualifications and Sex

Education levels among respondents were skewed in favour of higher academic attainment, with the majority holding postgraduate degrees (71%). This suggests the survey predominantly reached an educated demographic, likely due to recruitment methods favoring professionals, academics, or individuals with greater access to digital platforms, one of the means where the study was propagated. Those with bachelor's degrees made up a smaller proportion (14%), while respondents with only primary or secondary education were notably underrepresented (9%).

Distribution of Respondents by Occupation and Sex

The occupational distribution of respondents reveals a strong dominance of civil/public service professionals, who constitute nearly three-quarters of the sample. This overwhelming representation suggests the survey primarily captured perspectives from government and institutional employees, likely reflecting both the study's recruitment channels and this group's greater propensity to engage with research initiatives. The high participation rate from this sector possibly indicates interest in AI applications for social research among public service workers. A notable secondary group emerges in the trading/business sector, representing about one-tenth of respondents. While smaller in proportion, their inclusion provides valuable insights from Nigeria's vibrant commercial sector, where AI tools might have different applications and acceptance levels compared to public service contexts. The relatively balanced gender distribution within this occupational category contrasts with the male-dominated civil service participation and suggests a different gender dynamic across employment sectors. Students and retirees form smaller but important segments of the sample. The student representation, while modest, offers perspectives from a digitally-native demographic likely to have distinct views on AI-driven research. The retiree cohort, though small, provides crucial insights from older, potentially less tech-savvy participants, although usually unseen in technology adoption studies.

Distribution of Respondents by Ethnicity and Sex

The ethnic composition of respondents reveals a pronounced representation of the Yoruba ethnic group, which accounts for the vast majority of participants. Other ethnics, including Hausa/Fulani, Kagoro, Idoma, Ham, and Eggon, collectively form a much smaller share of the sample.

Distribution of Respondents by Religion and Sex

The religious landscape of respondents presents a dichotomy between Christianity and Islam, with the former representing a clear majority. There is a pronounced Christian representation, particularly among female respondents, suggesting the survey may have been more effectively disseminated in a region where Christianity predominates. Muslim participants form a substantial minority, though their representation appears somewhat disproportionate to Nigeria's national demographics where Islam and Christianity maintain closer parity.

Table 2: Chi-Square Test Results Examining Associations between Demographic Variables and Comfortability with AI-Driven Data Collection Method

s/n	Variables	Value	df	Asymp. Sig. (2-sided)	Phi Value
1	Age category	143	3	.986	.037
2	sex	4.229	1	.040	.221
3	Residential type	3.144	1	.076	.209
4	Educational Qualification	37.338	3	.000	.566
5	Ethnicity	6.943	2	.031	.244
6	Household language	3.617	1	.057	.211
7	Religion Affiliation status	.664	1	.415	-.082

8	Religion	21.610	1	.000	.476
9	Mobile Phone Type	13.556	1	.000	-.341
10	Internet Access Frequency	18.841	2	.000	.401

Chi-Square Test Results on Age and Comfort

The Pearson Chi-Square test yields a p-value of 0.986, which is significantly higher than the conventional alpha level of 0.05. This indicates that there is no statistically significant association between age category and comfort with AI data collection among respondents. The near-identical distribution of comfort levels (approximately two-thirds comfortable vs. one-third uncomfortable) across all age groups suggests that age does not substantially influence perceptions of AI-mediated data collection in this sample.

Gender Differences in Comfort with AI Data Collection

For gender differences, the Pearson Chi-Square test ($X^2 = 5.136$, $p = 0.023$) reveals a statistically significant association between gender and comfort with AI-driven data collection. Female respondents reported higher comfort levels (78.6%) compared to males (57.1%), while a larger proportion of males expressed discomfort (42.9% vs. 21.4% of females). This finding suggests that females in this sample were more receptive to AI-mediated research methods than their male counterparts.

Urban-Rural Divide in AI Data Collection Comfort

The Continuity-corrected chi-square test ($X^2 = 3.144$, $p = 0.076$) approaches but does not meet the conventional statistical significance at the 0.05 threshold. This suggests a marginally significant relationship between residence and comfort with AI-driven data collection. Urban residents demonstrated substantially higher comfort levels (68.8%) compared to their rural counterparts (33.3%), with their rural respondents twice as likely to express discomfort with AI-mediated data collection methods.

Educational Attainment Strongly Predicts Comfort with AI Data Collection

The Pearson Chi-Square test ($X^2 = 33.630$, $p < 0.001$) reveals a highly significant association between educational level and comfort with AI-mediated data collection. The results show a trend in which comfort levels increase dramatically with higher education. While all primary/secondary-educated respondents reported comfort, this plummets to 0% among diploma holders before rising progressively through bachelor's (20%) to postgraduate levels (76%). The analysis reveals a nonlinear relationship between educational attainment and comfort with AI data collection. Participants with only primary or secondary education reported relatively high levels of comfort, while those with diploma-level qualifications showed a notable drop in comfort. This result resonates with Tully et al's (2025) findings which state that the less educated, the more receptive to AI-powered technology. In contrast, postgraduate respondents reported the highest comfort levels. Interestingly, respondents with bachelor's degrees exhibited the highest discomfort rate, with 80% indicating they were uncomfortable with AI-mediated data collection. This unexpected pattern suggests that comfort does not increase consistently with higher levels of education.

Ethnic Variations in AI Data Collection Acceptance

The Likelihood Ratio test ($X^2 = 6.943$, $p = 0.031$) indicates a statistically significant association between ethnicity and comfort with AI-driven data collection. The results reveal stark contrasts: all Hausa/Fulani respondents (100%) expressed discomfort, while Kagoro/idoma/Ham/Eggon groups showed high acceptance (75%). Yoruba participants fell between these extremes (66.7% comfortable, 33.3% uncomfortable).

Religious Divide in AI Data Collection Acceptance

The continuity-corrected chi-square test ($X^2 = 21.610$, $p < 0.001$) reveals an extremely significant association between specific religious affiliation and comfort with AI-mediated data collection. Christian respondents demonstrate dramatically higher comfort levels (80%) compared to Muslim participants (30%), with Muslims being 3.5 times more likely to express discomfort (70% vs. 20% of Christians).

Smartphone Access Strongly Predicts Comfort with AI Data Collection

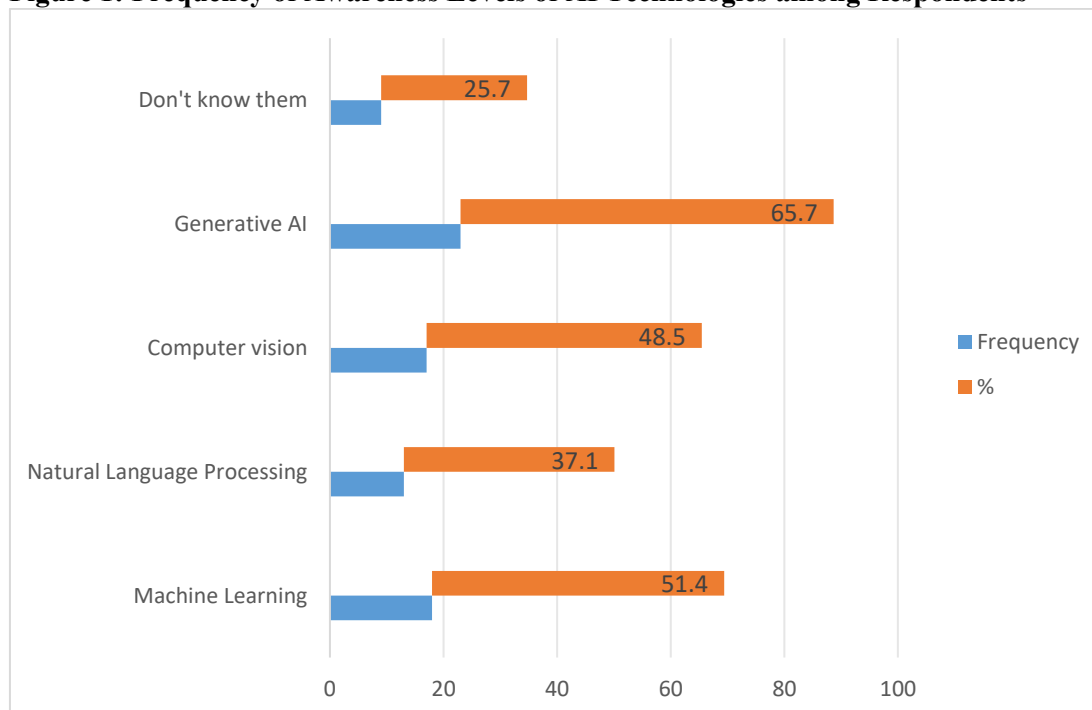
The Likelihood Ratio test ($X^2 = 13.556$, $p < 0.001$) reveals an exceptionally strong association between mobile phone type and comfort with AI-mediated data collection. The data shows a complete dichotomy: all basic phone users (100%) expressed discomfort, while nearly 70% of smartphone users reported comfort with AI-driven research methods.

Internet Access Frequency Strongly Predicts AI Comfort Levels

The Likelihood Ratio test ($X^2 = 18.841$, $p < 0.001$) reveals an exceptionally strong association between internet usage frequency and comfort with AI-driven data collection. The data demonstrates a clear gradient: comfort decreases sharply as internet access becomes less frequent. Daily internet users show the highest acceptance (83.3%), followed by “every time” users (61.9%), while rare internet users universally reject AI methods (100% uncomfortable).

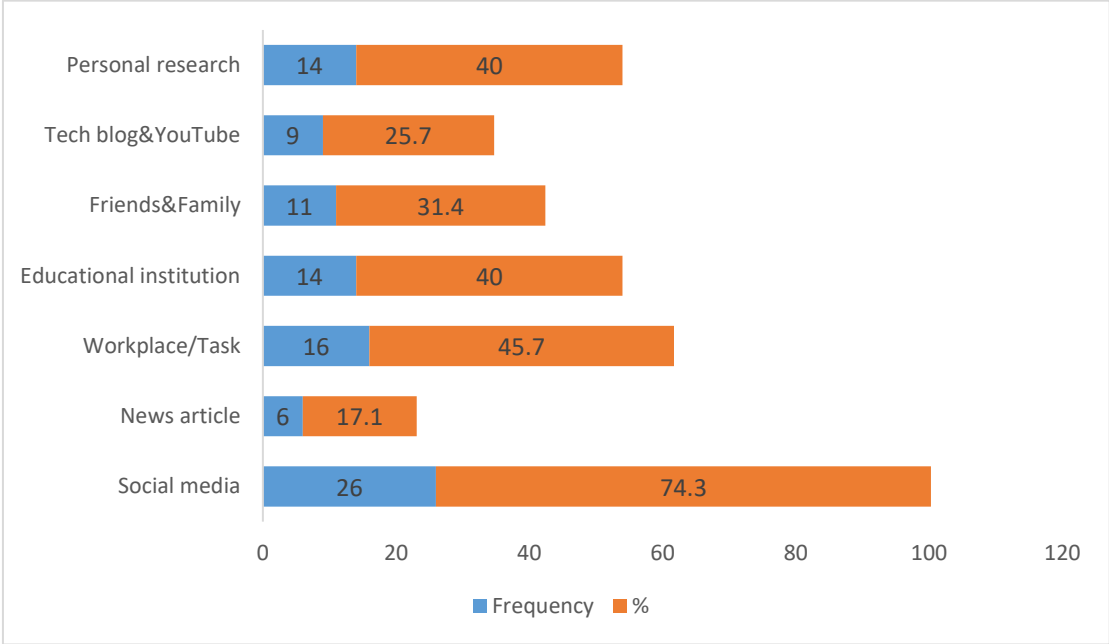
Section B: Ai Awareness and Familiarity Assessment

Figure 1: Frequency of Awareness Levels of AI Technologies among Respondents



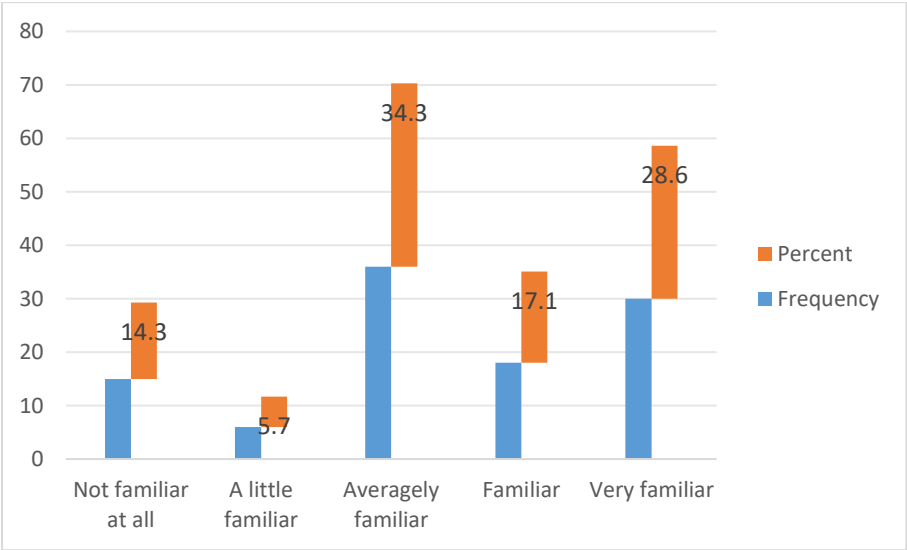
The data reveals varying levels of familiarity with different AI technologies among respondents. Generative AI emerged as the most recognized (65.7%), likely due to its recent popularity in tools like ChatGPT and AI chart generators. Machine Learning (51.4%) and Computer Vision (48.5%) also showed substantial awareness, reflecting their established applications in everyday technologies (e.g., recommendation systems, facial recognition). Natural Language Processing (37.1%) trailed slightly, possibly because it operates “under the hood” of more visible applications like chatbots. Notably, 25.7% of respondents had never heard of any AI products, highlighting a significant knowledge gap in AI literacy. This suggests that while cutting-edge technologies like Generative AI are gaining traction, a quarter of participants remain entirely unfamiliar with even foundational AI concepts.

Figure 2: Frequency of AI Awareness Sources among Respondents



The data reveals that social media dominates as the primary source of AI knowledge (74.3%), underscoring its critical role in shaping public understanding of emerging technologies. This aligns with the increasing presence of AI content (e.g., ChatGPT tutorials, AI-generated art) on platforms like Facebook, X (Twitter), and TikTok. Workplace/training (45.7%) and educational institutions (40%) emerged as significant secondary sources, highlighting the role of formal and professional environments in AI literacy. The comparable percentages suggest that both employment and academia contribute substantially to technological awareness, though neither matches social media’s reach. Personal research (40%) reflects a proactive segment of respondents who seek out AI knowledge independently, while friends and family (31.4%) and tech blogs/YouTube (25.7%) represent more niche but still notable channels. Traditional news articles (17.1%) lag behind, possibly due to declining engagement with long-form journalism or less focused coverage of technical topics.

Figure 3: Percentage Representation of Familiarity Levels with AI-Powered Data Collection in Research



The survey reveals a polarized yet promising landscape of AI tool familiarity among respondents. While a combined 45.7% (“Averagely familiar” + “Familiar”) demonstrate moderate awareness, a notable 28.6% claim high familiarity suggesting a tech-savvy segment connection with AI-driven data collection. However, 20% (“Not familiar at all” + “A little familiar”) remain largely unaware, highlighting a persistent knowledge gap that could hinder inclusive adoption.

ANOVA Test Result among Age Categories on AI Data Collection Tools Familiarity Level

A one-way between-groups analysis of variance (ANOVA) was performed to investigate the effect of age on familiarity with AI-powered tools for data collection. Participants were grouped into four age categories: ≤ 35 years, 36-45 years, 46-55 years, and ≥ 55 years. The results showed a statistically significant difference in familiarity scores across the age groups ($F(3, 101) = 7.819, p < .001$), with the effect size indicating a medium-to-large difference. Post-hoc comparisons using the Tukey HSD test revealed three distinct subgroups. The ≥ 55 years group ($M=2.33, SD=1.534$) showed significantly lower familiarity compared to all other groups ($p<.05$). The 36-45 years group ($M=3.11, SD=1.476$) formed an intermediate cluster, with no significant difference from the 46-55 years group ($M=3.75, SD=1.113$). The ≤ 35 years group ($M=3.92, SD=.874$) and the 46-55 years group demonstrated the highest familiarity, though the difference between them was not statistically significant ($p = .955$). The homogeneity of variances assumption was violated (Levene's test $p = .002$), but the Welch ($p = .001$) and Brown-Forsythe ($p = .000$) tests supported the ANOVA results. These findings suggest a nonlinear relationship in which younger participants (≤ 35) exhibit the highest familiarity, middle-aged groups (36-55) show moderate familiarity, and older adults (≥ 55) have notably lower familiarity with AI research tools.

ANOVA Test Result among Education Qualifications on AI Data Collection Tools Familiarity Level

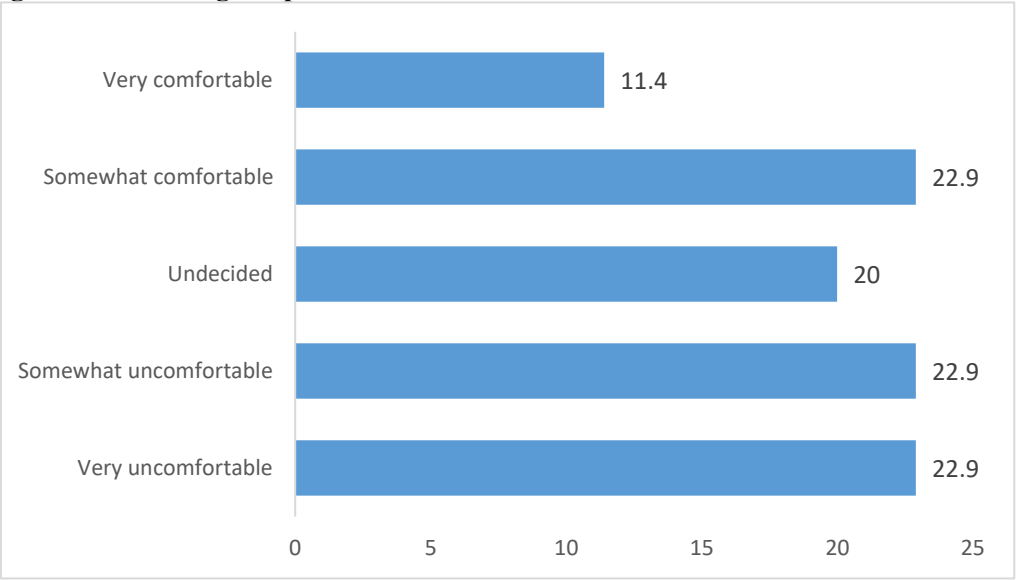
A one-way between-groups analysis of variance (ANOVA) was conducted to examine the effect of education level on familiarity with AI-powered tools for data collection. Participants were divided into four educational groups: Primary/Secondary, Diploma/NCE/ND, Bachelor's degree, and Postgraduate. The results revealed a statistically significant difference in familiarity scores across these groups ($F(3, 101) = 17.522, p < .001$), with education level explaining a large portion of the variance in familiarity. Post-hoc comparisons using the Tukey HSD test identified three distinct levels of familiarity. The Diploma/NCE/ND group showed the lowest familiarity ($M = 1.00, SD = 0.000$), significantly lower than all other groups. The Bachelor's degree group had an intermediate level of familiarity ($M = 2.80, SD = 1.656$), which was significantly different from both the lower and higher education groups. Both the Postgraduate ($M = 3.52, SD=1.070$) and Primary/Secondary ($M = 5.00, SD = 0.000$) groups exhibited the highest levels of familiarity, although the perfect scores for the Primary/Secondary group suggest potential data collection issues. Despite a violation of the homogeneity of variances assumption (Levene's test $p < .001$), the large F-value and consistent post-hoc findings confirm the robustness of the educational effects observed.

T-test Result on Significant Urban-Rural Gap Found in AI Technology Familiarity

The independent samples t-test revealed a statistically significant difference in familiarity with AI-powered tools between urban ($M = 3.63, SD = 1.172$) and rural ($M = 1.00, SD = .000$) respondents ($t(95) = 21.944, p<.001$), with a large mean difference of 2.625 points (95% CI [2.388, 2.862]). Levene's test ($F = 24.566, p<.001$) confirmed unequal variances, requiring the Welch correction. This stark urban-rural divide suggests that geographic location profoundly impacts AI tool exposure, with rural populations showing minimal familiarity - likely due to infrastructure gaps, limited digital access, or fewer technology-integrated workplaces. The complete lack of variance in rural scores ($SD=.000$) implies all rural respondents reported identical lowest-scale familiarity, highlighting an acute digital literacy crisis in non-urban areas that demands targeted interventions like offline-capable AI tools or community digital literacy programs to bridge this spatial inequality in technological readiness.

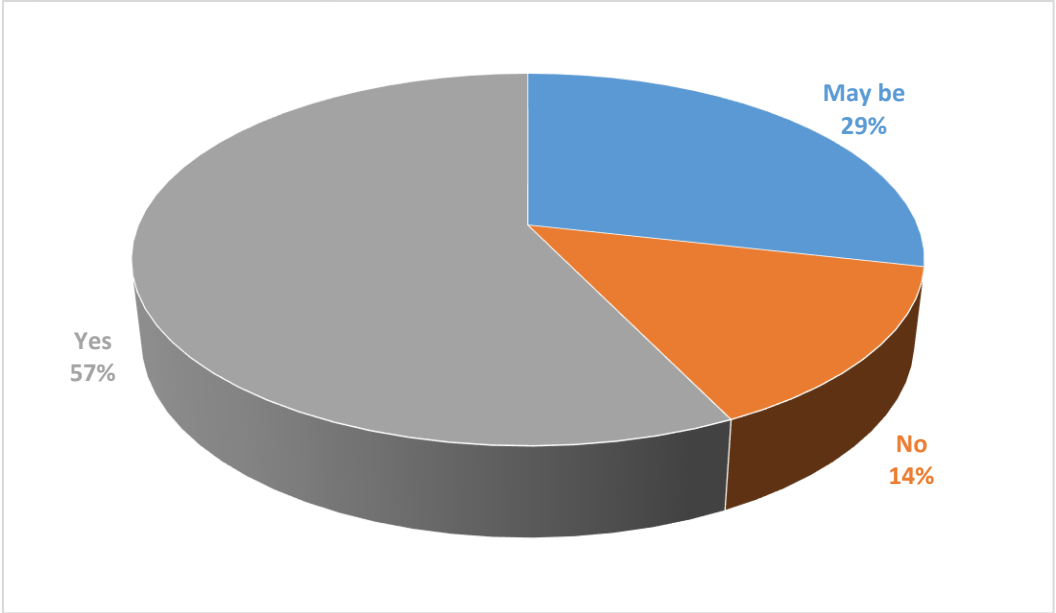
Section C: Trust And Ethical Concerns in AI-Driven Research

Figure 4: Percentage Representation of Comfort Levels with AI-Powered Data Collection in Research



The survey result reveals a polarized distribution of comfort levels with AI-powered data collection tools among respondents. The respondents divided almost equally across the spectrum with 22.9% reporting being “very uncomfortable” and another 22.9% feeling “somewhat uncomfortable”, both indicating significant reservations among the nearly half (45.8%) of the respondents. Meanwhile, an equal proportion (22.9%) expressed being “somewhat comfortable”, while 11.4% felt “very comfortable”, suggesting limited enthusiasm. A notable 20% remained “undecided” highlighting lack of strong convictions.

Figure 5: Positions of Respondents towards Perceived Misuse of AI Tools in Social Research



The survey results show significant concerns among respondents about the potential for AI tools to enable misuse or unethical handling of data in social research. A majority (57.1%) believed that AI tools could lead to such risks, reflecting widespread skepticism about ethical safeguards. Meanwhile, 28.6% remain uncertain, suggesting they recognise the possible risks but lack definitive conviction. Only a small minority (14.3%) dismissed these concerns.

Table 3: Chi-Square Analysis Results Showing Demographic Predictors of AI Misuse Concerns

s/n	Variables	Value	df	Asymp. Sig. (2-sided)
1	Age category	17.021	6	.009
2	Sex	3.125	2	.216
3	Residential type	3.088	2	.214
4	Religion	5.017	2	.081
5	Ethnicity	21.903	4	.000

The chi-square test ($X^2 = 17.021$, $p = 0.009$) reveals a statistically association between age groups and beliefs about AI devices potentially enabling data misuse or unethical handling in research. This indicates that perceptions that AI use in research methodology or in managing research data is inherent with data misuse risks, vary across age groups. The pattern shows that younger respondents (≤ 35 years) were more divided as half were uncertain while 41.7% believed that misuse is possible. Only 8.3% dismissed concerns entirely suggesting that younger respondents can be open to AI to AI though with some levels of cautiousness. The middle-aged groups (36 - 45 and 46 - 55) showed higher level of doubt. About 66.7% (36 - 45) and 75% (46 - 55) believed AI could lead to misuse, reflecting stronger distrust within that combined cohort. Far fewer were uncertain ("May be": 11.1 - 12.5%), indicating more fixed opinions compared to younger respondents. The older respondents (≥ 55) were moderately concerned. This is because half (50%) foresaw misuse, while 33.3% were uncertain. This is a less extreme position than the middle-aged groups. In short, the significant p-value (.009) confirms that age is a critical demographic determinant for understanding AI ethics perceptions, with middle-aged respondents acting as a key barrier to acceptance.

The Pearson chi-square test ($X^2 = 3.125$, $p = 0.210$) indicates no statistically significant association between sex and beliefs about AI tools as a potential trigger for data misuse in research activity. The high p-value ($p > 0.05$) suggests that concerns about AI ethics are not influenced by whether one is a male or female. Closer observations of the data shows that there were similar levels of uncertainty across sexes. Both females and males show same proportions of uncertainty ("May be": 28.6%), indicating sex may not predict skepticism towards AI application risks in managing data for social research. The result further shows moderate sex difference in strong opinions. That is, while males were slightly more likely to believe AI could lead to unethical use, (61.0% vs 50% of females), the difference is not statistically significant. However, females were more than twice as likely to dismiss the concerns totally ("No": 21.4% vs 9.5% of males), though the small size of "No" respondents ($n=15$) weakens conclusions.

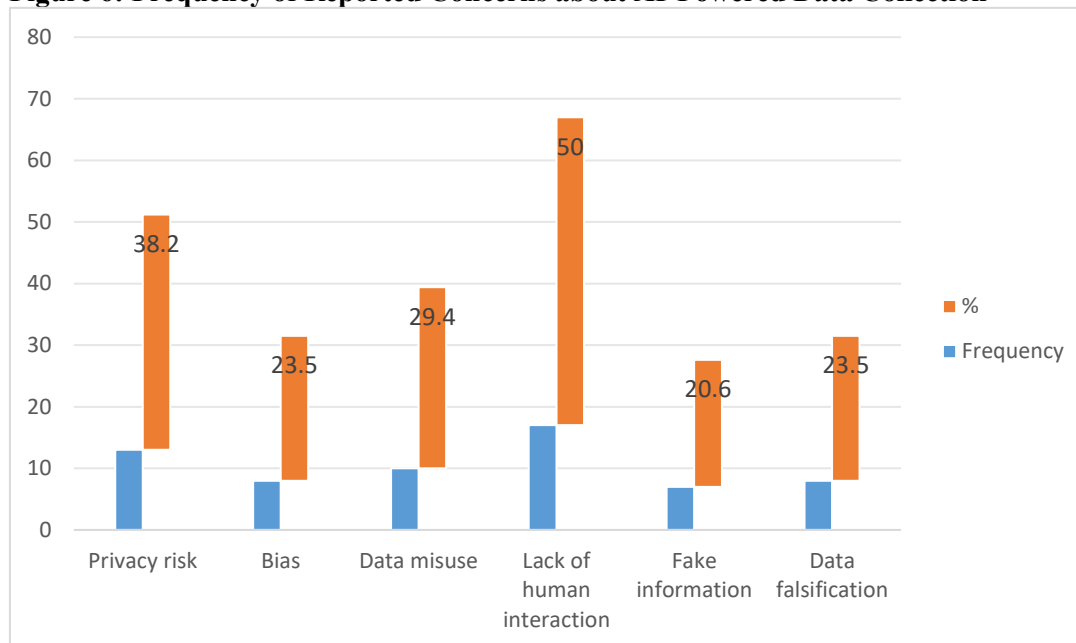
The chi-square test ($X^2 = 3.088$, $p = 0.214$) indicates no statistically significant association between residential location (urban vs rural) and the disposition that AI tools potentially enable unethical handling of research data. While urban respondents show slightly higher concern (59.4% "Yes" vs 33.3% in rural areas), this difference is not statistically implicative due to the small rural sample proportion among the total respondents. Be that as it may, the result suggests that geographic location alone does not predict ethical concerns about AI in research context. However, the rural sample's even divide across all the three response options (33.3% each) contrasts with urban respondent's consensus about risks (59.4%). This may reflect rural participants' limited exposure to AI devices, leading to less or uninformed perception about potential misuse.

The chi-square test ($X^2 = 21.903$, $p = 0.001$) reveals a statistically significant association between ethnicity and beliefs about AI devices causing data misuse in social research, with striking variations across groups. A close study of the crosstab result shows that Hausa/Fulani respondents, by consensus, rejected the concerns. All the respondents in that category (100%) responded "No" suggesting either strong trust in AI methods or limited exposure to discussions about AI risks in this group. The middle belt people of about 75% believed that AI could lead to misuse, reflecting extreme ethical concerns, while 25% dismissed the potential risks. The Yoruba people expressed mixed feelings in their entirety. While most (56.7%) anticipated misuse, a significant minority were uncertain ("May be": 33.3%) or dismissive ("No": 10%), indicating diverse perspective within Nigeria's largest ethnic group.

The Likelihood Ratio test ($X^2 = 5.017$, $p = 0.081$) does not reach conventional statistical significance, suggesting a marginally significant association between religion and beliefs about AI tool potentiality resulting in data misuse in social research. While not definitive at the 0.05 threshold, the patterns reveal notable contrasts between Christians and Muslim respondents. A clear majority of Christians believed that

AI tools could enable misuse, with only 12.0% dismissing the concerns. The Muslims were evenly divided between skeptical misuse (40%), uncertainty (“May be”: 40%) and rejecting concerns (“No”:20%).

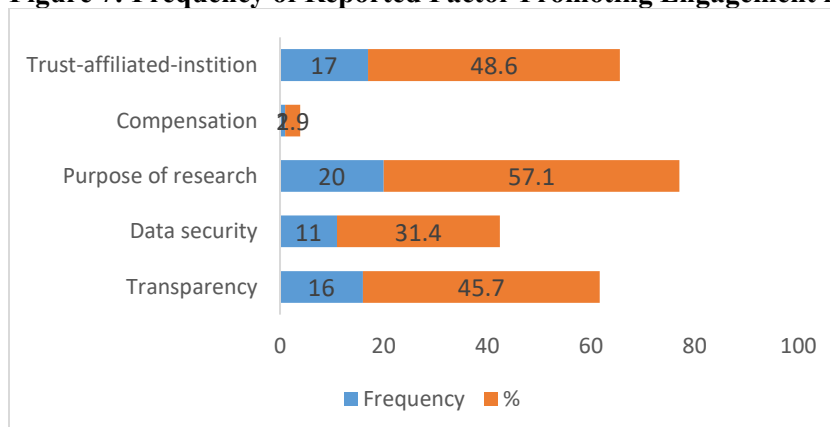
Figure 6: Frequency of Reported Concerns about AI-Powered Data Collection



The respondents were asked to identify with specific likely concerns they might have with AI-powered data collection devices. Each of the concerns received multiple selection from the respondents and the descriptive analysis conducted shows the frequency of selection received from the respondents.

The survey shows widespread concerns about AI-driven data collection with respondents identifying with multiple significant risks. Lack of human interaction emerged as the top concern (50%), reflecting unease about un-humanised or partial human research methods and potential loss of the latent opportunity of human-led engagement. Privacy risk ranked second (38.2%), underscoring worry about data security resulting from unauthorized use of personal information. Close behind, data misuse (29.4%) highlights distrust in how organisations might exploit collected data, while (23%) and data falsification (23.5%) reveal concerns about compromised research integrity. The prominence of these issues suggests peoples’ worry that recent compute capacity in electronic devices could intensify existing inequalities or produce unreliable results. Notable, fake information (20.6%), though the concern with the least frequencies, points to anxieties about AI-driven content distorting research findings.

Figure 7: Frequency of Reported Factor Promoting Engagement in AI-Driven Research Methods



Though the respondents indicated key factors that could influence their participation in AI-based research methodology. In other words, the survey result highlights “purpose of research” as the most common factor (57.1%) when considering engagement with AI-driven research. This suggests that people are more likely to participate if the study’s objective align with their value or address an important subject matter critical to them. Trust in the “affiliated institution” (48%) and transparency (45.7%) also ranked highly, indicating that respondents placed significant weight on who is conducting the research and how openly they communicate their research activities. Data security (31.4%) is also a substantial concern, reinforcing concern about privacy breaches and misuse. The minimal interest in compensation (2.9%) is important because it suggests that ethical considerations and trustworthiness outweigh monetary incentives for most of the respondents.

Table 4: Percentage Distribution of AI-Trust Likert Scale Items

S/n	Scale Item	SD	D	U	A	SA	Mean
1	I would trust a research study more if I knew exactly which organization created the digital tool being used.	5.7	2.9	14.3	34.3	42.9	4.06
2	If my local leader (chief/religious head) approves a digital survey, I would feel comfortable participating.	8.6	8.6	28.6	31.4	22.9	3.51
3	I would only trust a digital research tool if Islamic/Christian/traditional leaders verified it respects our values.	17.1	14.3	37.1	17.1	14.3	2.97
4	A voice-based survey in my local language (e.g., Hausa, Yoruba) would feel more trustworthy than written English.	14.3	8.6	28.6	14.3	34.3	3.46
5	Knowing exactly how my data will be stored would increase my trust in digital research.	0.0	5.7	17.1	22.9	54.3	4.26
6	Villagers would trust a digital tool more if it was introduced at the town square by a familiar face.	2.9	8.6	17.1	25.7	55.7	4.03

The Likert scale results highlight critical factors influencing trust in AI-driven research tools, with transparency, local endorsement and accessibility emerging as important themes. The institutional transparency is a possible drive of trust having high-rated figure (Mean = 4.26) revealing that respondents strongly agreed that knowing how their data will be stored develops trust. Similarly, 42.9% of the respondents strongly agreed that trust increases when the organisation behind AI tool is clearly identified (Mean = 4.06). This suggests that accountability and clear communication are non-negotiable for participants’ confidence in AI devices in the context of social research data collection.

The community endorsement also matters. Over 55% strongly agreed that AI devices introduced by familiar face in public setting like town centres enhance trust (Mean = 4.03). Additionally, 31.4% agreed that approval from local leaders increases comfort (Mean = 3.51). These findings emphasize the importance of cultural legitimacy and grassroots validation in fostering acceptance of digital research methods.

Also important are language and accessibility as they key to developing trust. A voice-based survey in local language (e.g., Hausa, Yoruba) was perceived as more trustworthy than written English by 34.3% of respondents (Mean = 3.46). This reflects a strong preference for linguistically inclusive and orally accessible formats, particularly in regions with lower literacy rates.

The ethno-religious verification shows mixed influence over trust in AI use in data collection. Only 14.3% strongly agreed that verification by religious or traditional leaders was necessary for trust (Mean = 2.97), with 37.1% undecided. This suggests that while some communities may value faith-based endorsement, it is not a universal call. The disposition indicates that trust-building strategies must be context-specific, as cultural and religious norms vary.

A one-way between-groups analysis of variance was conducted to explore the impact of age categories on trust in AI-powered data collection tools. Subjects were divided into four groups based on age [Group 1: ≤35 years; Group 2: 36-45 years; Group 3: 46-55 years; Group 4: ≥55 years]. There was a statistically significant difference at $p < .05$ level in AI trust scores across the age groups [$F(3, 101) = 5.076, p = .003$]. The effect size ($\eta^2 = 0.13$) indicates a medium-to-large practical significance based on Cohen’s guidelines. The Post-hoc comparisons using the Tukey HSD test revealed that the 36-45 years group ($M = 25.22, SD = 4.726$) showed significantly higher trust than both the ≤35 group ($M = 21.75, SD = 4.795; p = .027$) and 46-

55 group ($M = 20.25$, $SD = 4.702$; $p = .002$). It also shows that no other pairwise comparisons reached significance (all $p > .05$), though the ≥ 55 group ($M = 21.67$, $SD = 4.994$) aligned closely with the ≤ 35 cohort.

The Robust Welch ($p = .004$) and Brown-Forsythe ($p = .003$) tests confirmed the results despite violated homogeneity of variances (Levene's $p < .001$). The findings suggest a nonlinear relationship, where middle-aged respondents (36-45) exhibit peak trust, possibly due to career-stage exposure to technology, while younger (≤ 35) and older (≥ 55) groups show moderate trust, and the 46-55 cohort displays the lowest confidence.

By inference, the 36-45 category's outlier status may reflect their professional choice, where occupational AI integration fosters familiarity. Conversely, the 46-55 age group's skepticism could stem from technological disruption anxieties or less digital know-how. The ≥ 55 group's alignment with younger respondents' choice hints at generational resilience or selective tech adoption. This diversities demand age-tailored trust-building strategies for AI devices in research.

The independent sample t-test conducted showed that o statistically significant difference in AI trust scale scores between male ($M = 22.86$, $SD = 4.782$) and female ($M = 21.43$, $SD = 5.406$) respondents ($t(103) = -1.423$, $p = .158$). Levene's test ($F = 1.520$, $p = .220$) confirmed equal variances, supporting the use of the standard t-test. The mean difference of -1.429 points (95% CI [-3.420, 0.562]) suggests males exhibit slightly higher trust, but this difference is not meaningful at conventional significance levels.

The independent samples t-test revealed a marginally significant difference in AI trust scale scores between urban ($M = 22.00$, $SD = 5.101$) and rural ($M = 25.33$, $SD = 3.606$) respondents. While the equal variances assumed test ($p = .059$) narrowly missed the .05 threshold, the more conservative Welch's t-test (accounting for unequal sample sizes) showed significance ($t(11.251) = -2.545$, $p = .027$), with rural participants demonstrating higher trust levels (mean difference = -3.333, 95% CI [-6.208, -0.458]). The result means that rural respondents showed trust in AI-driven data collection method while the urban respondents demonstrated distrust.

A one-way between-groups analysis of variance was conducted to explore the impact of ethnicity on trust in AI-powered data collection tools. Subjects were divided into three groups based on ethnicity [Group 1: Hausa/Fulani; Group 2: Kagoro/idoma/Ham/Eggon; Group 3: Yoruba]. There was a statistically significant difference at $p < .05$ level in AI trust scores across the ethnic groups [$F(2, 102) = 4.820$, $p = .010$]. The effect size ($\eta^2 = 0.09$) indicates a medium effect according to Cohen's guidelines. Post-hoc comparisons using the Tukey HSD test revealed that the Hausa/Fulani group ($M = 29.00$, $SD = .000$) showed significantly higher trust than the Kagoro/idoma/Ham/Eggon group ($M = 19.50$, $SD = 7.441$; $p = .009$). No other pairwise comparisons reached significance (all $p > .05$), though the Hausa/Fulani's trust was marginally higher than the Yoruba group ($M = 22.43$, $SD = 4.532$; $p = .062$). The homogeneity of variances assumption was violated (Levene's $p < .001$), but the ANOVA results remained robust given the balanced sample sizes. The findings suggest exceptional trust among Hausa/Fulani respondents (perfect maximum scores). Moreover, it suggests notable distrust among Kagoro/idoma/Ham/Eggon communities while moderate trust in the majority Yoruba group is evident.

Table 5: Correlation Matrix of AI Tool Familiarity, Comfort Levels, and Trust

Variables	Mean	SD	1	2	3
AI-powered tools Familiarity-level	3.40	1.342	-		
AI system-comfort level	2.77	1.339	-.029	-	
AI-trust	22.29	5.064	-.030	-.046	-

The correlation analysis reveals no statistically significant relationships between the key variables examined. Familiarity with AI Tools vs. Comfort Sharing Data: $r = -0.029$, $p = 0.770$. No meaningful link exists between how familiar respondents are with AI tools and their willingness to share personal information with AI systems. This suggests that knowledge alone does not predict comfort levels, which may instead depend on factors like trust or perceived risk. Familiarity with AI Tools vs. AI Trust Scale Score: $r = -0.030$, $p = 0.763$. Similarly, familiarity with AI tools is unrelated to overall trust in AI-powered data collection, indicating that even tech-savvy respondents may remain skeptical about ethical implications. Comfort Sharing Data vs. AI Trust Scale Score: $r = -0.046$, $p = 0.644$. The negligible correlation implies that general trust in AI systems

(as measured by the scale) does not directly translate to comfort with personal data sharing. Contextual factors (e.g., sensitivity of data, purpose of research) may play larger roles.

In summary, Familiarity, comfort and trust operate independently in relating with AI-driven data collection. That is, the variables are distinct psychological constructs in the AI research context.

Discussion of Results

The findings on public perceptions of AI-powered data collection tools in Nigeria reveal complex interactions between demographic factors, familiarity, comfort and trust levels which align with and extend existing literature on technology acceptance and ethical concerns in the Nigerian context. The results underscore the importance of cultural, institutional and infrastructural factors in shaping AI acceptance.

According to this study, age does not determine comfort level with AI-enabled data collection devices. This contradicts some global trends where younger populations are typically more tech-savvy (Venkatesh et al., 2003). However, the nonlinear relationship observed among educational categories where postgraduate respondents reported the highest comfort but bachelor's degree holders exhibited the highest discomfort, suggests that education alone does not determine acceptance. This manifests Nwodu's (2025) observation that Nigeria's educational curricula lack AI literacy modules, potentially creating a knowledge lacuna even among highly educated groups. Regarding sex, females show higher comfort levels than their male counterparts. This result contrasts with Gran et al. (2021), who noted reversed sex disparities in algorithm awareness globally. This may reflect Nigeria's trending social media practices where females are increasingly engaging with digital devices for economic and social empowerment (Anzak & Sultana, 2020). Another demographic variable with unique ramifications is geographical location. The urban-rural divide was marginally significant with urban residents reporting higher comfort than the rural respondents. This supports Aker and Blumenstock's (2020) findings on infrastructural disparities, as rural areas often lack digital access and exposure to AI technologies. The sharp contrast in smartphone and internet access further supports this, with basic phone users and those who rarely use the internet universally rejecting AI technology for research. Ethnic and religious factors played pivotal in AI acceptance as indicated by the result of this study. The Hausa/Fulani respondents expressed universal discomfort while other smaller tribes showed high acceptance. This aligns with Sar's (2025) observation that AI tools are often interpreted through narratives of surveillance, particularly among ethnic groups with historical experiences of data exploitation. Similarly, the religious divide, where Christians were more comfortable than Muslims, reflects Sari's (2025) and Srite & Karahanna's (2006) argument on how religious and cultural anxieties determine technological opinions. The AI Device Acceptance Model (AIDUA) (Gursoy et al., 2019) effectively framed the findings, particularly the nonlinear relationship between education and comfort, and the coexistence of ethical rejection with pragmatic adoption. The model's emphasis on sociocultural appraisal aligns with the sociology of development perspective, which calls for contextualizing AI discourse within local meanings.

The study's findings on AI awareness and familiarity among Nigerians reveal critical insights into the intersection of technological exposure, demographic factors and infrastructural disparities. These results align with and expand upon the literature review and theoretical framework presented in the paper, highlighting the asymmetrical penetration of AI knowledge across Nigeria's sociocultural and geographical landscape. The generative AI function emerged as the most recognized technology, likely due to the viral popularity of tools like ChatGPT (De Siqueira et al., 2022). This reflects a global trend where user-friendly AI applications drive public engagement, even in contexts with limited formal AI education (Gran et al., 2021). However, the significant portion of people unfamiliar with AI concepts indicates the persistent digital literacy gap, as noted by Nwodu (2025), who attribute this to Nigeria's inadequate integration of AI topics in educational curricula. Social media dominated as the primary source of AI knowledge, reinforcing its role as the cascading force in technology spread (Sadiku et al., 2021). In contrast, traditional media and institutional channels (e.g., workplace, schools) lagged, suggesting that formal systems are failing to meet the public's informational needs, a concern raised by Nwodu (2025) regarding Nigeria's weak regulatory and educational frameworks for digital literacy.

The nonlinear relationship between age and AI familiarity challenges conventional assumptions that younger populations exhibit higher technological literacy. While the ≤ 35 age group showed the highest familiarity, the middle-aged (36 – 55) and older (≥ 55) cohorts displayed moderate to low awareness, respectively. This supports Gursoy et al.'s (2019) AI Device Acceptance Model, which emphasises that

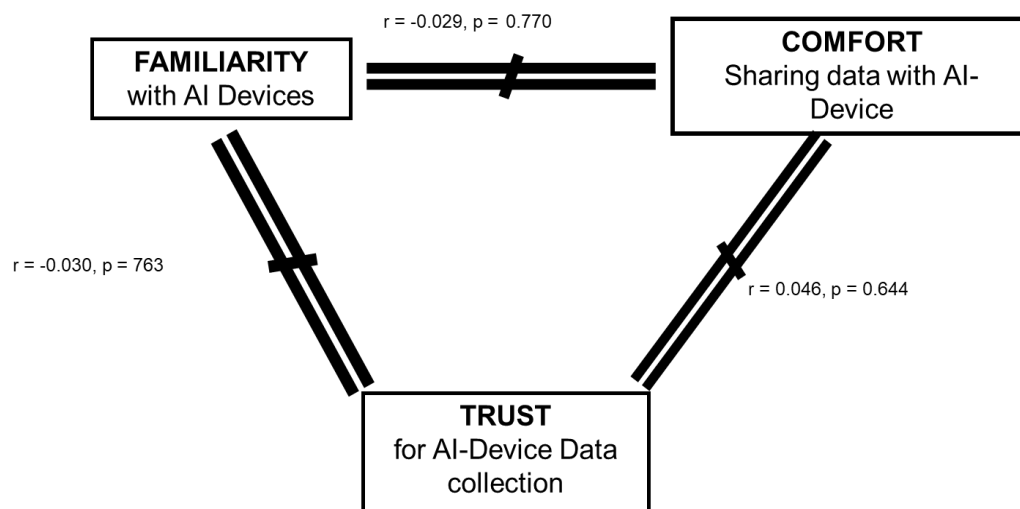
acceptance is not purely by age, but mediated by contextual factors like occupational exposure and cultural relevance. Education also has a critical role in AI research acceptance. The postgraduate individuals reported higher familiarity than bachelor's degree holders. This finding mirrors Nwodu (2025) critique of Nigeria's lopsided quality of education. Interestingly, individuals with basic education exhibited perfect familiarity scores, which may reflect the influence of informal learning channels (e.g., social media) bridging formal education gaps according to Božić (2023). Regarding the urban-rural dichotomy, there is a stark difference in AI familiarity, which underscores the infrastructural inequalities highlighted by Aker and Blumenstock (2020). Rural respondents' lack of exposure to AI tools reflects not only internet access. This, among others, may be accounting for fewer opportunities for technology-integrated employment or education. This aligns with the study's theoretical framing, which draws on Institutional Trust Theory (Zucker, 1986) to argue that distrust in AI often stems from systematic exclusion rather than inherent resistance. Notwithstanding, the AIDUA model effectively contextualizes the findings by showing the role of age, education and other socio-cultural appraisals in technology adoption. (Gursoy et al., 2019).

The study's results on misuse concern and trust are remarkable. Middle-aged individuals (36 – 55) exhibited the highest scepticism about AI misuse, while younger and older age categories were more divided or moderately concerned. This nonlinear pattern aligns with AIDUA's secondary appraisal stage, where middle-aged individuals may weigh AI's risks more critically due to career-stage exposure to technology's downsides (Gursoy et al. 2019). The older cohort's relative openness contrasts with global trends but may reflect selective adoption of trusted technologies. Ethnicity significantly predicted trust, with Hausa/Fulani respondents showing unanimous trust, a finding that may reflect limited exposure to AI critiques. On the flip side, other tribes expressed extreme distrust, possibly due to historical marginalization (Salami, 2024). Religion showed marginal significance, but Christians were more likely than Muslims to anticipate misuse, reinforcing Sari's (2025) observation that religious narratives determine technology perception. Urban and rural dynamics also play an important role in trust level. Interestingly, rural respondents paradoxically reported higher trust than urban dwellers, despite lower AI familiarity. Perhaps, their condition for that result is similar to the Hausa/Fulani position towards universal acceptance, which as suggested earlier, may be because they have realized the risks that embed exposure to AI-enabled devices. The urban distrust aligns with Božić's (2023) assertion that digitally saturated environments foster greater awareness of AI risks.

The result of the study reveals the critical role of institutional transparency, community approval and native language in trusting AI-powered data collection tools. The reputation of an organization to which an AI-enabled device is affiliated largely determines the level of trust people can have for AI systems in data collection. This suggests the need to embed comprehensive institutional control in regulatory frameworks for using AI-mediated data collection devices. Moreover, the approval of AI use by local leaders is a push factor of trust that, people, especially rural dwellers and illiterate can develop for engaging in AI-data collection tools. Voice-based devices rendered with local language also proved instrumental in increasing the trust for AI-laden devices. A result supporting Egbetokun et. al's (2017) call for a culturally oriented AI interface.

The disconnection between familiarity, comfort and trust is a major contribution to the literature regarding AI acceptance for data collection. The relationship among the variables is illustrated as follows.

Figure 1: AI Familiarity, Comfort and Trust: Relationship



Authors (2025)

The above illustration indicates the disconnection between peoples' intimacy with AI devices, how comfortable they feel using them and how much they can rely on them. In other words, just because an individual knows about AI-powered tools does not mean they trust them. Moreover, feeling comfortable with using the tools does not predict any level of trust for them. Then, using AI devices does guarantee that people feel comfortable with them. Based on the findings, the lack of correlation among AI familiarity, comfort and trust challenges the deterministic assumption that knowledge triggers acceptance. Instead, trust is dependent on context that can be shaped by legitimacy (Zucker, 1986) and ethical perceptions (Floridi, 2018). This flows with Zhou et al.'s (2022) report that Nigeria, often rejects technologies perceived as morally intrusive, regardless of technical understanding.

The policy implications of this study include a loud call for rural outreach through offline AI-data devices and community leader collaboration in successfully introducing new technologies. This aligns with the World Bank's (2024) strategies for inclusive digital development. Moreover, the widespread fear of data misuse underscores the need for comprehensive data protection regulations, as Nigeria's NDPR (2019) remains inadequate for AI governance (NITDA, 2019). The findings validate the call by the AIDUA model for sensitivity to context but with a vehement suggestion to expand the model to include an ethno-religious dimension.

Summary and Conclusion

The study shows a complex interplay of familiarity, comfort and trust with AI-driven data collection devices for social research in Nigeria. While familiarity with AI technology like generative AI was relatively high, significant gaps remained, particularly among rural and older groups. Comfort levels were polarized with almost half of the study participants expressing discomfort, driven by ethical concerns such as dehumanization and data misuse. Trust depended heavily on institutional transparency, particularly regarding clear protocols for data storage. Community leader support is another important variable for trust enhancement especially in rural areas. Notable, middle-aged respondents were most ambivalent about AI, while rural dwellers, despite lower familiarity, reported higher trust than their urban counterparts. Ethnicity also played a key role, with Hausa/Fulani respondents showing general trust, contrasting with distrust among other groups. The findings underscore that familiarity alone does not guarantee comfort or trust, which are otherwise shaped by cultural, institutional and ethical factors. The study highlights the need for context-specific, human-centred AI designs and efficient government regulations to address Nigeria's unique informal challenges.

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PARTY POLITICS, ELECTIONS AND ELECTION VIOLENCE IN AFRICA

Has it ended in tears? Party Constitutionalisation and Strengthening of Constitutional Democracy in Nigeria

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Abstract

Political parties have remained critical actors in modern representative democracy. In most democratic countries, they are codified into national constitutions to safeguard their operation and provide a congenial context for inclusive democracy and civilized party politicking. This study examines the nexus between party constitutionalisation and the strengthening of party democracy in Nigeria's Fourth Republic. By focusing on three areas of party constitutionalisation, the paper seeks to contribute to existing body of knowledge on the prospect of constitutional codification of political parties as an instrument for deepening constitutional democracy and constitutionalism in Nigeria. Essentially a qualitative study, the paper largely relies on the literature and formal legal documents including the 1999 Constitution of the Federal Republic of Nigeria as sources of data while it adopts zero-sum approach as its theoretical framework of analysis. The paper finds that while the legal instruments contain elaborate and ambitious provisions aimed at achieving inclusive democracy, civilized/violence-free politicking and accountable party organization, a combination of factors has constrained the achievement of these democracy-enhancing objectives. In conclusion, the paper suggests some measures capable of achieving intended consequences of party constitutionalisation.

Introduction

In all electoral democracies, political parties are formed to contest elections into available elective offices with the aim of constituting government and exercising state power. The centrality of political parties to democratic governance is underscored in two important ways. First, no functioning democracy could meaningfully operate without the presence of political parties as parties represent the vehicles through which the preferences of the masses are brought into the electoral arena. Second, political parties present the electorate with a choice to pick from a range of electoral candidates that aspire to elective office (Jinadu, 2014).

Across democracies, both consolidated and emergent, political parties perform certain basic functions namely, aggregating citizen interests, constituting post-election government, generating/promoting policies/programmes, serving as training grounds for future political leaders and selection of personnel to serve in government for the purposes of policy formulation and execution (Deme, 2014).

More than seven decades ago, Schattschneider averred that political parties are the pillars of democracy without which a modern representative democracy can not operate as a functional system of rule (Schattschneider, 1942). Later scholars and analysts (Diamond, 1999; Lipset, 1959; Dalton, 1985) endorse Schattschneider's thesis of indispensability of political parties to democratic rule such that there is a consensus in the literature that no functioning democracy can endure without party organization (Sandbrook, 1996; Rahat, Hazan and Katz, 2008; Deme, 2014; Jinadu, 2014). Even studies that attempt to advance the argument of feasibility of democratic rule without formalized and stable political parties as experienced in six Pacific Island states of Kiribati, Nauru, the Federated States of Micronesia, Palau, Tuvalu and the Marshal Islands, concede to the fact that the very non-existence of political parties within these polities fundamentally vitiates the functioning of these 'partyless' democracies (Veenendaal, 2013).

Despite the weakening of the contemporary political parties as instruments of democratic representation (Van Biezen, 2012); and despite the legalization of independent candidacy in many democracies including the United States, political parties remain the most popular platforms for contestation of political power in a democratic context (Aldrich, 2020). Indeed, according to one source, political parties are in large part responsible for determining the character of democratic politics in any civil polity (Institute for Government, 2023). One key proof of this fact is that most contemporary constitutions expressly state the crucial role accorded political parties in modern democratic contexts (Möbrant, 2018).

One key issue that has defined global democracy in the last seven decades is the phenomenon of party constitutionalisation. Simply defined as the codification of political parties in national constitutions (Van Biezen, 2012), party constitutionalisation represents a significant break from the pre-World War 2 era when

political parties were barely acknowledged in spite of their centrality to electoral democracy. Mobrand (2018) has shown that pre-Second World War scholarship paid little attention to political parties as critical elements of a functioning democracy. According to Lorencka & Obrebska (2018), political parties in the pre-World War 2 period were generally regarded as a “hostile element” between the state and the citizen that was capable of distorting the will of the former. Immediate post-Second World War period however saw an intentional mention of political parties by public laws across Europe.

Essentially a global practice, party constitutionalisation emerged at different times across regions of the world. While in Europe, Italy and Germany, described by Muller and Sieberer (2006) as the “heartland of party law”, pioneered formal entrenchment of political parties into constitution in 1947 and 1949 respectively (Vohito-Anyanwu, 2020), the wave of constitutional codification of political parties reached the African continent in the early 1990s with the advent of the third wave of democratization which hit the continent. Ghafur (2020) however reveals that some sort of codification of parties in national constitutions had earlier occurred in Iceland (1944) and Austria (1945). Today across the global regions, party constitutionalisation is a common phenomenon in electoral democracies. According to one source, by the year 2022, 28 out of 32 democracies in continental Europe had codified political parties in their constitutions (Bale, 2023). Constitutional codification of political parties signals the place of parties in the institutional architecture of governance as well as the nature of party-citizenship relations in democratic polities.

Fundamentally, the basic rationale of party constitutionalisation is rooted in four core issues namely, to protect political parties against elite manipulation; to ensure party competitiveness; to instill sanity into party politicking; and to moderate the behaviour of party organization (Avnon, 1995; Borz, 2016). Thus, as shown by cross national evidences, constitutional regulation of political parties not only mediates party behaviour and parties’ ideological or programmatic choices, it also imposes constraints on the internal structure of party organization. Party constitutionalisation should be conceptually distinguished from party laws. The latter regulate the operational activities while the former relates to the enshrinement or entrenchment of political parties into the constitution. This constitutional entrenchment in a way signals the recognition of political parties as important institutional components of the democratic system (Borz, 2016). What this recognition also suggests however is that political parties lose their hitherto voluntary and private character which forbids state intervention in their affairs (Van Biezen & ten Napel, 2014).

Party constitutionalisation as a practice varies across mature and new democracies in terms of content, scope, issues subjected to constitutional regulation (Van Biezen & Borz, 2012) as well as consequences (Ginsburg & Versteeg, 2023). While national constitutions describe political parties in terms of core democratic values and principles, others define parties in terms of their electoral and parliamentary activities (Van Biezen, 2012). Key actors in party constitutionalisation include parliamentarians, political parties, the courts and the election oversight bodies. Borz (2016) has expanded the actors’ list to include the media, civil society organizations, local constituency and international organizations.

Nigeria had its first taste of party constitutionalisation during the military-brokered transition that culminated into the second republic in October 1979. Since that momentous event, party constitutionalisation has been a recurrent feature of constitution making in Nigeria. The key motivation for the codification of political parties in the 1979 constitution by the military was to avoid the repeat of the divisive and centrifugal tendencies that characterized party politics in the first republic (Jinadu, 2014). With the constitutional codification, political parties were, among others, required to wear national outlook, uphold intra-party democracy and be formally registered by the newly-instituted election management body. While the constitutional status accorded parties in Nigeria has endured till the current republic, there is no consensus as to whether the constitutional entrenchment has deepened constitutional party democracy in Africa’s largest electoral democracy. And again, increasing constitutional regulation of parties has received little scholarly attention. It is this scholarly gap that this study seeks to fill. How has party constitutionalisation evolved over time in Nigeria? Has party constitutionalisation shaped party organization and party behaviour in a manner envisaged by the constitution?

This study will particularly focus on three key aspects of party constitutionalisation: intra-party democracy, party financing and electoral conduct of political parties. There are however other important aspects of constitutional regulation of political parties in the 1999 Constitution, as amended. One of such is the prohibition of ideologically extreme and ethnically affiliated political parties. For instance, Section 222 (a) prohibits any association seeking to be registered as a political party from adopting a name or logo that

contains ethnic or religious connotation. In the same vein, Section 222 (c) of the constitution provides that the membership of any political association is open to every Nigerian citizen irrespective of place of origin, circumstance of birth, sex, religion or ethnic identity. These provisions are aimed at promoting or strengthening national unity and safeguarding democratic rule against insurrectionary elements. Prohibiting ideologically extreme parties will naturally raise questions of 'democratic intolerance' (Fox & Nolte, 1995; Azad, 2022; Tuovinen, 2023) by which it is meant the degree of tolerance that democratic states should accord anti-democratic elements. While this question is yet to be settled in the literature (Ceva & De Bernardi, 2022), has the experience in Nigeria since the transition to civil politics in 1999 defied the 'democratic value' attributed to party constitutionalisation? Or, given the contradictions that have characterized the codification of political parties in the Nigerian constitution, does it suggest that the constitutionalisation efforts have ended in tears?

Political Parties and Representative Democracy

As primary vehicles of accessing political power in democratically ruled contexts, political parties constitute the 'gate keepers' of democracy (Ashindorbe, 2022). In all liberal representative democracies, political parties represent the instrumentality by which the electorate extract accountability from elective office holders through periodic multi-party elections (Jinadu, 2011; Chaudhuri, 2023).

As an organized group of persons with common ideas on governance and economy which it seeks to control by contesting and winning election, political party does not only represent the primary vehicle of accessing power, it is also an institutional tool of connecting the citizens with their representatives. Through this linkage function, political parties constitute critical channel through which democracy functions. In contemporary electoral democracies, political parties define and initiate political agenda, mobilize and organize the electorate, project diverse interests and hold elected regimes answerable to the voting public (Tesfay & Sete, 2019). Van Biezen (2012) has noted that political parties are critical not only for organizing democratic politics but also for expressing and manifesting citizen participation as well as political inclusion and pluralism.

Across democratic contexts, the roles of political parties are broadly classified into two: they run government or they serve as opposition (Wondwosen, 2009). As ruling or incumbent parties, political parties initiate and formulate policies and programmes that aim at enhancing citizen welfare. As opposition parties, they offer (credible) alternative policy choices and promote healthy policy competition with the ruling parties (Tesfay & Sete, 2019). Being both critical and central to the sustenance of democratic rule, the activities of political parties in and outside of political power considerably influences the stability of the democratic state (Igwe, 2019). Thus, by organizing government and serving as an outlet for recruiting government functionaries, political parties contribute to the vitality and sustenance of democracy.

For Africa which survived the ascent of one party rule of the late colonial rule and early independence era, the third wave of democratization of the early 1990s re-introduced multi-party democracy to the continent (Fombad, 2022).

Theoretical Framework

This study adopts the zero-sum theory of politics to explain the ineffectiveness of party constitutionalisation as an instrument of extracting compliance by political parties with party finance regulations, deepening intra-party democracy, and ensuring responsible electoral conduct by political parties. Zero-sum approach is rooted in game theory (von Neumann & Morgenstern, 1944) and its adversarial logic significantly influences political behaviour in a way that tends to distort efforts at institutionalizing democratic norms both within the parties and the larger polity particularly in emergent democracies defined by weak political culture. Game theory itself dwells on understanding social behaviour and decision making in the context of inter-group competition (von Neumann & Morgenstern, 1944). Game theorists assume that people demonstrate zero-sum tendencies when they feel threatened by their competitive environment even if that threat does not reflect an objective reality but a mere subjective perception (Davidai & Tepper, 2023).

The central thrust of the theory is that political actors perceive political game or state power as a fixed indivisible resource and that one actor's gains correspond to the other's loss. Contenders for power must therefore do everything to outwit one another in the political game in order to access state power which can then be deployed for primitive accumulation, economic security and patronage (Ake, 2001). Thus, the logic

of zero-sum approach provides incentive for power contenders to brazenly violate rules of the game as instituted in party constitutions and national constitutions. These contraventions come in varying forms including manipulated party nomination, imposition of candidacy and manipulation of leadership recruitment process within political parties.

The zero-sum perspective draws its strength from incessant conflict, inequality and proclivity to violence in social and political relations (Read, 2012). The perspective thrives in contexts where finite resources cannot be allocated equally across the society or group resulting in inter-group contestation for the finite goods (Meegan, 2010).

Although the zero-sum theory offers a compelling insight into the inadequacy of party constitutionalisation in Nigeria, it is not without its own limitations. One key critique of the approach that has been advanced in the literature is that it cannot explain the blend of conflict and shared interest as well as that of competition and cooperation that define contemporary social and political relations (Read, 2012). Indeed, Schelling (1958) contends that many social situations combine elements of zero-sum and non-zero-sum perspectives.

Applying the assumptions of the zero-sum theory to electoral competition in Nigeria, Nigerian politicians approach electoral politics with winner-take-all tendency and will spare no effort to realize electoral victory even if to contravene extant legal and regulatory provisions. Ake (2001) alluded to the salience of zero-sum beliefs in African politics in the immediate post-independence period when he wrote that: "...politics remained a zero-sum game; power was sought by all means and maintained by all means...". This zero-sum character of electoral politics and the attendant display of reckless abuse of power and brazen impunity is aggravated by the weakness of institutional framework of political competition. The regulatory institutions lack the requisite autonomy to regulate or constrain the behaviour of the power elite.

Methodology

This study adopts a qualitative research design relying on legal instruments particularly the 1999 Constitution of the Federal Republic of Nigeria, the 2022 Electoral Act, the Companies and Allied Matters Act as well as constitutions of political parties. In addition to these data sources, relevant and recent literature is consulted to gain deep and useful insights into the motivation, manifestation and trajectory of party constitutionalisation in Nigeria. Content analysis is adopted as analytical framework for the study.

Constitutional Regulation of Political Parties: The Justification and the Critique

Constitutional regulation of political parties has remained an unending debate in Political Science and Law disciplines. At the heart of this debate is the question of the correct status of political parties in the society. Are political parties private associations or public entities? Though the debate is yet to be settled in the literature, it is acknowledged that political parties occupy an unclear and intervening space between government and civil society (Van Biezen, 2012). Before the early 1940, political parties were practically outside of the control of the state. Invested with the power and liberty to define their structure, methods of decision making and modes of financing, the only entity to which the party was responsible and which constituted the tool of oversight over party organization was the party membership (Tesfay & Sete, 2019).

This paper adopts Borz's (2016) framework of party constitutionalisation for the discussion of this section. The framework fundamentally outlines the key justifications for constitutional codification of political parties from the world view of different political actors including political parties, state institutions and international actors. Five key justifications are advanced by Borz which he claims are a product of deductive approach garnished with "cues from new constitutionalism" (Borz, 2016). These justifications are: agency legitimization, organizational survival, distinction from similarly organized associations, prevention of anti-democratic parties, as well as prevention of abuse of power. According to Borz, formal recognition of political parties acknowledges the pre-eminent place of political parties in the power architecture. Constitutional codification of parties also enhances the organizational and financial survival of political parties. Similarly, constitutional regulation of parties distinguishes them from their societal 'rivals' such as the pressure groups and labour/trade unions. Furthermore, constitutional formalization of political parties represents a tool of excluding anti-democratic and extremist groups from the political/electoral space. Subjecting political parties to constitutional restraint also helps in checkmating the proclivity for abuse of powers by political parties particularly by the ruling parties.

Borz's justifications look convincingly rational and outwardly ambitious even if the manifestations of these justifications have varied across party democracies. While party constitutionalisation has granted legal and institutional recognition to political parties in most democracies, the scope of state regulation of political parties differs across democratic countries. Similarly, while state funding of parties is aimed at enhancing the organizational survival of political parties, the degree of party compliance with party finance rules as well as the degree of effectiveness of the regulatory instruments vary from democracy to democracy. Furthermore, while party constitutions have promoted intra-party democracy in some democratic countries, they have utterly failed to mediate party behaviour in other countries (Fombad, 2022; Ginsburg & Versteeg, 2023).

However, despite its utilitarian value as an explanatory tool, Borz's framework (and by extension party constitutionalisation practice) has come under criticism by scholars. Two key critiques of party constitutionalisation are cited here. The first is the overly state regulation of political parties as a core democratic institution. It is feared that excessive constitutional role of political parties may unwittingly lead to the erosion of party autonomy and political pluralism. When state regulation becomes extensive, political parties tend to lose their organizational independence and may gradually transform into, even if unwittingly, semi-state agencies or public service entities (Bartolini & Mair, 2001). Indeed, opponents of regulation of political parties particularly the use of law to ban the emergence of parties with religious, ethnic, racist or radical tendencies have argued that legislating against the emergence and flourishing of political parties with certain identities tends to undermine critical democratic achievements (Bale, 2014). Other scholars (Rosenblum, 2007; Randall, 2008) have described prohibition of parties as a self-serving, partisan and exclusionary tool to undermine diversity in multi-culturalism. To the extent that ethnic representation is a key indicator of democratic quality (Rashkova, 2014), prohibiting ethnic or cultural political parties represents an assault on political/social diversity. Banning or restraining emergence of such parties approximates what Isaacharoff (2007) calls "democratic intolerance", a sort of restraint imposed on extremist or insurrectionist groups/parties under the guise of protecting the democratic order.

The second critique of constitutional formalization of political parties is the possibility of the emergence of hegemonic parties which are so well privileged by the constitutional prescriptions as to undermine the entry of new political parties into the electoral market.

The Nigerian case illustrates the two critiques cited above. Since 1999, political parties have existed largely under the effective influence of the state and the ruling governments thereby undermining their institutional autonomy; while few established parties with real prospects of capturing power have continued to dominate the electoral space.

Constitutionalising Political Parties in Nigeria: A Historical Sketch.

While constitutional codification of political parties formally started with the inauguration of the second republic on 1st October, 1979, political parties as party organizations had emerged more than five and a half decades earlier under the colonial order with the introduction of the 1922 Clifford constitution. With electoral politics limited to the two coastal towns of Lagos and Calabar, the Nigerian National Democratic Party (NNDP) formed by Nigeria's foremost nationalist, Herbert Macaulay became the first political party in Nigeria. The party dominated the electoral market during the period marked by limited/restricted franchise (Omilusi & Adu, 2016). New parties, largely ethnic-based, later emerged as political parties grew in number. These included the Action Group (AG), the National Council for Nigerian Citizens (NCNC) and the Northern People's Congress (NPC). While these parties had their respective formal constitutions that guided their internal structure and organization, they were not codified into the national constitution (Jinadu, 2011).

Essentially, Nigeria's first shot at party constitutionalisation at the beginning of the country's second democratic experiment in the late 1970s was intended as an anti-dote against the centrifugal and ethno-regional character of party politicking in the late colonial rule and the short-lived first republic. With the codification of political parties in the new presidential constitution, the country transited "from a functional definition of a political party to a legal-constitutional one..." (Jinadu, 2011). Under the new legal context, political parties must assume national identity, uphold internal democracy and must be officially licensed by the election management body, the Federal Electoral Commission (FEDECO). The emphasis on internal in party organization is underscored by the fact that without its core democratic values and principles such as fair representation, equity and inclusivity within the parties can hardly be achieved (Mersel, 2006; Borz & Janda, 2020).

In broad terms, under the current democratic dispensation, four key documents constitute the regulatory framework for political parties in Nigeria. These are the 1999 Constitution, the 2022 Electoral Act, the 2020 Companies and Allied Matters Act and the INEC Guidelines for Political Parties and Candidates. What this section of the study seeks to do is to analyse the various provisions of these documents relating to the three key areas of interest to this study.

Internal Party Democracy

There are several provisions relating to the achievement of intra-party democracy in the four regulatory instruments under review in this study. For example, Section 84 (3) of the 2022 Electoral Act states that a political party shall not impose nomination qualification or disqualification criteria, measures, or conditions on any aspirant or candidate for any election in its constitution, guidelines, or rules for nomination of candidates for elections, except as prescribed under sections 65, 66, 106, 107, 131, 137, 177 and 187 of the Constitution. This provision is aimed at checkmating abuse of powers by the principal officers as well as wealthy members or financiers of political parties to manipulate selection of candidates for elections for their own selfish ends or to favour certain aspirants. Similarly, Section 84 (13) of the Act states that where a political party fails to comply with the provisions of this Act in the conduct of its primaries, its candidate for election shall not be included in the election for the particular position in issue. This particular provision represents a warning to party managers to follow due process in their running of the affairs of political parties particularly as it relates to party nomination.

Political Party Financing

All the four regulatory documents under review contain elaborate provisions on political party financing. To start with, Section 225 (3a&b) states that no political party shall - (a) hold or possess any funds or other assets outside Nigeria; or (b) be entitled to retain any funds or assets remitted or sent to it from outside Nigeria. Similarly, Sections 85, 86, 87, 88 and 90 contain copious provisions on retention of money or assets sent from outside the country; submission of annual statements of accounts and analysis of sources of funds by political parties to INEC; limitation on contribution or donation to political parties; ceiling or limit on amount of money to be spent on contesting for specific elections; and prohibition of receiving of donation from anonymous sources by political parties.

In the same vein, Section 43 (2) of the 2020 Companies and Allied Matters Act provides that a company shall not have or exercise power either directly or indirectly to make a donation or gift of any of its property or funds to a political party or political association, or for any political purpose. and if any company, in breach of this subsection makes any donation or gift. Furthermore, INEC Guidelines for Political Rallies and Campaigns by Political Parties, Candidates, Aspirants and their Supporters in Section 17 provides for requirement of transparency in election expenses. Section 25 (4) of the Guidelines provides for limitation on election expenses which is in consonance with the provisions of the Electoral Act.

All the afore-mentioned provisions are aimed at achieving equity, fairness, transparency and accountability in the management of party funds and party organization in general.

Electoral Conduct of Parties

Out of the four regulatory instruments under review, only two contain provisions relating to expected conduct of political parties, candidates and their supporters during elections. The two documents are the 1999 Constitution, as amended, and the 2022 Electoral Act. In Section 227, the 1999 Constitution provides that no association shall retain, organise, train or equip any person or group of persons for the purpose of enabling them to be employed for the use or display of physical force or coercion in promoting any political objective or interest or in such manner as to arouse reasonable apprehension that they are organised and trained or equipped for that purpose.

On its own, the 2022 Electoral Act contains a plethora of provisions that relate to the conduct of political parties, candidates and their supporters before, during and after polling. For instance Section 92 (1&2) of the Act provides that a political campaign or slogan shall not be tainted with abusive language directly or indirectly likely to injure religious, ethnic, tribal or sectional feelings. It also provides that abusive, intemperate, slanderous or base language or insinuations or innuendoes designed or likely to provoke violent reaction or emotions shall not be employed or used in political campaigns.

Similarly, Section 92 (5&6) provides that a political party, aspirant or candidate of a political party shall not retain, organise, train or equip any person or group of persons for the purpose

of enabling them to be employed for the use or display of physical force or coercion in promoting any political objective or interest, or in such manner as to arouse reasonable apprehension that they are organised, trained or equipped for that purpose. It further provides that a political party, aspirant or candidate shall not keep or use armed private security organisation, vanguard or any other group or individual by whatever name called for the purpose of providing security, assisting or aiding the political party or candidate in whatever manner during campaigns, rallies and elections.

Furthermore, Sections 95 (2, 3, 4, 5&6) copiously provide that State apparatus including the media shall not be employed to the advantage or disadvantage of any political party or candidate at any election. Media time shall be allocated equally among the political parties or candidates at similar hours of the day. At any public electronic media, equal airtime shall be allotted to all political parties or candidates during prime times at similar hours each day, subject to the payment of appropriate fees. At any public print media, equal coverage and visibility shall be allotted to all political parties. A person who contravenes subsections (3) and (4) commits an offence and is liable on conviction, in the case of — (a) a public media, to a fine of N2, 000,000 in the first instance and N5, 000,000 for subsequent conviction; and (b) principal officers and other officers of the media house, to a fine of N1, 000,000 or imprisonment for a term of six months. Section 97 (1a&b) provides that a candidate, person or association that engages in campaigning or broadcasting based on religious, tribal, or sectional reason for the purpose

of promoting or opposing a particular political party or the election of a particular candidate, commits an offence under this Act and is liable on conviction— (a) to a maximum fine of N1,000,000 or imprisonment for a term of 12 months or both ; and (b) in the case of a political party, to a maximum fine of N10,000,000.

There is no denying the fact that the foregoing provisions are both elaborate and ambitious. In any electoral democracy where these provisions are strictly adhered to by politicians, political parties and their supporters; and where the provisions are unbiasedly enforced or implemented, transparency, accountability, legitimacy, issue-based politics and violence-free elections will dominate party politicking in such a democracy.

The Contradictions of Constitutional Codification of Parties in Nigeria's Fourth Republic What the foregoing section has shown in bold relief is that Nigeria does not lack the requisite party constitutionalisation framework capable of producing intended consequences of party formalization. Both the national and party constitutions contain provisions that aim at entrenching internal democracy within parties as well as instilling liberal and responsible party behaviour that enhances constitutional party democracy. Other legal and regulatory documents aim at enhancing the organizational survival of the parties through finances including (at the beginning of the current republic in 1999) state funding of political parties which was however outlawed following the constitutional/electoral reform of 2010.

In practice however, these comprehensive constitutional efforts have not produced the desired outcomes. Thus, the Nigerian case represents a paradox of growing disorderliness in the context of increased laws. There is a legion of empirical evidences that show the failure of the party constitutionalisation efforts in the period under review. Some of these instances are cited below.

In defiance to the provision on internal party democracy, imposition of candidates is the order of the day within political parties in Nigeria particularly among the established ones. For instance, former President Olusegun Obasanjo single handedly imposed Alhaji Umar Yar'adua on the PDP as its presidential candidate in the 2007 presidential election. Incumbent President Jonathan also exploited political incumbency to clinch the presidential ticket of PDP in 2015 leading to the mass exit of prominent members from the party including former Vice President Atiku Abubakar and former House of Representatives Speaker, Right Honourable Aminu Tambuwal. Similar imposition of candidate was witnessed in Osun state in 2018 when Alhaji Isiaka Oyetola became the governorship candidate of APC for the 2018 governorship election. Imposition of candidate was also witnessed within the PDP when Senator Ademola Adeleke won the party's governorship ticket for 2022 governorship election. Furthermore, the Plateau State National Assembly Election Tribunal as well as the Appeal Court nullified the election of Napoleon Bali of PDP as Senator representing Plateau South Senatorial District due to the party's refusal to obey earlier court judgement that ordered it to conduct fresh party congress in 17 local government areas in Plateau state. The court consequently declared Simon

Lalong of APC as the duly elected senator for the district. Similarly, in May 2019, the Supreme Court nullified the election of all the candidates of APC in Zamfara state in the 2019 general elections for failing to “follow legitimate guidelines and rules”. Another assault on intra-party democracy was witnessed in APC during the nomination process for the selection of the party’s candidate for the Yobe North senatorial district during the 2023 general elections. Whereas the validly conducted primary election for selecting the senatorial candidate of the party held on May 28, 2022 produced Hon. Bashir Sheriff Machina as the party’s candidate, the party unlawfully conducted another primary on June 9 2022 which produced Senator Ahmed Lawan as the candidate of APC.

Against the provisions of the Companies and Allied Matters Act, a self-styled organization named Corporate Nigeria donated millions of naira to the Obasanjo/Atiku Campaign in 2003. Similarly, a business tycoon, Mr. Tunde Ayeni once donated N1 billion naira to PDP. Furthermore, Alhaji Isyaku Rabi'u, a prominent Nigerian business mogul, contravened the provisions of the Electoral Act 2006 when he donated N250m to PDP in 2007. Reports by election observers and civil society organizations since 2003 have consistently shown that established political parties particularly ruling parties and large opposition parties spent far above permissible election expenses. There are also media reports which were confirmed by INEC that many political parties do not submit their annual audited accounts to INEC as required by law. Lastly, the famous *Dasukigate* financial scandal as well as the diversion of the Ecological Funds meant for Plateau State to the financing of PDP clearly show the contravention of party financing regulations in Nigeria.

The instances cited above and many others not covered here represent the contradictions of party constitutionalisation in Nigeria. Whereas there are constitutional/legal prescriptions that promote internal party democracy, licit party funding and responsible electoral conduct, these prescriptions are often rudely violated by political parties, political incumbents and godfathers demonstrating a dissonance between formal legal framework and actual practices by political parties and political practitioners. This has thrown up party constitutionalisation as more of a symbolic than substantive tool of strengthening party democracy in Nigeria. Thus, given the negative unintended consequences that have accompanied party constitutionalisation in Nigeria, one can safely conclude that the efforts have ended in tears for Africa’s largest electoral democracy.

Wiping the tears and Strengthening Party Democracy

This study has established that constitutional codification of political parties in Nigeria which set off more than four decades ago has not substantially achieved its intended goals despite its comprehensiveness and elaborateness. According to Jinadu (2011), party constitutionalisation has failed to effectively address the salience of ethnicity in Nigerian politics and has not deepened internal democracy within the political parties. He further contends that formalization of political parties has not ensured a level playing field for political parties and has also failed to engender issue-based and violence-free election campaigns (Jinadu, 2011).

In his own reflection on the outcome of party constitutionalisation efforts of Nigeria’s second republic, Patrick Ollawa finds a sharp divergence between what was intended and the actual outcome. According to Ollawa “the paradox of party politics in the second republic is that despite a well-intentioned constitutional attempt to evolve a party system which would promote stable contest between parties, presumably characterized by different programmes manifested in issue-oriented ideologies... what emerged in practice was transactional politics based on opportunistic and informal networks of politicking replete with intra-party factionalism that consistently led to shifting alliances, a situation which unavoidably supplanted the formal structure of party organization...” (Ollawa, 1989). This reality calls for pro-active measures to address the challenge of ineffectiveness of party constitutionalisation.

This paper proposes three key measures for the reversal of the negative realities of party constitutionalisation in Nigeria as demonstrated by this study. First, political gladiators should demonstrate strong will to abide by the rules of party politicking as contained in the legal and regulatory instruments. Without a conscious psychological transition by political practitioners in Nigeria from zero-sum logic to constructive-sum logic, efforts at party institutionalization and party constitutionalisation will perpetually come to grief. Second, regulatory and enforcement institutions should be endowed with the requisite institutional autonomy to discharge their mandate. Third, strong citizen oversight through the instrumentality of associational life should be brought to bear on the activities of political parties and regulatory institutions.

Conclusion

This paper has examined the practice of party constitutionalisation in Nigeria and the extent to which the phenomenon has strengthened party democracy in the country. The paper finds that political parties in Nigeria not only contravene the provisions of national constitution, they equally do not respect their own formal constitutions particularly in the areas of party funding and internal party democracy. This explains regular outbreak of conflicts in all political parties particularly during party nomination for elective offices. Against this backdrop, the paper argues that efforts at party constitutionalisation in Nigeria have failed to engender intended outcomes both within the party organization and the larger body politic. The paper concludes that while party constitutionalisation, and the attendant incremental review, is a good effort at enhancing party democracy in Nigeria, the effort needs to be accompanied by effective mechanisms capable of achieving its goals. It contends that unless robust and more stringent remedial measures are instituted, the prospects of democratic strengthening may recede or stagnate.

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Electoral Violence and Party Politics in Nigeria, Africa: Insights from the Rivers State Local Government Election

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Abstract

Nigeria is widely regarded, both within Africa and beyond, as a nation expected to lead by example in upholding democratic principles and best practices. However, since gaining independence in 1960, its electoral process has been consistently undermined by violence, casting a shadow over its democratic development and governance. Electoral violence remains a critical challenge to democratic consolidation in Nigeria, often fueled by party politics and intense political rivalries. This study i) examine the key factors contributing to electoral violence in Rivers State, ii) to assess the role of political parties, security agencies, and other stakeholders in either mitigating or exacerbating electoral violence, iii) To evaluate the impact of electoral violence on democratic governance and political stability in Rivers State. This study adopted a mixed-methods approach, integrating both quantitative and qualitative research techniques to ensure a comprehensive analysis. Data were collected from a combination of primary sources, such as surveys and interviews, and secondary sources, including official reports, academic literature, and media publications. The study therefore recommends that the urgent need for electoral reforms, stronger law enforcement mechanisms, and political will to curb violence and ensure free, fair, and credible elections. The paper concludes by offering policy recommendations for mitigating electoral violence and strengthening democratic institutions in Nigeria and beyond.

Keywords: Electoral violence, party politics, electoral malpractice, political thuggery, political violence

Introduction

Across the globe, regular and periodic elections are regarded as a cornerstone of people-centered governance. Elections enable citizens to hold public officeholders accountable and influence political leadership. As Edigbonya, Olumide, and Ukhurebor, (2023) observe: "*The quality of elections is one of the criteria used to assess the degree of democratic consolidation in emerging democracies.*" Despite this, organizing free and fair elections remains a significant challenge for many new democracies in West Africa particularly Nigeria. In Nigeria and other African countries, electoral processes are frequently marred by violence, manipulation, and partisan conflicts. Electoral violence ranging from intimidation and physical assaults to destruction of property and loss of life has become a recurring and deeply concerning feature of Nigeria's political landscape, especially at the grassroots level. This pattern undermines democratic governance, erodes public trust in electoral institutions, and destabilizes the political system.

After Nigeria successfully returned to democratic governance in 1999, the country continued to grapple with enduring challenges such as electoral malpractice, political violence, voter intimidation, and, at times, credible allegations of fraud. These persistent issues remain significant obstacles in Nigeria's pursuit of transparent, free, and credible elections. Despite ongoing efforts to reform the electoral process, the 2023 presidential election was marred by troubling incidents of electoral violence. Reports and allegations indicated possible involvement by members of the ruling political elite, raising fresh concerns about the integrity of the democratic process (Ibrahim, 2023; Vanguard, 2023).

While electoral violence is not unique to Nigeria, its frequency and intensity within the country demand focused scholarly attention. The problem is especially acute during local government elections, where party rivalry and weak regulatory mechanisms often fuel violent confrontations. These elections, though sometimes perceived as less consequential than national ones, offer critical insights into grassroots political dynamics and the broader electoral landscape.

Rivers State, situated in the oil-rich Niger Delta region, presents a compelling case for examining the nexus between electoral violence and party politics. The state's history of fierce political rivalry and economic

significance has made it a hotspot for political contestation. Local elections in Rivers State are frequently characterized by voter intimidation, ballot box snatching, destruction of electoral materials, and even loss of life. Political actors often employ both legal and extra-legal means to maintain control over local governance structures, turning elections into arenas of violent competition rather than democratic engagement. For instance, the political confrontation between the Governor of Rivers State, Siminalayi Fubara, and his immediate predecessor and current Minister of the Federal Capital Territory (FCT), Nyesom Wike, escalated to an alarming level during the recently concluded local government elections in Rivers State.

The research problem lies in the continued prevalence of electoral violence in Nigeria despite the institutionalization of democratic elections. Existing studies have focused predominantly on national elections, leaving a gap in our understanding of the dynamics at the local level. This oversight limits our ability to develop effective, context-specific strategies to prevent violence and promote credible elections.

Objectives of the Study

This paper aims to:

1. Explore the root causes and manifestations of electoral violence in Rivers State.
2. Assess the role of political parties, security agencies, and other stakeholders in exacerbating electoral violence in Rivers State.
3. Evaluate the impact of electoral violence on democratic governance and political stability in Rivers State.

Statement of the Problem

Electoral violence remains a recurrent and deeply entrenched issue within Nigeria's democratic trajectory, particularly in Rivers State, where political competition frequently escalates into hostility, coercion, and physical aggression. Despite the formal institutionalization of democratic governance and the regular conduct of elections, the persistence of electoral violence poses a significant obstacle to democratic consolidation and political stability (Höglund, 2009; Omotola, 2010). This troubling pattern raises urgent questions regarding the structural and contextual factors that drive and sustain such violence in the state.

Although existing scholarly works and policy discussions have identified several contributory factors including political godfatherism, ethnic rivalries, economic marginalization, and institutional frailty many of these analyses tend to adopt a generalized national perspective, thereby neglecting the specific political configurations and historical peculiarities of Rivers State (Ibeanu, 2007; Albert, 2005). As such, there is a pressing need for a localized and context-sensitive investigation that probes the underlying drivers and manifestations of electoral violence in the state.

Moreover, while political parties, security agencies, and electoral institutions are often cited as critical stakeholders in either curbing or aggravating election-related violence, the precise roles these actors play whether through action, inaction, or collusion have not been sufficiently examined, especially within the unique political economy of Rivers State. The apparent complicity of some state actors, coupled with weak institutional oversight and accountability, has arguably normalized electoral violence as a strategic instrument of political contestation.

The ramifications of this violence are profound and multifaceted. Beyond the immediate loss of life, displacement, and psychological trauma inflicted on citizens, electoral violence in Rivers State contributes to the erosion of public confidence in the electoral process, undermines democratic legitimacy, and weakens the foundations of participatory governance (Nwolise, 2007; Rotberg, 2014). It also deters meaningful political engagement, especially among marginalized groups such as women and youth, who often bear the brunt of violence yet remain excluded from power structures.

In light of these challenges, this study seeks to fill the existing gaps in literature by undertaking a critical examination of the root causes and forms of electoral violence in Rivers State. It also aims to assess the role of political parties, security institutions, and other key stakeholders in the perpetuation or prevention of such violence. Ultimately, the study will evaluate the broader implications of electoral violence for democratic governance and political stability in Rivers State and, by extension, Nigeria's evolving democratic experience

Literature Review

This section reviews the existing literature based on the following sub-thematic issues:

- ❖ Election
- ❖ Electoral Violence
- ❖ Party Politics in Nigeria

The concept of an election has been interpreted in various ways by scholars from different academic backgrounds. According to Ojo (2007), an election is the process or act of selecting a person or group of people for a specific office, carried out by voters who are legally qualified to participate. Similarly, Agu (2014) views an election as an officially sanctioned and legally structured method through which citizens select leaders to manage public affairs. More broadly, an election refers to a formal decision-making process in which a population chooses one or more individuals to occupy public office. An election is the process of selecting a representative or leader from among a group of candidates or political parties. Anifowose (2003) describes it as a process through which the masses participate in choosing from among the elite to occupy positions of authority within a political system.

In post-colonial Africa, elections became a central mechanism for attaining political power. Ironically, while it is possible to have elections without genuine democracy, it is widely accepted that democracy cannot exist without elections. This highlights the crucial role that elections play in the functioning and legitimacy of democratic systems (Luqman, 2009)

Omotola (2010) asserts that the physical dimension of electoral violence includes acts such as arson, looting, shootings, the violent disruption of campaign rallies, and armed attacks on polling and collation centers. These attacks often involve the forceful seizure of electoral materials typically with the use of dangerous weapons as well as incidents of hostage-taking, kidnapping, and, most critically, the assassination of political opponents.

In contrast, structural electoral violence refers to more systemic and institutionalized forms of manipulation. Nwolise (2007) identifies these as the use of government coercion to compel voter registration or turnout, abuse of incumbency powers, denial of fair opportunities to opposition parties and candidates, politicization of security and electoral officials, and the falsification of election results. These practices undermine electoral integrity by skewing the process in favor of particular political actors.

Höglund (2009) argues that electoral violence represents the highest and most extreme manifestation of electoral fraud. While electoral fraud involves covert attempts to manipulate electoral outcomes, electoral violence takes a more direct and forceful approach. Sisk (2008) defines electoral violence as “acts or threats of coercion, intimidation, or physical harm perpetrated to affect an electoral process or that arise in the context of electoral competition.”

Atuobi (2008) further explains that electoral violence encompasses intentional acts designed to influence the electoral process either by causing delays, disruptions, or manipulating the results to determine election outcomes or influence public opinion in plebiscites. In essence, electoral violence is a coercive tool used by political actors to advance personal or group interests and to achieve specific political goals (Höglund, 2009).

Gani Yoroms (2015) describes electoral violence as a phenomenon commonly seen in fragile democracies, where it arises as a direct response to the failure of the political system to meet the expectations of the electorate. In such contexts, electoral violence becomes both a symptom and a consequence of broader governance failures and democratic deficits.

Electoral violence is one of the most pressing challenges confronting many democratic societies. It can be defined as violence motivated by elections, used to coerce, intimidate, or forcefully influence voter behavior, voting patterns, or to overturn electoral outcomes in favor of a particular individual, group, or political party.

In broader terms, electoral violence refers to any form of physical harm or threat directed at individuals or property involved in the electoral process. This violence may occur before, during, or after elections, with the intent to disrupt or manipulate the democratic process.

Pre-election violence often includes attacks on political opponents, vandalism of campaign materials, or threats aimed at discouraging voter participation. During elections, it may involve ballot box snatching, intimidation at polling units, or physical confrontations. Post-election violence, on the other hand, frequently

results from the manipulation or rejection of election results, or disputes surrounding democratic transitions, such as the handover from one administration to another.

Nwokike, Ezeneme, and Okafor (2023) observe that:

"The impact of electoral violence on Nigeria's democracy is nothing short of catastrophic. When acts of violence and intimidation are used to suppress opposition voices and stifle free and fair debate, the very essence of the democratic process is undermined and weakened. This erosion of democratic principles has far-reaching consequences that extend beyond the immediate aftermath of an election."

They further emphasize:

"One of the most significant consequences of electoral violence is the erosion of public trust in the electoral process. When citizens witness or experience violence during elections, they lose faith in the system's ability to accurately represent their voices and choices."

This loss of trust is detrimental to democratic consolidation, as citizens begin to disengage from civic participation, leading to lower voter turnout, weakened institutions, and increased political apathy.

Moreover, the intense struggle for political power, particularly among registered political parties, ethnic groups, and religious factions, continues to fuel political violence in Nigeria. This has been exacerbated by the rise of armed thugs, often loyal to powerful political figures, who use violence as a tool for political gain.

Ediagbonya et al. (2023) affirm this concern, stating:

"Politics is the cause of a large number of deaths in Nigeria through acts of violence, thuggery, political assassination, and crimes that are directly linked to the quest for power. In the process, many criminal offenses are committed. Security personnel are frequently mobilized to harass or intimidate political opponents, or even to take sides, thereby undermining free, fair, and credible elections."

This persistent cycle of violence not only destabilizes the political landscape but also threatens the future of democracy in Nigeria. To safeguard democratic values, it is imperative to address the root causes of electoral violence and ensure accountability for political actors who perpetuate it.

Omotola (2010) identifies three key issues in leadership that are central to the analysis of party politics and democratic governance in Nigeria. These issues are Leadership Ascension, Leadership Operation, and Leadership Succession. Leadership Ascension refers to the processes and strategies through which individuals aspire to and ultimately attain political leadership positions. This includes both formal and informal pathways to power.

Building on this, Rotberg (2014) elaborates on the roles political actors entrusted with state authority play during various leadership transitions. These roles are critical to understanding the dynamics of leadership and form a central theme of this discussion. A primary function of political parties is to present and elect candidates to public office under a party label, regardless of whether the electoral process is credible or flawed (Patz, 2010).

Unlike the practice in many African democracies where democratic principles are often unstable Western political parties typically engage in structured candidate preparation. This includes training individuals for elective positions and adhering to internal party democracy, rather than imposing candidates without due process. Additionally, political parties in developed democracies are involved in voter education, public sensitization, and the recruitment and compensation of party workers. These functions contribute to a healthier democratic system.

In contrast, while Nigerian political parties perform some of these functions, Fagbadebo, Odeyemi, & Agunyai (2014) argue that they are more prominently engaged in internal rivalries, efforts to suppress opposition, the imposition of preferred candidates, and manipulation of the electoral process. These negative tendencies, as highlighted by Fagbadebo and colleagues, often lead to vote buying and the commercialization of electioneering, as was evident during the 2024 local government elections in Rivers State. Such practices undermine democratic principles and compromise the integrity of the electoral process in Nigeria.

The ultimate aim of any political party is to secure control of government. In the African context, however, gaining leadership through party politics often requires significant influence, strategic maneuvering, and backing from powerful individuals commonly referred to as *godfathers*. In Nigeria, in particular, participating in elections is highly capital-intensive, as the process is both fiercely contested and deeply competitive.

Theoretical Framework

The intersection of electoral violence and party politics in Nigeria can be best understood through the lens of the **Conflict Theory** and the **Elite Theory**, both of which offer critical insights into the dynamics of power, competition, and institutional failure that underpin political processes in Nigeria, especially at the local level.

Political Conflict Theory

Rooted in the works of Karl Marx, Conflict Theory posits that society is in a state of perpetual conflict due to competition for limited resources (Dahrendorf, 1959). Within this framework, political power is often unequally distributed, and those in control of state institutions deploy violence and coercion to maintain dominance. In the context of Nigeria, and particularly Rivers State, electoral violence serves as a mechanism through which political actors assert control, manipulate electoral outcomes, and undermine democratic institutions.

Electoral violence during local government elections in Rivers State is not random but often orchestrated by political elites to secure political power. As such, the theory helps to explain how political parties, particularly dominant ones, mobilize violence to protect vested interests, limit political participation, and reinforce clientelistic networks (Ibeanu, 2007). The fierce competition among rival factions within and across parties in Rivers State reflects this systemic struggle over access to power and resources.

Elite Theory

Elite Theory, advanced by theorists like Gaetano Mosca and Vilfredo Pareto, argues that a small minority, consisting of members of the economic and political elite, hold the most power—and that this power is independent of democratic elections (Bottomore, 1993). In Nigeria, elite dominance manifests in the control of political parties by godfathers and political patrons who direct the course of party politics, often sidelining democratic processes in favor of personal or group interests (Albert, 2005).

This theory is particularly applicable in the Rivers State scenario, where political elites manipulate local government elections to consolidate their hegemony. The theory explains how elite capture of political parties and electoral institutions often leads to the normalization of violence as a strategic tool. The 2025 Rivers State local government elections, for instance, were marred by reports of security suppression, intimidation, and logistical irregularities that favored the ruling party, reinforcing elite theory's claim that democracy in Nigeria is often subverted by a few powerful individuals.

Justification for Application

The application of Political Conflict and Elite theories is justified in analyzing electoral violence and party politics in Nigeria, particularly within subnational contexts like Rivers State. Both frameworks shift the analysis from surface-level electoral irregularities to the underlying power structures and socio-political dynamics that sustain violence. They also provide a robust analytical foundation to explore how institutional weaknesses, party indiscipline, and economic disparities fuel violent contestation over power.

Moreover, these theories are especially suited to African political contexts, where colonial legacies, weak democratic institutions, and elite manipulation continue to shape political outcomes. Applying these perspectives enriches our understanding of electoral violence not merely as a breakdown of order but as a rational and systemic feature of competitive party politics in fragile democracies like Nigeria (Omotola, 2010; Höglund, 2009)

Methodology

The qualitative descriptive research approach adopted in this study enables an in-depth exploration of the phenomenon of electoral violence and party politics during the 2024 Local Government elections. This method is particularly useful for capturing the complexities and contextual realities of political events, as it allows for detailed descriptions and interpretations.

By analyzing reports from both international and national election observers, along with credible accounts from reputable national newspapers, the study obtains a comprehensive understanding of the scope, nature, and patterns of electoral violence and political party activities.

In addition, existing scholarly literature on electoral violence and party politics in Nigeria provides critical insights into the root causes, motivations, and long-term consequences of such incidents. These academic

perspectives help to contextualize the findings and offer a deeper understanding of the recurring challenges within Nigeria's electoral system

Findings and Discussions

Research Objectives 1: Explore the root causes and manifestations of electoral violence in Rivers State.

Rivers State, a critical oil-producing hub in Nigeria, has unfortunately become synonymous with electoral violence. The state's political landscape, characterized by intense rivalries and a high-stakes struggle for power, has consistently witnessed disruptions, intimidation, and bloodshed during elections. Understanding the complex interplay of factors contributing to this recurring problem is crucial for fostering a more peaceful and democratic electoral process.

➤ **Intense political rivalry and polarization.**

The state's political scene is largely dominated by two major parties, and the competition between them is often fierce and uncompromising. This rivalry is not merely about policy differences; it is deeply personal and rooted in a struggle for control over resources and patronage. The "winner-takes-all" mentality prevalent in Nigerian politics exacerbates this, as electoral victory translates to significant economic and political advantages. This high-stakes environment creates a climate of desperation, where political actors are willing to resort to violence to secure victory.

➤ **Proliferation of small arms and light weapons plays a critical role in fueling electoral violence.**

Rivers State, like many other parts of the Niger Delta, has a history of militancy and resource conflicts. This has led to the widespread availability of weapons, which are easily accessible to political thugs and criminal elements. These weapons are often used to intimidate voters, disrupt polling stations, and carry out violent attacks against political opponents. The lack of effective arms control and disarmament measures has allowed this problem to persist, creating a volatile environment during elections.

➤ **The role of political thugs and cult groups cannot be overstated.**

These groups, often recruited and armed by political actors, are instrumental in carrying out violent attacks and disrupting the electoral process. They operate with impunity, knowing that they are protected by powerful individuals. The lack of accountability for their actions further emboldens them, creating a cycle of violence. The influence of these groups extends beyond elections, contributing to general insecurity and instability in the state. Consequently, these individuals have evolved in both status and operational capacity. They no longer rely on crude weapons such as clubs; instead, they now utilize sophisticated small arms, not only to intimidate but also to kill when deemed necessary. Recent developments in the political landscape indicate that they do not fear the police, as they possess the resources to confront law enforcement when required. Furthermore, evidence suggests that they are not deterred by the military either (Agbese, 2019).

➤ **Economic factors**

Rivers State is rich in oil resources, which translates to substantial revenue for the government. This wealth, however, is not evenly distributed, leading to widespread poverty and inequality. Many young people, facing unemployment and economic hardship, are easily recruited by political actors to engage in violence. The promise of financial rewards and the allure of power make them susceptible to manipulation. The desperation created by economic deprivation fuels the willingness to participate in electoral violence.

➤ **The weakness of electoral institutions and the lack of trust in the electoral process**

The Independent National Electoral Commission (INEC) has often been accused of bias and incompetence, leading to a lack of confidence in its ability to conduct free and fair elections. This lack of trust encourages political actors to resort to violence, as they believe that the electoral process is not credible. Furthermore, the slow pace of judicial processes and the lack of effective prosecution of electoral offenders create a culture of impunity.

➤ **The role of security agencies.**

While security agencies are tasked with maintaining peace and order during elections, their actions have often been controversial. Accusations of bias, excessive use of force, and complicity in electoral malpractice have eroded public trust. The lack of professionalism and the politicization of security agencies have contributed to the problem of electoral violence. There were reports of skirmishes concerning the police allegedly carting away election materials, prompts the Governor to visit the headquarters of the Rivers State Independent Electoral Commission (RSIEC) to confront the police over the incident (Abati, 2025).

➤ **Ethnic and communal tensions**

Rivers State is a diverse state with numerous ethnic groups and communities. These groups often have historical grievances and rivalries, which can be exploited by political actors to incite violence. The manipulation of ethnic and communal identities can create divisions and escalate tensions, leading to violent clashes during elections.

Research Objectives 2: Assessing the Role of Political Parties, Security Agencies, and Other Stakeholders in Exacerbating Electoral Violence in Rivers State

Rivers State, a pivotal state in Nigeria's political and economic landscape, has consistently witnessed a disturbing trend of electoral violence. Understanding the intricate roles of political parties, security agencies, and other stakeholders is crucial to unraveling the complex dynamics that perpetuate this issue. Their actions, whether intentional or unintentional, significantly impact the electoral environment, either contributing to or mitigating violence.

➤ **Political Parties: The Central Actors and Their Complex Influence**

In Rivers State, the intense rivalry between dominant political parties often sets the stage for electoral violence. These parties, while ideally meant to champion democratic ideals, frequently become the primary catalysts for disorder. A disturbing trend in Rivers State is the recruitment and arming of youth and cult groups by political parties. These groups are deployed to intimidate opponents, disrupt rallies, and manipulate election outcomes. This practice creates a volatile environment where violence becomes the norm.

➤ **"Do-or-Die" Politics and Inflammatory Rhetoric**

The "winner-takes-all" mentality, coupled with the use of inflammatory rhetoric and hate speech, fuels animosity and polarization. Political actors often resort to divisive language, exploiting ethnic and communal tensions to gain an advantage. Political actors often use hate speech and inflammatory language in rallies and media appearances, contributing to a charged atmosphere that increases the risk of violent confrontations.

There is an urgent need to reform the local council election process in Nigeria, as it has consistently produced outcomes that overwhelmingly favor the ruling party in each state or, in many cases, a proxy party aligned with the incumbent Governor. State Governors have effectively seized control of the local government electoral process. For instance, in the last week of September, the Anambra State Independent Electoral Commission (ANSIEC) declared the ruling All Progressives Grand Alliance (APGA) victorious in all 21 local government councils and 326 wards of the state.

Similarly, in Rivers State, the Governor's proxy party, the APP, gained political prominence. In Benue State, local council elections held on Saturday, October 5, followed the same pattern: the ruling party, led by Governor Hyacinth Alia a Catholic priest turned politician won all 23 chairmanship positions and all 276 councillorship seats. These trends highlight the need to critically rethink, review, and reform the local government election system, which currently appears to serve primarily the interests of incumbent Governors rather than the democratic will of the people

➤ **Lack of Internal Party Democracy**

The absence of transparent and democratic processes within political parties exacerbates tensions. Imposed candidates and manipulated primaries breed resentment, which can spill over into electoral violence. Disagreements within parties over candidate selection have led to factionalism and violence, especially during party primaries.

➤ **Financial Inducement and Vote Buying**

The pervasive practice of vote buying and financial inducement creates a culture of transactional politics. This undermines the integrity of the electoral process and can lead to violence when promises are not fulfilled or when opponents attempt to disrupt these activities.

➤ **Distrust of Electoral Processes**

Parties and their leaders who consistently cast doubt on the neutrality and integrity of INEC create an environment that encourages violence. When the electoral process is not trusted, some parties may feel that violence is the only way to achieve their goals.

Security Agencies

Security agencies such as the Nigerian Police Force, the Nigeria Security and Civil Defence Corps (NSCDC), and sometimes the military play a vital role in securing the electoral process. In Rivers State, security agencies have been accused of bias and partisanship during elections:

In Ward 19, Elekahia, it was reported that police officers invaded the polling unit and disrupted the voting process. On Monday, following the police announcement that local council secretariats had been unsealed, hoodlums attacked the local government offices in Ikwerre, Emohua, Ahoada East, and Eleme, setting them ablaze (Thisdaylive, 2025). In past elections, there have been reports of brutality and intimidation by security forces, especially in strongholds of the opposition. This creates fear and could provoke violent resistance. The use of excessive force by security personnel during elections can escalate tensions and lead to violence.

➤ Allegations of Partisanship

Security personnel are sometimes accused of acting on behalf of certain politicians or parties, aiding in the disruption of voting or protection of thugs. Security agencies have frequently been accused of bias and partisanship, favoring one political party over another. This undermines public trust and fuels resentment. The role of the Nigeria Police Force in the Rivers crisis is deeply concerning. Under Sections 214 to 216 of the 1999 Constitution and Section 4 of the Police Act, the Police have a constitutional mandate to protect lives and property. It is a troubling anomaly in Nigeria's democratic process that a court of law could issue an order preventing the Police from providing security in any part of the country, and that the police leadership would comply without immediately challenging such an order. Consequently, the elections in Rivers State were conducted without police security. This development regrettably highlights the Nigeria Police Force's increasing marginalization in electoral matters (Abati, 2025)

➤ Lack of Professionalism, Accountability and Training

Inadequate training, poor equipment, and lack of professionalism can hinder the ability of security agencies to effectively manage electoral violence. The lack of accountability for security personnel who engage in misconduct encourages impunity and perpetuates the problem. . In many cases, law enforcement fails to respond promptly to reports of violence or electoral malpractice, allowing impunity to thrive.

Other Stakeholders (Civil Society Organizations (CSOs), the Media, Judiciary and RSINEC)

Other stakeholders, including civil society organizations, the media, traditional and religious leaders, and INEC, also play significant roles in shaping the electoral environment. The River State Independent National Electoral Commission (RSINEC) has a constitutional mandate to conduct free, fair, and credible elections. Likewise the Civil Society Organizations and the Media, inclusive the Traditional ruler and Religious leaders also contribute to electoral violence.

➤ Logistical failures

Late arrival of election materials, malfunctioning BVAS machines, or missing result sheets can cause frustrations and lead to violence. Sometimes, INEC officials are suspected of colluding with political actors or manipulating results, tensions quickly escalate. Also, lack of timely updates and unclear procedures often leave voters feeling disenfranchised and spark unrest.

➤ Partisan reporting by media

Partisan reporting by local media outlets has emerged as a significant factor exacerbating electoral violence in Rivers State. Some media organizations have been accused of aligning with specific political interests, thereby compromising journalistic neutrality and objectivity. Rather than providing accurate, balanced, and fact-based reporting, these outlets often disseminate propaganda, sensationalize events, and promote narratives that favor one political faction over another.

This type of reporting can inflame political tensions, deepen divisions among the electorate, and incite hostile actions by portraying opponents in a negative or threatening light. In such a polarized environment, misinformation and biased coverage can provoke fear, anger, and suspicion, leading to confrontations and acts of violence during the electoral process. Moreover, when the public perceives the media as tools of political manipulation, trust in democratic institutions and the electoral process is further eroded. Consequently, partisan media practices undermine efforts to promote peaceful, transparent, and credible elections in Rivers State.

➤ **Biased or compromised CSOs**

The role of civil society organizations (CSOs) in promoting democratic governance and peaceful elections is critical; however, when these organizations are perceived as biased or compromised; their ability to contribute meaningfully to electoral integrity is significantly diminished. In Rivers State, the perception that certain CSOs align with political interests or act as extensions of partisan groups has weakened public confidence in their neutrality.

This lack of trust undermines their credibility and hampers their efforts to mediate electoral disputes or advocate for non-violent political engagement. Instead of serving as impartial watchdogs and peacebuilders, compromised CSOs may inadvertently contribute to political polarization and escalate tensions among electoral stakeholders. Their perceived partiality can provoke resentment among opposition parties and disenfranchised groups, who may view the electoral process as rigged or unjust, thereby increasing the likelihood of violent responses. Furthermore, the absence of trusted, neutral intermediaries during elections reduces opportunities for dialogue and conflict resolution. As such, biased or compromised CSOs represent a serious impediment to peaceful electoral outcomes and a contributing factor to the persistence of electoral violence in Rivers State.

➤ **Judiciary**

The judiciary's role in the Rivers State election has raised serious concerns about constitutional adherence and institutional impartiality. It is troubling that a court of law could issue an order prohibiting security agencies from fulfilling their constitutional mandate to provide security during elections. Such decisions appear to contravene both the spirit and the letter of the Constitution. Additionally, the phenomenon of courts of equal and coordinate jurisdiction issuing conflicting orders often enabling political actors to engage in forum shopping from Port Harcourt to Abuja undermines the coherence and integrity of the judicial system.

In a public interview, Governor Fubara expressed dismay over the conduct of the Nigerian Police and their selective adherence to court orders. He criticized a recent police press statement, describing it as contradictory and misleading. Fubara noted the irony of the Police suddenly citing court orders to justify their inaction, despite a long history of disregarding judicial rulings. He emphasized that the Constitution does not prohibit the conduct of elections, and that grievances can be addressed through lawful channels, citing Section 84(15) of the Electoral Act, 2022. Moreover, he questioned why the Police failed to comply with an existing court order mandating the continuation of the local government election process, accuse them of cherry-picking which orders to obey. He lamented a growing culture of impunity and political manipulation, stressing that for any nation to develop and prosper, constitutionalism must be upheld above all else (Olokun cited in Nigerian Democratic Report, 2025).

State institutions particularly the judiciary and the police must act in the public interest and be guided by principles of justice, peace, and equality. When these institutions are perceived as politicized or inconsistent, public trust erodes, and the risk of electoral violence increases. A functioning democracy depends on the impartial and lawful conduct of all its institutions, especially during critical periods such as elections

Research objectives 3: Evaluating the Impact of Electoral Violence on Democratic Governance and Political Stability in Rivers State

Rivers State, a critical economic and political hub in Nigeria, has unfortunately been plagued by recurring incidents of electoral violence. This persistent issue casts a long shadow over the state's democratic governance and political stability, undermining the very foundations of a functional democracy. Evaluating the multifaceted impact of this violence is crucial to understanding the challenges facing the state.

➤ **Undermining Electoral Credibility**

When elections are marred by violence, the credibility of the process is called into question. In Rivers State, elections have often been discredited by violent disruptions at polling stations, voter intimidation, and vote-buying. Such incidents reduce public trust in the electoral system and create a perception that elections are won not through the will of the people but through manipulation and force. As a result, many citizens become disillusioned with democracy and disengage from the political process. On Election Day, incidents of violence were reported in the Ogunabali area of Port Harcourt, where voters were attacked and election materials were destroyed (Abati, 2025).

➤ **Discouraging Voter Participation**

One of the most immediate impacts of electoral violence is low voter turnout. In Rivers State, fears of violence have discouraged voters from coming out on Election Day. The sight of armed thugs, reports of killings, and widespread insecurity instill fear among citizens, particularly women, youth, and vulnerable groups. When citizens do not feel safe to vote, democracy loses its essence as a government by the people. Nigeria's two major political parties, the All Progressives Congress (APC) and the Peoples Democratic Party (PDP), declined to participate in the elections for various reasons. However, it was alleged that candidates affiliated with one of the factions claiming leadership of the APC in the state contested the polls. Reports also indicated that both Governor Fubara and former Governor Wike lost in their respective polling units and wards, as their party did not field candidates (Nigeria Democratic Report, 2025).

➤ **Governance Paralysis and Loss of Public Trust**

Electoral violence often brings to power individuals who may not have emerged through legitimate means. When the public perceives that leaders are not elected based on popular will, legitimacy is lost. In Rivers State, this has resulted in widespread skepticism toward political leaders and institutions. The lack of legitimacy weakens the social contract between the government and the governed, leading to poor civic engagement and increased resistance to government policies.

➤ **Disruption of Economic Activities**

Rivers State, as a major oil-producing region, is critical to Nigeria's economy. During periods of electoral violence, businesses often shut down, workers stay at home, and economic activities grind to a halt. Violence disrupts transportation, scares away investors, and damages infrastructure. Violence erupted in several locations following explosions that damaged multiple buildings, including the Secretariat of the All Progressives Congress (APC) along Aba Road in Port Harcourt, the capital of Rivers State. The blast destroyed the gate of the secretariat and caused damage to doors, windows, and other property (Nigeria Democratic Report, 2025)

➤ **Recruitment of Youth for Violence**

Politicians often recruit unemployed or underemployed youth to act as enforcers during elections. These young men are given arms and money, further militarizing the political space. After elections, many of these individuals are left unemployed but still armed, leading to increases in armed robbery, kidnapping, and cult-related violence.

➤ **Loss of Civilian Oversight**

The growing influence of security forces in political affairs erodes civilian oversight and poses long-term risks to democracy. In some instances, security agents have been accused of aiding particular candidates or parties, further delegitimizing the electoral process. In response to the threat of violence, elections in Rivers State are often heavily militarized. While this is intended to ensure security, the presence of soldiers and police at polling units intimidate voters and create the impression of a war zone rather than a democratic exercise.

Recommendations

- 1 **Address Socioeconomic and Political Root Causes:** The government, in collaboration with civil society organizations and academic institutions, should initiate comprehensive and context-specific interventions aimed at addressing the root causes of electoral violence in Rivers State. These should include tackling poverty, unemployment, youth disenfranchisement, and the politicization of ethnic identities factors that often serve as catalysts for violence. Sustainable empowerment programs and political education campaigns should be institutionalized to reduce the vulnerability of youths to political manipulation and violent mobilization.
- 2 **Strengthen Institutional Accountability and Oversight Mechanisms:** There is a critical need to enhance the regulatory and oversight frameworks governing the conduct of political parties, security agencies, and electoral bodies. Independent monitoring bodies should be empowered to investigate and sanction political actors and security personnel found complicit in electoral misconduct. Electoral reforms must include stricter enforcement of the Electoral Act, training of security operatives on neutrality and human rights standards, and increased transparency in the activities of political stakeholders during election periods.

- 3 **Promote Democratic Values and Inclusive Governance:** To mitigate the long-term impact of electoral violence on democratic governance and political stability, state institutions should invest in promoting democratic values, civic engagement, and inclusive governance. This can be achieved through sustained public awareness campaigns, community dialogue platforms, and the integration of democratic education into school curricula. Furthermore, mechanisms for peaceful dispute resolution should be strengthened to reduce the tendency for violent responses to political grievances

Conclusion

Addressing electoral violence in Rivers State requires a multi-faceted approach. Strengthening electoral institutions, tackling the proliferation of arms, addressing economic inequality, promoting responsible journalism, and fostering a culture of accountability are all essential steps. Furthermore, political leaders must demonstrate a genuine commitment to peace and stability. Only through a concerted effort by all stakeholders can Rivers State break the cycle of electoral violence and build a more peaceful and democratic future.

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The Role of Civic Technology in African Elections: Opportunities and Challenges

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Abstract

Civic technology has emerged as a powerful tool for enhancing electoral transparency, voter engagement, and democratic participation in Africa. From digital voter registration systems to mobile-based election monitoring platforms, civic tech innovations have revolutionised the way citizens participate in the electoral process. This paper examines the opportunities that this innovation presents in African elections, including improved voter education, real-time election monitoring, and enhanced accountability mechanisms. It also explores key challenges faced in deploying civic technology in African elections. These include digital exclusion, misinformation, cybersecurity threats, and government restrictions on technology use. The study highlights best practices and lessons for integrating civic technology into electoral processes. Nigeria serves as the case study for illustrating the key issues in the paper. The study concludes with some policy recommendations, particularly on how to maximise the benefits of civic technology while mitigating its risks, ensuring that technological advancements contribute to free, fair, and credible elections in Africa.

Keywords: Civic technology, elections, digital democracy, electoral integrity, voters engagement

Introduction

Free and fair elections are fundamental to any genuine democracy. They are so crucial to the development of participatory democratic governance that they are widely considered the primary indicator of its existence. Without free and fair elections, the core principle of democracy, prioritising the interests of citizens, cannot be realised, effectively halting its progress. Unfortunately, this noble goal is challenging to attain in African elections as citizens are not sufficiently mobilised during the processes. Even when involved in the electoral processes, their votes hardly count. This often leads to the contestation of election results, electoral violence, post-election litigation, and legitimate crises. In recent years, civic technology has been used to improve the credibility of African elections. This paper sheds light on the processes and relevance for improving electoral integrity. By “civic technology” (civic tech) is meant technology relevant to enhancing civic engagement, government transparency, and the efficient performance of public services. This includes available technological platforms that enable citizens to gain easy access to government information, contribute to budget decision-making processes, and participate in policy discussions and decision-making. The ultimate goal of civic technology is to promote transparency in government operations and decision-making, as well as to improve participatory governance and democratic actions in Africa.

Civic tech enhances citizen involvement and strengthens the accountability and transparency of government operations and public services. It can also heavily emphasise digital engagement by utilising technologies to support grassroots communities, citizen participation, and advocacy for public interests. Civic tech transforms the potential of digital democracy into tangible results, enabling meaningful and constructive citizen participation in the democratic process and thereby reducing access barriers within the democratic system (Ilyin, 2025).

In Africa and globally, civic technology, or “civic tech,” has become a prominent term in the civic space over the past decade. This relatively new concept is widely adopted by organizations within this sector (Civic Tech Innovation Network, n.d.). One of the organisations promoting this strategy for expanding democratic space in Africa is the Civic Tech Innovation Network (CTIN), which compiles the African Civic Tech Atlas, an online database that documents over 144 civic technology initiatives across 36 African nations, addressing various social issues and public service delivery. At the regional level, the West Africa Civic Tech Network also maps tools that have been developed for citizen engagement and public service.

While there is substantive work on the evolution, evidence, and landscape of civic tech in Africa and the West Africa sub region (Musa et al., 2025, Zisengwe, 2024, Shapurjee, 2023), there is limited research focused on understanding the role civic tech plays in elections in Africa, particularly its opportunities and challenges.

The study aims to contribute to filling this research gap by presenting findings from a survey of selected civic tech organisations’ contributions to elections in Nigeria. This study's core research question is: What are the contributions, opportunities, and challenges of civic tech’s contribution to elections in Nigeria?

Data Sources and Methodology

This qualitative research, conducted between May 2024 and January 2025, analyzed data from Civic Hive content and semi-structured interviews. Participants included civic tech stakeholders in Nigeria, Ghana, Kenya, Senegal, Mali, Liberia, Burkina Faso, Gambia, Madagascar, and Cabo Verde.

The study identified thirty-two election and governance focused civic tech initiatives across Africa. Eighteen regional civic tech stakeholders and five individuals from our case study organization were interviewed using a non-probability purposive sampling method. Civic Hive, and The West Africa Civic Tech Network database aided in identifying, studying, and inviting experts.

To ensure consistency and anonymity, participants from our case study organization were assigned codes CH01 through CH05.

Background and Context

Elections play a pivotal role in strengthening democracy, giving citizens the power to shape their governance and country's future. Across Africa, elections have historically been marked by a mix of progress and persistent challenges. While democratic governance has deepened in many countries, electoral processes often face issues such as voter suppression, ballot manipulation, logistical failures, political violence, and widespread mistrust of electoral bodies (Adejumobi, 2000). At the same time, the continent has witnessed a rapid rise in digital connectivity. According to GSMA (2023), mobile phone penetration in sub-Saharan Africa reached over 43%, mobile internet users sits at 25% and mobile internet access continues to grow, particularly among younger demographics.

The combination of complex political landscapes and increasing digital penetration in Africa presents a unique opportunity for civic technology to drive transformation. The Knight Foundation identified two forms of Civic Tech: organizations working towards community action and organisations working towards open government (Patel et al., 2013). As an emerging field, civic tech focuses on informing citizens, connecting them with one another, and encouraging them to engage with their governments to work together for the public good.

In the context of elections, civic tech spans a wide range of innovations, including voter education apps, election monitoring dashboards, fact-checking collaborations, and crowdsourced reporting platforms. Some of these tools have been developed and deployed as far back as 2015, and more importantly, in the year 2024, which has proven to be a landmark year for democracy across Africa, with elections bringing both celebrations of progress and reminders of the challenges inherent in our democratic processes.

Importantly, Africa's civic tech ecosystem is not operating in a vacuum. International trends in digital democracy and community organising, the rise of social media activism, and increased donor interest in supporting civic innovations have all shaped the African landscape. Regional bodies, such as ECOWAS and the African Union, have also emphasised the importance of credible elections, further incentivising local actors to deploy technology for electoral integrity and increased citizen participation.

Despite the promise, however, civic tech operates within environments marked by uneven digital access, political sensitivities, legal constraints, and limited funding (Tine & Bakari, 2022). This makes it essential to understand both the opportunities and the barriers facing civic tech in African elections, using Nigeria as a case study.

Civic Tech in African Elections: Opportunities

Civic tech initiatives in Africa have played a crucial role in addressing both electoral and social challenges. These technologies facilitate various functions, including voter registration, election monitoring, and the dissemination of electoral information. By leveraging mobile applications, social media, and data analytics, civic tech enhances the efficiency and transparency of electoral processes. The application of civic tech varies depending on the aspect of the election.

Our research identified five distinct categories of civic tech applications. These include:

- Voters Mobilisation, Awareness and Education:

African civic tech initiatives use digital platforms to boost voter turnout, awareness, and education. They share key election information (registration, locations, candidates, rules) via social media, SMS, and online resources, reaching youth and empowering informed decisions through interactive tools.

Civic tech tools like MyCandidate, which operates in Zimbabwe, Kenya and Sierra Leone, empower voters with easy-to-understand electoral information that anyone can access ahead of an election (MyCandidate, n.d.), and GoVote, a central hub featuring an infographic tool guide for citizen engagement in the electoral process (GoVote, 2022). In Ghana, radio and digital platforms have been combined to reach diverse audiences, including those in rural areas.

These civic tech tools provide real-time election updates, fostering a more informed electorate. Successful adoption and citizen uptake necessitates overcoming digital literacy gaps, limited internet connectivity in some areas, and the challenge of multilingual content for inclusivity.

- Election Monitoring and Incident Reporting:

Crowdsourced platforms, such as Uchaguzi (Kenya) and Uzabe (Nigeria), enable citizens to report election incidents, including intimidation and violence. This data helps civil society and electoral bodies respond quickly to irregularities and deploy security on election day to address issues ranging from overt intimidation and violence to subtle malpractice or vote-buying.

The real-time reporting capabilities of these platforms are essential. As citizens on the ground witness and document irregularities and anomalies, their reports, often including textual descriptions, photographs, and even videos, are aggregated on a central platform.

This influx of citizen-generated data provides a near real-time snapshot of the electoral environment across a wide geographic area, something traditional election monitoring efforts often struggle to achieve with the same scale and immediacy.

- Results Visualisation and Parallel Vote Tabulation:

Many African national electoral commissions do not present election results on their websites in a real-time and publicly accessible manner. However, civic technology offers opportunities to enhance electoral transparency and accountability in Africa through the visualisation of results and parallel vote tabulation.

While results visualisation tools provide accessible and understandable formats (maps, charts, dashboards) for official election results, enabling quick comprehension of outcomes, trend identification, and geographical vote scrutiny by citizens, journalists, and observers, Parallel Vote Tabulation (PVT), a citizen-led observation method, independently collects and analyses polling station results to project official outcomes, offering a vital verification mechanism. Discrepancies between PVT estimates and official results can signal manipulation and enhance electoral integrity through further investigation.

- Civic Education and Voter Awareness:

Civic tech significantly enhances civic education and voter awareness in African elections by utilising digital platforms to disseminate accessible educational materials on electoral processes, candidates, and policies. These Interactive tools and learning platforms enhance voter understanding and improve participation in governance.

Civic tech, through online portals and mobile apps, can ease voter registration and boost participation. Digital channels, such as social media and SMS, deliver crucial information to broader demographics, particularly marginalised groups and young people, thereby creating a more informed electorate.

Platforms such as social media, WhatsApp, and mobile apps are commonly used for voter education on electoral processes, candidates, and combating misinformation. Ghana has successfully integrated radio and digital platforms to reach diverse populations, including rural communities (Diedong & Dzisah, 2023).

- Combating Misinformation:

Misinformation and false claims undermine confidence in elections and suppress turnout, particularly among young voters and other historically marginalised communities. The spread of misinformation, including disinformation about the voting process and election officials, has significant consequences for citizens' ability to vote and trust in the election process (Panditharatne & Hasan, n.d.).

Fact-checking organisations and media coalitions, like the Ghana Fact-Checking Coalition, Dubawa, and Centre for Journalism Innovation and Development (CJID), leverage digital tools to verify claims, debunk fake news, and safeguard public discourse during elections. AI-assisted fact-checking and verification bots are increasingly being deployed.

Nigeria's Civic Tech and Election Landscape

Civil society organisations, non-profits, and activists have significantly strengthened Nigeria's democratic system by advocating for transparency, accountability, and citizen participation. These groups are essential

for demanding good governance practices from the government, which is essential for building a robust and thriving democracy.

These organisations built civic tech tools that offer a wide range of features, including election monitoring, violence tracking, polling locations, and advocacy tools, among others. These features significantly facilitate people's participation in the democratic process. It is impressive to note that the organisations and tools involved focus solely on promoting democratic participation, rather than serving any political campaign or partisan agenda.

Table 1: Selected Election Civic Tech Tools in Nigeria

<u>GoVote:</u> This is a central hub featuring an infographic tool guide for citizen engagement in the electoral process. At the core of the platform is an array of free online classes on governance, politics, and policy, empowering citizens with the intricacies of political dynamics and governance structures. The platform is designed to better equip citizens and foster a more politically aware electorate.	<u>YVoteNaija:</u> is a project led by Brain Builders Youth Development Initiative, with the goal of enhancing voter education through data-driven interactions and educating young Nigerians about the significance of participating in the electoral process, particularly at the grassroots level.	<u>Election Result Analysis Dashboard (ERAD)</u> supports Nigeria's election management body by providing the public with analysed election results from the polling units in almost real-time. Empowering Nigerian citizens to have access to accurate and timely information, thus contributing to the transparency of the electoral process and promoting a more informed and engaged electorate
<u>HelpMeVote:</u> is a non-partisan platform that offers accurate and current information on election candidates and polling units for upcoming Nigerian elections. HelpMeVote is dedicated to assisting Nigerians in making informed decisions and exercising their right to vote.	<u>#WatchingTheVote</u> is a citizen-led election observation initiative aimed at enhancing the integrity of elections in Nigeria using technological tools like SMS and evidence-based research methodology tools for election observation. YIAGA Africa has pioneered initiatives such as the "Watching The Vote" project, which leverages technology to observe elections and share data with the public	<u>Uzabe:</u> is an election monitoring tool, to identify gaps in the Nigerian electoral processes and to provide a feedback mechanism that gives citizens real-time situational reports on election processes targeting specific locations within different parts of the country- "an open Situation Awareness Room (OSAR) intelligence, mapping tools, and witness reports.
<u>Dataphyte Electoral Portal:</u> which is a repository hub for election data in Nigeria. With a comprehensive collection of information ranging from incident tracking to results across all 774 local governments, DEP claims to be the go-to platform for all things election-related. Whether you're looking for data on national elections or elections at the subnational level, from governorship races to state houses of assemblies.	<u>Nigerian Election Watch:</u> Nigerian Election Watch (NEW) is a notable example of a Civic Tech initiative that emerged during the 2011 elections. NEW used text messaging and social media to monitor the elections and provide timely information to voters and observers.	<u>Parallel Vote Tabulation (PVT):</u> Organisations like the Transition Monitoring Group (TMG) and the YIAGA Africa Initiative have been involved in parallel vote tabulation efforts using technology to independently verify election results, enhancing the credibility of the electoral process.
<u>Ushahidi:</u> The Ushahidi platform, which allows for crowdsourced reporting and mapping, gained popularity during Nigeria's elections. Ushahidi was used to collect and display real-time reports of election-related incidents and issues.	<u>The Nigeria Election Violence Tracker:</u> is a platform developed by ACLED and CDD to monitor patterns of political violence around the 2023 Nigerian general dedicated platform for mapping election-related	<u>The Interactive Map:</u> The live result and map is a platform developed by Civic Hive, provides users with real-time updates and visualisations on election in Nigeria

	violence and the impact of electoral competition on the country's multiple concurrent crises.	
<u>Nigeria Civil Society Situation Room:</u> The situation was set in 2010, ahead of the 2011 general elections in response to the need to enhance civil society coordination and ensure proactive engagement during elections.	<u>Uzabe:</u> is an election monitoring tool, to identify gaps in the Nigerian electoral processes and to provide a feedback mechanism that gives citizens real-time situational reports on election processes targeting specific locations within different parts of the country- “an open Situation Awareness Room (OSAR) intelligence, mapping tools, and witness reports.	<u>The Live Result Platform:</u> is an election results tracking tool designed to pinpoint deficiencies in the Nigerian electoral procedures while establishing a responsive mechanism that delivers citizens immediate updates on election outcomes in targeted locations across the country—an open Situation Awareness Room (OSAR) integrating intelligence, mapping tools, and eyewitness reports.

Case Study Tool: LiveResult Map by CivicHive

Over the years, Nigerians have had to wait days after an election for the Independent National Electoral Commission (INEC) to announce the results (Centre for Strategic & International Studies, 2020). More advanced countries, such as the United Kingdom and the United States of America, leverage networks to determine the wave of an election within the shortest possible time.

Based on this, Civic Hive built a civic tech platform that would transmit real-time election results from the local government to a publicly accessible website, <https://liveresults.civichive.org/>, to allow Nigerians to monitor the elections and demand transparency.

- What were the issues?

The failure of the INEC Result Viewing Portal (IREV) on election day was a betrayal many Nigerians did not predict or should have expected. It was a massive disappointment for excited citizens who felt that the country would witness a transparent electoral process for the first time in a long time (Policy and Legal Advocacy Centre, 2023).

During the 2023 General Election, apart from the late arrival of election materials and the poor of INEC ad hoc staff, as experienced by voters in some areas, Nigerians' hope was further dashed when reality set in that the IREV could not make a difference. In many cases, the IREV portal was not working. In other instances, INEC ad-hoc staff refused to upload the election sheets.

In addition, INEC's manual tally of votes has been roundly panned for being riddled with errors. As some election officers were reportedly corrupt during the process, it is not surprising that many Nigerians are questioning the integrity and authenticity of INEC's operations (Adekanmbi, 2023). The manual collation that INEC resorted to when the BVAS and IReV pledges fell through was a significant setback for Nigeria, as it not only prolonged the announcement of election results but also generated considerable confusion among voters and political parties (Anichukwueze, 2024).

- What role did the CivicTech Tool play?

Ahead of the 2023 general election in Nigeria, recognising the critical need for transparency and real-time information dissemination, Civic Hive, a prominent civic technology organisation, undertook an ambitious project to empower voters with direct access to election results. To achieve this, they developed an election visualisation platform designed to aggregate and present results as they were officially declared at the local government level—the fundamental building block of Nigeria's electoral system. This platform aimed to bypass potential delays and biases inherent in traditional media reporting, offering citizens an unmediated view of the electoral outcome (BudGIT Nigeria, 2024).

According to CH01:

“What we built was phenomenal, and it was the first time that any civic tech organisation was able to collate this result and present it as it is declared at the LGA level.”

The cornerstone of this initiative was the deployment of a robust network of 774 independent election observers. These observers were strategically stationed at every local government collation centre across Nigeria. Their primary responsibility was to meticulously record and transmit the official election results announced at these centres in real-time.

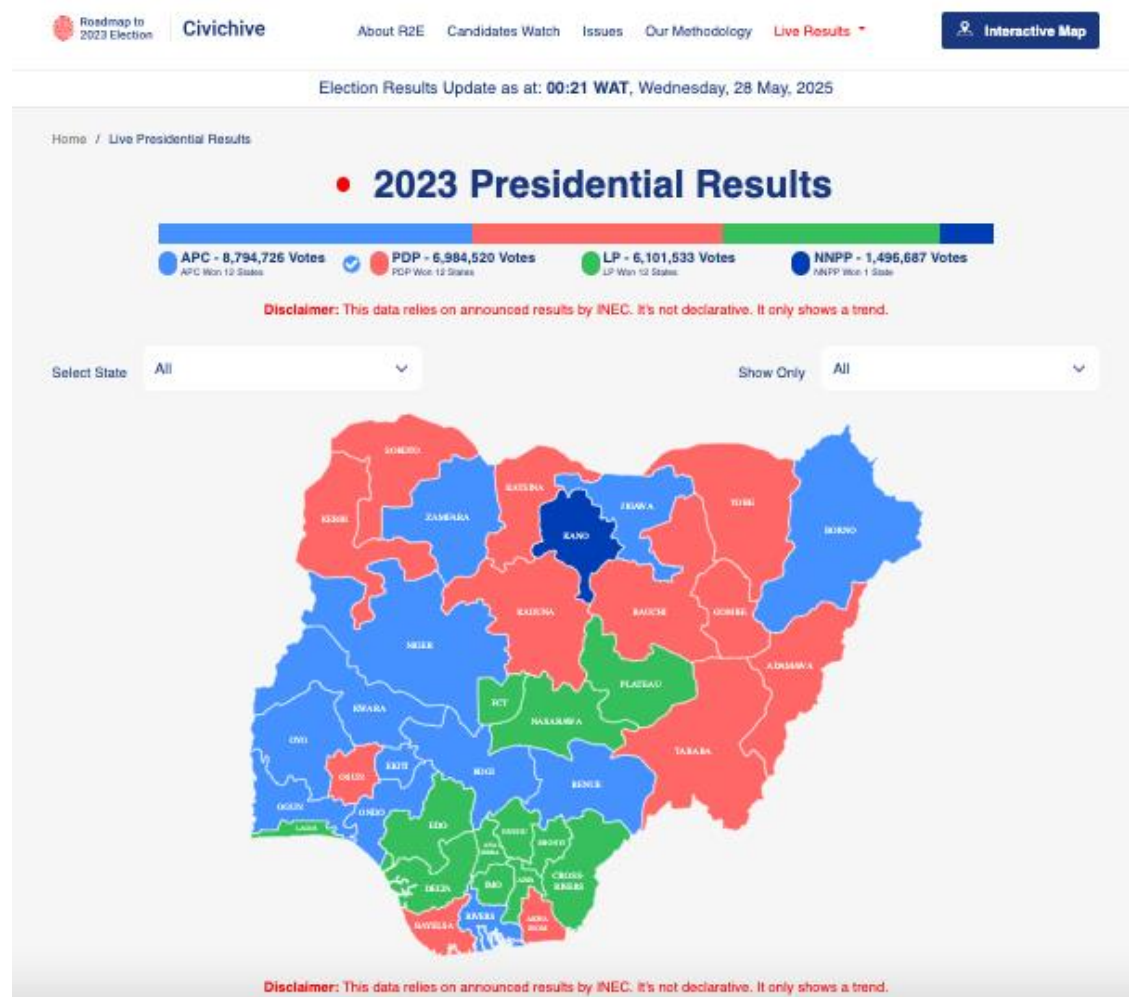


Figure 1: Snapshot of LiveResult Map by CivicHive

Before the election's conclusion, Civic Hive's platform garnered over four million unique visitors, utilising it to monitor national election results. Its widespread popularity led to public inquiries regarding the platform's ability to aggregate results before the INEC, and consequently, numerous false reports surfaced alleging unauthorised access to INEC's servers (Africa Check, 2023; FactCheckHub, 2023; Bakare, 2023; Musa, 2023)

The LiveResult by the CivicHive platform played a significant role in the election by providing real-time election results. This functionality addressed key challenges often faced in African elections, where the declaration of results takes time, giving room for irregularities, a lack of transparency in vote counting, and instances of electoral fraud or intimidation.

Impact

The opportunities for civic tech in Nigerian elections are vast and multi-dimensional. Civic tech significantly enhances electoral transparency by providing alternative platforms to government technology (GovTech) platforms, thereby strengthening accountability and transparency.

According to CH01:

“For example, our LiveResult Map provided real-time public access to Local Government Area (LGA) results, and through our post-election analysis, we were able to identify some anomalies in what INEC announced and what we collated at the LGA collation centre”.

In the words of CH03:

“The liveresults map became the go-to platform across the country. We were shocked at the rate of adoption. We kept increasing the bandwidth of the website. On the election day, 4 million unique visitors visited our website”

CH05 corroborated this by saying:

“Everyone in my house we were using the website to check for the election result since INEC’s IREV was not working and not reachable.”

This demonstrates that civic tech enhances citizen involvement in elections, and with crowdsourced election monitoring platforms, citizens are empowered to report irregularities, violence, or other incidents. This enables prompt responses from electoral bodies, security agencies and other stakeholders.

Civic tech also offers powerful tools to combat misinformation through digital fact-checking and media collaborations, which can help reduce political tension and voter confusion. Since the launch of AfricaCheck.org in 2014, fact-checking initiatives have significantly expanded across Africa. These include Dubawa.org (operating in Ghana, Nigeria, Sierra Leone, and Gambia), Agence France Presse (AFP) Fact-Check, Ghanafact.org, and Fact-checkGhana.com. Other media organisations have established in-house fact-checking units or partnered with existing fact-checking platforms.

Additionally, civic tech also expands access to marginalised groups by providing multilingual and accessible information, ensuring broader participation from rural communities, women, and people with disabilities. Civic tech organisations like Enough Is Enough Nigeria, YIAGA, and Tracka have grassroots initiatives that target uneducated and rural dwellers on how to make informed decisions during elections. In 2023, Tracka’s online impression stood at 30,636,000, with a network of 852,100 citizen reporters, community champions and CBOs (BudgIT Nigeria, 2024).

Ultimately, civic tech enhances post-election accountability by monitoring campaign promises and evaluating the performance of elected officials, ensuring that elections result in meaningful governance improvements. Organisations like Advok’s Promise Tracker monitor important campaign promises of the Federal and State Governments in Nigeria. Together, these opportunities demonstrate how civic tech has the potential to transform Nigeria’s electoral landscape by fostering transparency, inclusivity, and accountability.

Recommendations

Civic tech organisations should formalise partnerships with INEC to ensure the accuracy of voter data and exchange of ideas to streamline the election and result collation process. There is also a need to develop tools accessible in underserved areas with limited internet and for people living with disability.

Overall, long-term funding mechanisms should be secured for local civic tech organisations to sustain their operations and ensure their continuous existence. Through this, donors can also ensure adherence to strong data protection practices, which are crucial for handling sensitive data, and drive regional collaboration and knowledge sharing with other African countries.

Conclusion

Civic technology holds significant promise for enhancing electoral processes in Africa. The experiences of Nigeria demonstrate both the potential and the challenges of integrating citizen-led digital tools into elections. To maximise the benefits of civic tech, stakeholders must address gaps, combat misinformation, and build public trust through transparent and inclusive practices.

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Influence of Psychodemographic Factors on Low Voter Turnout in the 2019 Presidential Election among Residents of Mafoluku Registration Areas (Wards) of Lagos State

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Abstract

Low voter turnout brings about the election of political leaders who are not people's choice since only the minorities are recorded to have cast their vote on election day. Yet, public policies are likely to be affected especially if the competencies of those elected officials are in doubt. This study was therefore designed to examine the psychodemographic factors (patriotism, fear of election violence, perceived quality of candidate, learned helplessness and age) influence on low voter turnout in the 2019 Presidential election among residents of Mafoluku registration areas (wards) of Lagos State. Four hundred respondents purposively and randomly selected with ages ranges from 20 years and above, a mean age of 25.21 and standard deviation of 3.76 took part in the study. The result indicates that patriotism, fear of election violence, perceived quality of candidate, learned helplessness and age jointly influenced low voter turnout ($R = 152$; $R^2 = .141$; $F(5,385) = 13.831$). Independently, fear of election violence ($\beta = .347$, $t = 6.741$, $p = .000$) and perceived quality of candidate ($\beta = .155$, $t = 2.722$, $p = .007$) predicted low voter turnout. It was suggested that the electoral system should incorporate electronic voting as an option to physical presence of voters at the polling booth as well as platform for independent candidacy as alternative to political parties.

Keywords: Fear of election violence, Lagos State, low voter turnout, Perceived quality of candidate, Presidential election.

Introduction

The World Bank 2017 World Development report indicates that election turnout is declining across the world. In the last two and a half decades, the average global voters' turnout rate dropped by more than 10% (World Bank, 2018). Yet, the International Institute for Democracy and Election Assistance (2017) reported that the global population of people who are eligible to vote has more than doubled in the four decades to 2010.

Low voter turnout is manifested by poor or low voter turnout during election. It encompasses the degree to which eligible citizenry decline to participate in an election. Low voter turnout connotes lack of a feeling of personal obligation to participate in politics and according to IDEA (2016), low voter turnout is operationalized as voter registration (vote/reg %) which is the percentage of registered voters who turn out to vote on election dates. It is also referred to as the percentage of registered voters who vote (Lindberg, 2004).

Low voter turnout can only be measured through voters' turnout which often leads to a situation where minority is choosing for the majority. The implication is that peoples' preference is denied. According to Taiwo and Ahmed (2014), low voter turnout which is manifested by turnout is an indicator of the ability of government, electoral management and civil society to propel eligible voters to register and vote during election. It has equally been put forward that low voter turnout is a form of political participation and an indicator of the state of health of any democracy either old or new, consolidated or in transition.

Lindberg (2006) opined that higher voter turnout is an indication of higher level of political participation which brings about greater democratic quality of the election while Yakubu (2012) is of the view that low voter turnout is manifested by increase in the number of registered voters who refused to vote during elections, failure to protest election rigging and violence and failure to assist security agents with necessary information required to address electoral injustice.

Evidences are abounding in the literature on probable causative factors of low voter turnout. According to Omotola (2010), low voter turnout is reflected on voter turnout which is dependent on accurate voter register that is presently not in existence in Nigeria. Similarly, Thomas (2004) asserted that low voter turnout stem from psychological involvement and collective memory of historical and contemporary events, pattern of trust, feeling of efficacy, political engagement and disengagement of individual among others. Even forces

of attraction and togetherness such as class, religion, urban-rural residency exert considerable influence on voter behavior (Driskell, Emory & Lyon, 2008). In the same vein,

Similarly, Bhatti and Hansen (2012) adduced that the surge of voting decline among the youth at the individual level of interaction has to do with their family, friends, peer group in school or workplace or membership of social associations. However, loader (2007) submitted that the reason for youth indifference to voting is not that they cynically withdraw from politics, rather, it signifies emergence of legitimate opposition.

Although, low voter turnout is caused by some citizens, its impacts are felt by every citizenry especially when the competencies of those elected representatives are in doubt. Accordingly, the correlational studies carried out revealed large relationship on the effect of voters' turnout result and public policies (Anzia, 2012; Fowler, 2013).

In Nigeria, low voters' turnout is manifested by increase in the number of registered voters who refuses to vote during election, failure to protest election rigging and violence as well as failure to assist security agents with relevant information to address electoral injustice (Yakubu, 2012). High level of low voters' turnout is a manifestation of dissatisfaction with the traditional political parties and party structure (Gill et al, 2012).

The year 1999 marked the beginning of the fourth republic. This has remained uninterrupted to the extent that the six constitutionally required general elections were held as at 2019. During this period, the 2007 general election was regarded as the worst election in Nigeria because of the imbibed spirit of do-or-die philosophy (Suberu 2007; Omotola 2010; Odio-Akhaine 2009), whereas, the 2011 general election was adjudged as the most credible election (Egwu, 2011; Gberie, 2011). Yet, the 2019 general election especially, the Presidential election recorded the lowest voter turnout in the history of Nigeria general election (Daily trust, 2019). INEC (2019) reports indicates that the number of registered voters was 82,344,107 while the number of votes cast was 28, 614,190 representing 34.7%. Historical comparison of voters turnout from the 1st, 2nd and 3rd republics made the 2019 voter turnout marginally similar to the 1979 Presidential election with the recorded number of registered voters as 48,633,782 and votes cast at 16,846,633 representing 34.6% (Vanguard, 25th April, 2011).

The number of voters' turnout in the general election of 2019 was the lowest in Nigeria since the advent of the fourth republic in 1999 (INEC, 2019). Between 2015 and 2019 general election, over sixteen million (16.8 million) Nigerian grew up to become eligible to vote, yet, there was a tremendous reduction in the number of voters that participated in the 2019 general election (Nwankwo, 2019). In fact, Nkutt (2019) reported that despite the large number of permanent voters card (PVC) distributed and collected by registered voters, the turnout that followed the election did not reflect such large number.

Be that as it may, the result of the Presidential election and its attendant low voter turnout poses a great challenge for the sustainability of democracy. This is the basis for the set out of this study designed to examine the influence of psycho-social factors (patriotism, fear of election violence, perceived quality of candidate, learned helplessness, age, gender and education) on low voter turnout among residents of Mafoluku registration areas (wards) of Lagos State.

Hypothesis

That psychodemographic factors (patriotism, fear of election violence, perceived quality of candidate, learned helplessness and age) will jointly and independently predict low voters' turnout among residents of Mafoluku registration areas (wards) of Lagos state.

Instruments

The data for this study was collected through the use of structured questionnaire. The questionnaires are standardized scale with established psychometric properties. The 42-items questionnaire comprising of demographic variables, low voter turnout ($\alpha = 0.67$), patriotism ($\alpha = 0.79$), fear of election violence ($\alpha = 0.83$), perceived quality of candidate ($\alpha = 0.82$) and learned helplessness ($\alpha = 0.74$) scales.

Methods

The study adopted the mixed methods research design using the variant of exploratory sequential design type comprising of qualitative and quantitative data collection and analysis in a sequence of phases. This study was in three phases:

Phase one was the content analysis of election results obtained from the electoral body (INEC) at the federal, state, local government and Registration areas (wards) level. This *Content analysis phase* encompasses the sequential evaluation of the total number of registered voters and total number of votes cast at the Federal, State, Local government and Registration areas (wards) levels. At the federal level, the analysis of data shows that Lagos State recorded 17.60% voter turnout which is the lowest among the thirty-six States and FCT. There were 6,570,291 total numbers of registered voters and only 1,156,590 actually voted in the 2019 Presidential election.

Thereafter, results of the election conducted across the twenty (20) local government areas of Lagos State were subjected to further analysis. It revealed that Oshodi-Isolo local government area has 14.80% voter turnout (the lowest among the twenty local government area) of Lagos State. The total numbers of registered voters were 443,948 while the actual number of votes cast was 65,730.

Further analysis of the election result at the local government level revealed that Mafoluku Registration area (Ward) recorded the least number of voter turnout in Oshodi-Isolo local government area with the number of registered voters put at 31,834 while the number of votes cast was 1,526 representing 4.79%. By implication, Mafoluku is the Registration area (Ward) that recorded the highest number of low voter turnout in Nigeria.

Table 1: Summary of the 2019 Presidential election results

Level	Reg. Voters	Votes cast	% Difference	Remarks
Federal (Nigeria)	82,344,111	28,620,190	34.75	Lowest
State (Lagos)	6,570,291	1,156,590	17.60	Lowest
Senatorial districts: Lagos West Registration Areas in Oshodi/Isolo Local Government: RA06 Mafoluku Registration Areas (37 polling units)	443,948 31,834	65,730 1,526	14.8 4.79	Lowest Lowest

Phase Two is the Qualitative stage involving the use of Focus Group Discussion (FGD) and Key Informant Interview (KII) methods. The theme for both instruments (discussion guide and interview template) focused on **what are the probable causes of low voters' turnout, how would the voters describe civic knowledge as well as provide more insight into the results obtained through quantitative data.** Ten participants of two sessions were done during the FGD. In the case of Key informant interview, four key informants who are each member of staff of INEC, civil society organization and two politicians were engaged. In all, responses from this phase were coded and sub coded, Quotations were identified which was used for theme development. The data derived from this phase was used to generate the items for the survey.

Phase Three is the Quantitative aspect that entails collection of numeric data. It was a one time-time observation of the responses of the participants. The study was set out to examine the degree of voter turnout among voting age population with particular reference to the 2019 Presidential election. Data obtained from the qualitative phase and literature review were used to establish the variables of interest on the psychological (patriotism, fear of election violence, perceived quality of candidate, learned helplessness) and Social (age, gender and education). The dependent variable is calculated by dividing the total number of votes cast by the number of registered voters and multiplies by 100.

Setting

The study took place at Mafoluku Registration areas (wards) in Oshodi-Isolo local government area of Lagos State. This Registration area (wards) has the lowest number of voters' turnout in the 2019 Presidential election in the local government area. Mafoluku is one of the eleven Registration areas (Wards) in the local government. Mafoluku Registration area (Ward) is chosen because it is the ward with the highest number of

low voter turnout in Oshodi-Isolo local government area and invariably in Lagos state and ultimately in Nigeria. It is made up of thirty-six (36) streets that are divided and designated into thirty-seven (37) polling units where voters cast their votes in the 2019 Presidential election.

Population

Using the Yamane's (1967) formula, a total number of 400 respondents of voting age (20 years and above) with mean (25.21) and standard deviation of (3.76) were purposively and randomly selected from the 36 streets to participate in the study. Respondents were residents of Mafoluku Registration areas (wards) in Oshodi-Isolo local government area of Lagos State prior to the February 2019 general election in Nigeria.

Result

Table 2: Summary of Multiple Regression showing the joint and independent Prediction of Psychodemographic factors on low voters' turnout among residents of Mafoluku Registration areas (wards) in Lagos State

Variable	B	SE B	B	T	P
Patriotism	.060	.058	.054	1.038	.300
Learned Helplessness	-.026	.031	-.047	-.826	.410
Fear of Election Violence	.481	.071	.347	6.741	.000
Perceived Quality of Candidate	.047	.017	.155	2.722	.007
Age	.001	.011	.003	.068	.946

$R^2 = .152$, Adjusted $R^2 = .141$, $F(5, 385) = 13.831$, $p < .000$

A multiple regression analysis was conducted to examine the influence of psychodemographic factors on low voter turnout among residents of the Mafoluku Registration Areas (wards) in Lagos State. Result shows that patriotism, fear of election violence, perceived quality of candidate, learned helplessness and age jointly influenced low voter turnout among residents of Mafoluku Registration areas (wards) of Lagos State $F(5, 385) = 13.831$, $p < .005$), explaining 15.2% of the variance in voter turnout ($R^2 = .152$, Adjusted $R^2 = .141$). This indicates that while these psychodemographic variables collectively explain a modest but meaningful portion of voter behaviour, other factors likely remain unmeasured.

Independently, fear of election violence emerged as the most significant and powerful factor influencing voter turnout ($\beta = .347$, $p < .005$). This strong positive association suggests that as fear surrounding electoral violence increases, voter turnout decreases, aligning with established literature that highlights safety concerns as a critical barrier to electoral participation in volatile political environments.

Perceived quality of candidates was also a statistically significant predictor ($\beta = .155$, $p = .007$), demonstrating a positive relationship with low voter turnout.

Other predictors including patriotism ($\beta = .054$, $p = .300$), learned helplessness ($\beta = -.047$, $p = .410$), and age ($\beta = .003$, $p = .946$) were not statistically significant. Their non-significance suggests that in the Mafoluku Registration areas (wards), these factors may not meaningfully shape voting decisions. Based on the result, the stated hypothesis was partially supported.

Discussion

The purpose of this study was to investigate the individual and collective role of psychodemographic factor(s) (patriotism, fear of election violence, perceived quality of candidate, learned helplessness and age) on low voter turnout in the 2019 presidential election which understandably was due to the skepticism arisen from prolonged military rule, the voters turnout in the 2019 presidential election was remarkably very low – 34.7% compared to previous elections in the 1st, 2nd, 3rd and the current 4th republic.

In addition, this study was carried out in Mafoluku registration areas (wards) in Oshodi/isolo local government area of Lagos State. This is the registration areas (wards) with the lowest voter turnout in the country - 4.79%. Hence, the need to examine the probable factor(s) responsible for the general low voters turnout, especially where it occurred most.

Results of the statistical analysis revealed that psychodemographic factors (patriotism, fear of election violence, perceived quality of candidate, learned helplessness and age) jointly influence low voter turnout

while fear of election violence and perceived quality of candidate independently influence voter turnout. Thus, the hypothesis was partially supported.

The partiality of this finding on one hand shows the joint influence of these factors on low voter turnout suggesting that several other factors were at play as probable causes of low voter turnout. This position collaborate with the work of Falade (2014) where it stated that low voter turnout is a feature of Nigeria politics which occur due to in-depth consideration of ethnic, religion and money resulting in politics being practiced with bitterness, hatred and disagreement. This position also align with the assertion of Fagunwa (2015) as it was noted that low voter turnout is caused by inadequate mobilization, weather condition on election day, timing, ethnicity, political party affiliation, poor civil engagement, accountability and motivation. In the same vein, Aloysius, et al (2019) opined that Nigeria political apathy arisen because of the absence of transparency and confidence of the electoral process. In other words, people abstain from voting because of the mistrust of the political process and believe that the outcome of such exercise is not reliable.

On the other hand, fear of election violence and perceived quality of candidate independently influence low voter turnout. In this connection, fear of election violence was revealed to be an important factor influencing low voter turnout. This is in consonance with the work of Wenibowei (2011) that the struggle for state power has brought about worst election violence in the country before, during and after election. Election violence according to the author comes in the form of political violence, looting, arson, thuggery and kidnapping among others which could be spontaneous or gradual. In the same direction is the work of Omoweh & Okanya (2005) which noted that heightened political competition for the control of the state and its political power is now a bloody warfare, especially due to the fact that state holds the key to wealth. The influence of threat (real or imagined) has probable factor that brings about low voter turnout. It is also reported in the work of Segun (2013) as it was posited that intense determination of politician to get power or retain power at all cost led to higher rate of violence. In fact, there exist proactive relationship between election violence and low voter turnout. In his contribution, Colliar & Vicente (2014) posited that election violence, harassment, voters fraud seems to affect voters' apathy.

The second factor influencing low voter turnout is the perceived quality of individual. This finding is in line with the view of Brunnerova (2018) that evaluation of candidate rather than institution form the basis of political participation. Similarly, Kirkland & Coppock (2017) reported that perceived quality of candidate in terms of gender, occupation and income are essential component that affect low voter turnout. This submission is in line with the finding of this study. It is equally of note to state that the outcome of this study concur with the assertion of Degan & Merlo (2004) that people who do not have information about candidates are more likely to abstain from voting.

Impact of Psychodemographic factors on voter apathy

The present study has shown that patriotism, fear of election violence, perceived quality of candidate, learned helplessness and age jointly influence low voter turnout while fear of election violence and perceived quality of candidate are independent predictors of low voter turnout. This means that individual desire to cast vote on election day will be a function of several factors that impinges on their sense modalities. This implies a marked difference on the extent and intensity of individual quest to go out to vote on election day. Such differences may be borne out of differences inherent in the individual motivation, environmental factor, learning, life experiences, life cycle, personality etc. This is more so as the present study indicate that these psychodemographic factors have a joint percentage contribution (of 15%) on low voter turnout. This means that these factors are not enough to predict low voter turnout, rather, other factors that were not of interest in the present study also contributed to low voter turnout.

In the order of importance and based on percentage contribution, it was found out that fear of election violence exerted much influence than any other factor; indicating that disturbance of any form can always compel people to avoiding political engagement except those who are equally compelled to react especially for personal or ulterior purposes. Thus, the degree and extent of election violence determine the decision of individual during election. This assertion is in line with the work of Segun (2013) who posited that intense determination of politician to get power or retain power at all cost has further led to the higher rate of violence.

Similarly, the way and manner individual evaluate candidate either real or imagined go a long way in their participation in election as it is based on determination at ensuring that their preferred candidate is elected. If the candidate possesses the expected quality or if the perception of the quality is favourable or

positive, there is the tendency for such individual to come out on election date to cast their vote regardless of party affiliation. This finding support the work of Townsley, et al (2022) who reported that the importance of candidate is becoming more prominent and more relevant than political parties in influencing voting behavior. Voters now look at candidate as object of attraction than party affiliation. Also, the work of Barbornelli, et al (2006) who opined that the overemphasis of candidate referred to as “personalization of politics” has taken prominent role in influencing voting in western politics. Perhaps, this philosophy has also taken shape in Nigeria with her emphasis on candidate determining voting behaviour.

Recommendations

Those factors that were found to exert influence on voter turnout should be given alternate consideration such that the electoral system allow for the platform of independent candidacy in concurrent with political parties. Fear of the structure and intensity of election violence is a dominant factor responsible for low voter turnout. To curb this apprehension introduction of electronic voting that will make it possible for voters to cast their vote without physically coming out to vote and thereby avoid falling into the den of violence mongers will be desirable.

Similarly, perceived quality of candidate predicted low voter turnout and to ensure that people’s choice are not denied the opportunity of contesting, especially with the protocol associated with political parties’ primaries, it is pertinent that interested candidates are allowed to participate in election on their own through the platform of independent candidate.

However, this study can explore other probable factors that were not covered in this study but could have impact on the voting behaviour of the citizenry. Therefore, other psychological and social factors should be considered in future research to gain in-depth understanding of the subject matter. This is in addition to laying more emphasis on the interrelationship of the psychodemographic factors so that better insight as to the direction of relationship can be achieved.

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The Role of Good Governance in African Regional Integration

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Abstract

Good governance remains a benchmark upon which African integration rests especially in promoting political stability, economic cooperation, and social cohesion across the continent. As Africa continues to pursue regional and continental integration through institutions like the African Continental Free Trade Area (AfCFTA) and the African Union (AU), the principles of transparency, accountability, rule of law, and participatory governance become essential in ensuring regional integration. This paper examines the role of good governance in Africa's integration efforts. The paper also identifies the challenges associated with good governance in African and highlights strategies to enhance good governance for African integration. The paper adopted neo-functional theory as its theoretical construct. It also relied on secondary data extracted from books, journals, newspapers, magazine and other relevant documents. The paper made use of content analysis to analyse information gathered. The paper revealed that good governance ensures political stability, democratic participation, a favorable business environment, trade liberalization, economic expansion and collaboration on security. Additionally, it enhances infrastructure projects crucial for integration such as roads, railways, and energy grids are properly managed and facilitate policies that allow free movement of people across African borders. The paper showed that challenges such as corruption, weak institutions, political instability, economic disparity, reluctant to cede sovereignty to regional bodies, inadequate infrastructures, Africa's reliance on foreign aid, Africa's linguistic and cultural diversity undermine African integration. The paper identified strategies such as strengthening regional and national institutions, the rule of law, leveraging technology for governance, enhancing regional cooperation, policy harmonization, a commitment to democratic values, effective leadership, and inclusive decision-making processes as effective means of promoting good governance. The paper concluded that without good governance, the vision of a unified and economically prosperous Africa remains elusive.

Keywords: Role, governance, ood governance, regional integration, Africa

Introduction

Regional integration in Africa has long been recognized as a critical driver of economic growth, political stability, and sustainable development. The African Union (AU), along with regional economic communities (RECs) such as the Economic Community of West African States (ECOWAS), the Southern African Development Community (SADC), and the East African Community (EAC), has prioritized regional integration as a pathway to achieving the aspirations outlined in the Agenda 2063 (African Union, 2015). However, the effectiveness of African integration efforts largely depends on the quality of governance across the continent. Good governance, characterized by principles such as accountability, transparency, rule of law, and participatory decision-making, plays a pivotal role in ensuring that integration processes are not only effective but also sustainable. (Oluwole, & Adejumbi, 2021).

The role of good governance in African integration is multifaceted, influencing both economic and political dimensions. Good governance ensures that policies promoting economic cooperation are effectively implemented, fosters trust among states, and enhances the ability of regional bodies to function efficiently. In contrast, poor governance, marked by corruption, weak institutions, and political instability, poses significant obstacles to regional integration efforts (African Development Bank, 2021; Oluwole & Adejumbi, 2021). Regional integration initiatives such as the African Continental Free Trade Area (AfCFTA) rely heavily on the commitment of member states to implement agreed-upon trade policies and regulations. Transparent and accountable governance ensures that these policies are not undermined by corruption or political interference (UNECA, 2020). Moreover, good governance fosters investor confidence, which is crucial for economic integration, as it attracts both intra-African and foreign direct investment (World Bank, 2022). Regional bodies such as the AU and RECs require well-functioning institutions to coordinate policies, resolve disputes, and enforce agreements. Good governance ensures that these institutions are empowered, independent, and effective in their roles. Without strong governance structures, regional agreements often remain on paper without meaningful implementation (Oluwadare, 2019). The efficiency of these institutions is directly linked to how governance structures at both national and regional levels uphold democratic principles and adhere to their mandates.

Furthermore, many African states experience governance challenges such as electoral disputes, human rights violations, and civil conflicts, which hinder their ability to engage in regional integration initiatives fully (Oluwole & Adejumbi, 2021). Good governance mitigates these challenges by promoting democratic practices, fostering inclusive political participation, and ensuring that legal frameworks are respected (World Bank, 2022). When states are politically stable, they can commit resources and policy focus towards integration rather than internal conflicts. Therefore, good governance is indispensable for the success of African integration since it underpins economic cooperation, strengthens institutions, and fosters political stability, all of which are critical for regional integration.

Conceptualisation

Good governance, as defined by the United Nations Development Programme (UNDP, 1997), refers to the exercise of political, economic, and administrative authority in a manner that is participatory, transparent, accountable, and responsive to the needs of citizens. In the African context, governance has been a major determinant of the success or failure of regional integration efforts. Countries that adhere to principles of good governance tend to foster stable political environments, build investor confidence, and promote economic cooperation, all of which are essential for effective integration. Conversely, poor governance characterized by corruption, weak institutions, and political instability has often led to setbacks in regional initiatives. Kaufmann, Kraay, & Mastruzzi, (2010) see good governance as the principles and practices that ensure accountability, participation, efficiency, responsiveness, and the rule of law in governance. According to ECA,(2021), regional integration, is the process by which neighboring states collaborate to achieve economic, political, and social cooperation. The link between these two concepts is that good governance enhances trust, stability, and institutional efficiency, which are essential for regional integration. Good governance refers to the efficient, transparent, and accountable management of public affairs, ensuring that institutions function in ways that promote sustainable development (Kaufmann et al., 2010). In the African context, the African Union (AU) and the United Nations Economic Commission for Africa (UNECA) have emphasized governance as a key driver of development (UNECA, 2021). African integration, on the other hand, involves the economic, political, and social unification of African states to create a single, cooperative regional bloc. Institutions such as the African Continental Free Trade Area (AfCFTA) and the New Partnership for Africa's Development (NEPAD) aim to advance integration by reducing trade barriers, enhancing infrastructure, and fostering policy harmonization (AU, 2020).

Neo-functionalist Theory

Neo-functionalist theory, pioneered by Ernst B. Haas (1958), argues that integration begins in limited functional or technical areas (e.g., economics) and gradually "spills over" into political and broader social areas as cooperation deepens. The theory posits three core mechanisms such as *Spillover Effects* which implies that integration in one sector creates pressures for integration in related sectors. *Supranational Institutions* like the AU or ECOWAS play a central role in advancing integration beyond the preferences of individual states. *Elite Socialization and Technocratic Leadership* implies that a technocratic elite pushes for more integration through problem-solving and long-term planning (Schmitter, 2004; Nugent, & Asante, 2020).

Good governance is characterized by transparency, accountability, rule of law, and effective public institutions is fundamental to achieving the kind of stable political and administrative environment needed for regional integration to succeed. Effective governance fosters political stability and builds trust among states. This trust reduces fears of domination and enhances cooperation, leading to further integration beyond the economic realm (Mattli, 1999). Good governance in areas such as anti-corruption or judicial reform can create models that spill over to other states and sectors, encouraging harmonization of standards and policies. Supranational institutions in Africa, though weaker than their European counterparts, have increasingly promoted governance norms. For instance, AU's African Peer Review Mechanism (APRM) encourages member states to adopt and internalize governance reforms. ECOWAS Protocol on Democracy and Good Governance (2001) institutionalizes democratic norms and promotes sanctions for unconstitutional changes of government. Through neofunctionalism, these initiatives are not just political tools but mechanisms that enable further integration. As governance improves, so too does the credibility of regional institutions, reinforcing their central role in managing integration. (AU, 2003; ECOWAS. 2001)

This theory highlights the importance of elites in shaping integration. African technocrats and civil society actors have increasingly advocated for governance as a prerequisite for integration. Their work in public administration reforms, electoral processes, and regional trade systems (e.g., African Continental Free Trade Area) exemplify elite-driven governance improvements leading to functional integration (Haas, 1958; Nye, 1968). The theory explains that good governance is not only a desired outcome but also a driver of regional integration in Africa. It fosters the conditions necessary for spillover, strengthens supranational institutions, and empowers technocratic actors to build momentum.

Methodology

The paper employed qualitative approach, largely relied on secondary data extracted from books, journals, newspapers, magazines and other relevant documents. The relevant information retrieved from these documentary materials were used to analyse the data through content analysis.

Institutional Stakeholders and African Integration Efforts

Several institutions involve in promoting integration efforts across the continent. These institutions are discussed below:

The African Union (AU)

The African Union (AU) has played a significant role in promoting good governance and regional integration across the continent. Through initiatives like the African Peer Review Mechanism (APRM), established in 2003, the AU encourages member states to voluntarily assess and improve governance standards, transparency, and accountability (AU, 2007). In terms of integration, the African Continental Free Trade Area (AfCFTA), launched in 2021, represents a major effort to unify African markets, promote intra-African trade, and foster economic cooperation and development. The AU also supports democratic practices through the African Charter on Democracy, Elections and Governance, which sets norms for democratic transitions and human rights across the continent (AU, 2021). These efforts collectively contribute to political stability, economic growth, and pan-African unity.

The Economic Community of West African States (ECOWAS)

In 1979, ECOWAS adopted the Free Movement Protocol, granting community citizens the right to enter, reside, and establish economic activities in member states. This protocol aims to facilitate regional integration by promoting the free movement of persons, goods, and services. While challenges such as inadequate infrastructure and security concerns have hindered full implementation, the protocol has significantly contributed to regional integration efforts by enhancing cross-border trade and mobility.

The East African Community (EAC)

The East African Community (EAC) plays a significant role in fostering African integration by enhancing economic, political, and social cooperation among its member states. Comprising Burundi, Kenya, Rwanda, South Sudan, Tanzania, the Democratic Republic of Congo, and Uganda, the EAC is a regional intergovernmental organization committed to the advancement of a unified East Africa (EAC, 2023). One of the primary objectives of the EAC is to enhance economic integration through trade and investment facilitation. The establishment of the EAC Customs Union in 2005 and the Common Market in 2010 have significantly boosted intra-regional trade (EAC, 2023). By eliminating tariffs and reducing trade barriers, the EAC has created a more conducive environment for commerce, thereby contributing to the African Continental Free Trade Area (AfCFTA) goals (African Union, 2022). Moreover, the EAC promotes infrastructure development, such as the Standard Gauge Railway and cross-border energy projects, to enhance connectivity and economic growth (UNECA, 2021).

The EAC has made substantial strides toward political integration by fostering peace, security, and governance reforms within the region. The organization has facilitated conflict resolution in member states, notably in Burundi and South Sudan, through mediation efforts and peacekeeping missions (Khadiagala, 2018). Additionally, the EAC's ultimate goal of a political federation underscores its commitment to a united and stable East Africa, setting an example for broader African integration (EAC, 2023). The EAC promotes social and cultural integration by encouraging free movement of people, labor, and services. The introduction

of the East African e-passport has eased mobility, fostering closer ties among citizens (Mugabe, 2020). Furthermore, educational collaborations and cultural exchanges, such as the harmonization of university curricula, contribute to a shared East African identity and support the African Union's Agenda 2063 objectives (AU, 2015).

Despite its achievements, the EAC faces several challenges, including political tensions, non-tariff barriers, and economic disparities among member states (Kanyangoga, 2016). Addressing these issues requires stronger institutional frameworks, increased commitment from member states, and alignment with continental integration policies. Looking forward, the EAC's continued collaboration with the African Union and other regional economic communities will be crucial in advancing African integration. The EAC serves as a key pillar in African integration by enhancing economic growth, political stability, and social cohesion. Through its regional initiatives, it aligns with the broader continental objectives of the African Union, particularly the AfCFTA and Agenda 2063. Strengthening cooperation and addressing existing challenges will further solidify the EAC's role in the continent's integration efforts.

The African Continental Free Trade Area (AfCFTA)

The African Continental Free Trade Area (AfCFTA) is a landmark initiative aimed at fostering economic integration across Africa by creating a single market for goods and services among its 55 member states. This agreement seeks to enhance intra-African trade, stimulate economic growth, and position Africa as a competitive entity in the global economy.

One of the primary objectives of the AfCFTA is to boost intra-African trade by reducing tariffs and non-tariff barriers. Historically, intra-African trade has been low compared to other regions. By establishing a unified market, the AfCFTA aims to increase trade among African nations, thereby promoting economic diversification and industrialization (Fofack, 2018). The AfCFTA is projected to significantly contribute to economic growth and poverty reduction across the continent. According to the World Bank (2020), the implementation of the AfCFTA could lift 30 million people out of extreme poverty and increase the income of 68 million others who live on less than \$5.50 per day. This growth is anticipated through the creation of jobs, increased investment, and the development of regional value chain. Beyond economic benefits, the AfCFTA has the potential to advance political integration and stability in Africa. By fostering economic interdependence among member states, the agreement can serve as a catalyst for deeper political collaboration and conflict resolution mechanisms (Okeke, 2023). The shared economic interests may encourage cooperative approaches to regional challenges, thereby enhancing political stability. Despite its potential, the AfCFTA faces several challenges, including infrastructural deficits, policy harmonization, and the need for robust implementation mechanisms. Addressing these challenges requires coordinated efforts at national, regional, and continental levels to ensure the successful realization of the AfCFTA's objectives (Fofack, 2018). The AfCFTA plays a pivotal role in Africa's integration by promoting intra-African trade, driving economic growth, reducing poverty, and fostering political stability. Its successful implementation could transform Africa into a more integrated and prosperous continent, capable of competing effectively in the global market.

The Role of Good Governance in African Integration

Good governance and African integration are closely linked, as effective governance structures are crucial for fostering regional cooperation, economic development, and political stability across the continent. Good governance is characterized by accountability, transparency, rule of law, and citizen participation create an enabling environment for African nations to integrate economically and politically.

Good governance fosters political stability, which is essential for African integration. While political instability, often marked by corruption, weak institutions, and conflict, undermines regional cooperation efforts. Countries with strong governance structures are more likely to engage in and uphold regional agreements. For example, the East African Community (EAC) has shown that states with democratic governance and institutional stability contribute more effectively to regional integration (Mathews & Karingi, 2019). The rule of law ensures the enforcement of regional policies, trade agreements, and economic regulations. Strong legal institutions in member states enable smoother integration by reducing disputes and ensuring compliance with regional frameworks like AfCFTA. According to UNECA (2021), African countries with stronger legal frameworks tend to benefit more from trade liberalization initiatives. Good governance promotes democratic participation, which extends beyond national borders to regional bodies like

the African Union. Citizen engagement in governance leads to greater acceptance of regional integration initiatives. The Pan-African Parliament (PAP) is an example of how democratic governance at national levels supports regional policy formulation (AU, 2020).

Corruption is a significant impediment to African integration. Poor governance fosters corruption, which distorts markets, discourages foreign investment, and weakens trust in regional institutions. Transparency mechanisms, such as public financial management reforms, enhance confidence among African states, leading to better cooperation in initiatives like the African Peer Review Mechanism (APRM) (Hope, 2017). Good governance ensures that infrastructure projects crucial for integration—such as roads, railways, and energy grids—are properly managed. Poor governance has led to stalled or mismanaged infrastructure projects across Africa, limiting the potential of regional connectivity (UNECA, 2021). Countries that invest in accountable infrastructure development, such as Rwanda and Ghana, have seen greater benefits from regional integration efforts.

Good governance creates a favorable business environment by enforcing property rights, reducing bureaucratic inefficiencies, and ensuring contract enforcement. These factors attract foreign direct investment (FDI) and encourage intra-African trade. Studies have shown that African countries with higher governance scores, such as Botswana and Mauritius, have stronger trade and investment ties with their regional partners (AfDB, 2020). Effective governance ensures that the benefits of integration, such as trade liberalization and economic expansion, are distributed equitably. Without good governance, the benefits of integration risk being concentrated in a few countries or elite groups, exacerbating inequality and leading to social unrest (Rodrik, 2018). Effective governance facilitates policies that allow free movement of people across African borders. The African Union's Protocol on Free Movement of Persons has been more successfully implemented in countries with robust governance frameworks, such as ECOWAS states that allow visa-free travel (Adepoju, 2021).

Challenges of Good Governance in African Integration

Good governance is critical for African integration. Despite efforts by regional organizations such as the African Union (AU) and the Economic Community of West African States (ECOWAS), numerous challenges persist. These challenges form the next discourse.

Corruption remains a major impediment to good governance in Africa. It undermines democratic processes, weakens institutions, and diverts resources meant for development (Transparency International, 2022). High levels of corruption erode public trust in government and discourage foreign investment, further hindering economic growth and integration efforts. Countries such as Nigeria and South Africa have struggled with corruption scandals that have derailed governance and economic stability (Smith, 2021). Institutional weaknesses, including ineffective judiciary systems, inadequate law enforcement, and lack of accountability mechanisms, obstruct governance and integration (Akech, 2019). Without strong institutions, governments fail to implement policies efficiently, leading to poor service delivery and lack of public confidence. Moreover, weak institutions struggle to uphold the rule of law, making it difficult to foster regional cooperation and trade. The African Union, for instance, has faced criticism for its limited enforcement capacity and dependence on external funding (Anyangwe, 2020). The AU's inability to enforce its own decisions, such as the sanctions on unconstitutional governments, demonstrates institutional weakness. Similarly, the East African Community (EAC) has struggled with the slow implementation of protocols due to member states' reluctance to surrender sovereignty (Ong'ayo, 2021).

Political instability, characterized by frequent coups, electoral fraud, and civil unrest, disrupts governance and integration (Cheeseman, 2018). Countries such as Sudan, Mali, and the Central African Republic have experienced political turmoil that hampers regional cooperation. Political instability discourages long-term investment and makes it difficult to implement regional policies such as the African Continental Free Trade Area (AfCFTA). Many African countries experience coups, civil wars, and political crises that disrupt regional integration efforts. For example, the recent coups in Mali (2020 and 2021), Guinea (2021), and Niger (2023) led ECOWAS to impose sanctions and struggle to maintain cohesion among member states (Aning & Okyere, 2022). Political instability undermines regional agreements, weakens institutions, and discourages foreign and intra-regional investments.

Economic disparity among African nations poses a significant challenge to integration. More developed economies, such as South Africa and Kenya, dominate trade within their regions, creating resentment among

smaller economies (UNECA, 2022). In ECOWAS, Nigeria's economic dominance sometimes leads to concerns that it benefits disproportionately from regional policies, while smaller economies like Benin and Togo struggle to compete (Geda & Seid, 2021). Disparities in economic strength create imbalances in trade agreements and hinder the implementation of regional economic policies. Poorer nations struggle to meet integration requirements, slowing down collective progress (World Bank, 2021).

Many African governments are reluctant to cede sovereignty to regional bodies, fearing loss of control over national policies. The African Continental Free Trade Area (AfCFTA), for instance, has faced delays in implementation due to member states' hesitance to fully commit to trade liberalization (Luke, 2022). Similarly, in the EAC, tensions between Tanzania and Kenya over trade barriers highlight the challenge of balancing national interests with regional commitments (Krapohl & Meissner, 2020). African regional blocs often sign numerous agreements that are poorly implemented. For example, ECOWAS's free movement protocol, established in 1979, still faces major challenges due to border restrictions and harassment of traders and travelers (Adepoju, 2021). Similarly, the African Union's Agenda 2063, which outlines long-term integration goals, has suffered from slow execution due to inadequate funding and commitment from member states (AU, 2022).

Inadequate infrastructure in transport, energy, and digital connectivity limits economic growth and integration efforts (AfDB, 2020). However, many African regions lack the necessary infrastructure to support economic and political integration. The poor road and rail networks between Central and West African countries, for instance, increase trade costs and limit movement (AfDB, 2021). The lack of efficient digital infrastructure also affects cross-border business and governance cooperation. Africa's reliance on foreign aid, investment, and political influence from external actors such as China, the European Union, and the United States affects governance and integration (Nkrumah, 2020). Foreign powers often impose policies that serve their interests rather than those of African nations. Additionally, excessive borrowing from international financial institutions increases debt burdens, limiting economic sovereignty and the ability to invest in regional projects. For instance, the AU's peacekeeping missions, such as AMISOM in Somalia, have been largely funded by external actors, leading to concerns over Africa's ability to handle its own security (Williams, 2020). External influence can also create conflicts of interest and hinder locally driven integration efforts.

Africa's linguistic and cultural diversity presents governance challenges in regional integration. Many regional blocs, such as ECOWAS, operate in multiple official languages (English, French, and Portuguese), leading to communication difficulties and administrative inefficiencies (Mazrui, 2021). This diversity often slows down decision-making processes and complicates policy harmonization. While free movement is a key goal of African regional integration, border security concerns often hinder progress. The rise of terrorist activities in the Sahel region has led some ECOWAS and AU members to tighten border controls, contradicting regional integration policies (Onuoha, 2022). The challenge lies in balancing security concerns with the need for economic integration and people's mobility.

Strategies to Enhance Good Governance for African Integration

African integration is not realistic without good governance across the continent. This section discusses strategies to enhance good governance to strengthen African integration.

Strengthening Institutional Frameworks: To enhance good governance, African states must strengthen regional and national institutions. The African Union (AU) and its agencies, such as the African Peer Review Mechanism (APRM), should be empowered to enforce governance standards (Adetula, 2020). National governments should reinforce anti-corruption agencies, judicial independence, and electoral commissions to ensure integrity and accountability.

Promoting Transparency and Accountability: Transparency and accountability are fundamental to good governance. Governments should adopt digital governance tools to provide open access to information and facilitate citizen participation (World Bank, 2022). Additionally, implementing strict anti-corruption laws and ensuring their enforcement can enhance public trust and economic stability (AfDB, 2021). These transparent policies, efficient regulatory frameworks, and anti-corruption measures are crucial for ensuring that the benefits of integration are equitably distributed. When governance structures uphold contract enforcement, protect property rights, and ensure policy consistency, businesses and investors feel confident in engaging across borders, thereby accelerating regional economic development.

Strengthening the Rule of Law: A robust legal system is vital for African integration, countries should harmonize their legal frameworks to ensure consistent regulatory policies across the continent (UNECA, 2021). Strengthening judicial independence and capacity-building programs for law enforcement officers can also help combat impunity and uphold human rights. By ensuring democratic governance, rule of law, and respect for human rights, countries can create an environment that encourages trust among nations. This trust is essential for implementing common policies, fostering collaboration, and reducing conflicts that may derail integration efforts.

Enhancing Regional Cooperation and Policy Harmonization: To facilitate integration, African nations should harmonize trade policies, economic regulations, and governance standards (AU, 2019). The African Continental Free Trade Area (AfCFTA) serves as a platform for economic cooperation, but its success depends on unified governance structures and policy coherence (UNCTAD, 2020). As Africa strives to achieve deeper unity through initiatives such as the African Continental Free Trade Area (AfCFTA) and the African Union's (AU) Agenda 2063, the presence of strong, accountable, and transparent governance structures becomes indispensable.

Encouraging Civic Participation and Inclusive Governance: Public participation in governance strengthens democracy and policy implementation. Governments should foster civic engagement through decentralized decision-making, community consultations, and digital platforms for policy discussions (Olowu & Wunsch, 2020). Women and youth empowerment programs should also be prioritized to ensure inclusive governance.

Strengthening Economic Governance: Economic governance is crucial for sustainable development and integration. African nations should adopt sound fiscal policies, strengthen public financial management, and promote intra-African trade (IMF, 2021). Debt transparency and responsible borrowing are also essential for economic stability and integration.

Leveraging Technology for Governance: Digital transformation can improve governance efficiency. E-government platforms can streamline public services, reduce bureaucratic inefficiencies, and curb corruption (World Bank, 2022). African states should invest in digital infrastructure and cyber security to enhance service delivery and economic growth. Good governance ensures that policies are forward-thinking, adaptable, and inclusive of emerging global trends. Countries with transparent governance structures are better positioned to adopt green energy solutions, digital transformation initiatives, and infrastructural projects that connect African economies and societies.

Conclusion

Good governance is the backbone of African integration. It promotes political stability, economic cooperation, institutional efficiency, social harmony, and sustainable development. Without it, efforts to unite the continent remain vulnerable to setbacks such as corruption, conflict, and economic disparities. African leaders, institutions, and citizens must prioritize governance reforms that strengthen transparency, accountability, and democratic values. Only through effective governance can Africa fully realize its integration goals, ultimately achieving a prosperous, peaceful, and united continent.

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Political Leadership and INEC Electoral Performance: A Case Study of the 2003–2023 Presidential Elections

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Abstract

This paper examines the relationship between political leadership styles and the performance of the Independent National Electoral Commission (INEC) in Nigeria's Fourth Republic. It focuses on Olusegun Obasanjo, Umaru Musa Yar'Adua, Goodluck Jonathan, and Muhammadu Buhari administrations (2003 to 2023). The paper argues that various administrations manifested different styles of leadership. The form of leadership style varied from authoritarian, transformative to the weak. Using empirical data, it is further argued that Generals Obasanjo and Buhari, both former military rulers, exhibited authoritarian leadership styles, despite being democratically elected. Their political exertions undermined the rule of law while prioritizing strangle-hold on power. Also, it is argued that Yar'Adua administration demonstrated a more moderate and transformative leadership approach underlined by his policy of electoral reforms, respect for judicial independence, and constructive and conciliatory engagement with the Niger Delta crisis. Jonathan administration, on the other hand, tended to be more passive marked by delayed responses to national security threats, poor handling of the fuel subsidy matter. And above his disinclination to hold on to power at all cost. The paper concludes that since the commencement of the Fourth Republic the leadership styles of the various administrations has impacted, a great deal, the quality of democracy and its consolidation in Nigeria.

Keywords: Political leadership, politics, political interference, political appointment, electoral performance, authoritarian, transformative, weak democratic consolidation

Introduction

The landscape of elections and politics in Nigeria has been marked by palpable volatility, exemplified by controversies during the general election. The clear provisions of the constitution and the act of parliament are laid aside for party and individual interest, manipulation of the process, and corruption among others. The incumbent allegedly appointing ruling party loyalists to critical positions (such as Residents Electoral commissioners (RECs), ad hoc staff etc.) which allegedly influence the election outcome undermines the expected fairness in the conduct of elections, fostering constant suspicions and beliefs that the electoral body is an appendage of the ruling party (Sahara reporter,2022; Vanguard,2023).

One would ask, why do political leadership hardly fail to appoint a party member as INEC REC? Why are there so many pre-elections and post-election violence, conflict and litigations on candidacy qualification up to the apex court? Why do technical challenges like card problems, and network glitches rear up allegations of INEC collusion with the ruling party to rig elections despite the provision of statutory tools, huge budgetary allocation and assurance by the INEC leadership that all needed for credible election had been given and preparation was in top gear to avert these challenges? These questions are begging for the explanation of understanding how political interest influences the performance of INEC. The effectiveness of this vital commission and other public institutions alike can be ascertained by the extent to which it is free from political interference.

To this end this paper seeks to examine; How the relationship between political leadership and INEC-appointed leaders affects the INEC's performance? What is the performance of INEC and the effect of the performance of INEC on other public entities and society at large? It is the light of these problems that this research aims to provide a thorough elucidation of the INEC performance within the context of political leadership dynamics in Nigeria utilizing INEC as case study from 2003 to 2023 Presidential election. Thus, this research made use of primary and secondary qualitative data gathered from literatures, Key informant interview and Focus group Discussion in two local government purposively selected in Lagos state.

Thus, the subsequent session of this paper conceptualizes the key concepts, give theoretical underpinning, present empirical data analyses and draw conclusion and recommendation.

Conceptualizing Politics, Political Leadership and Leadership Style

To understand political leadership in Nigeria is important to conceptualize and contextualize politics and power play in Nigeria using realist and institutionalist lens. Akhaine (2023) in his realist view identified

Power and control through the hegemonic groups as the major pre-occupation of politics (in Nigeria), his perspective x-ray north and south power struggle in historical trajectory of leadership in Nigeria, which places dominance above building cohesive institution. This view is in tandem with array of scholars who perceive politics as ; (i) a perennial dichotomy between friends and foes due to conflicts arising from identities, practices, beliefs, and culture (Schmitt, 1932); (ii) as the process through which power, control, progress, and order are attained by any means as long as success is assured (Machiavelli, 1552), as a systematic organization of hatred (Henry Adams in Heywood, 2019). These views sum up politics as an affair bereaved of virtue truth and selfless service. On the contrary, institutionalist view politics as an institutional framework within which man operates in a polity. David Easton contribution this view describe politics as an authoritative allocation of values (Easton, 1953). This means process allocation of value is back by institutional rules. Haywood focusing on the process described politics as the “activity through which people make, preserve, and amend the general rules under which they live” (Haywood, 2019). Critical point of disagreement is the process of utility of state authority by political leader (man), the realist potent exclusive access to allocate value while the institutional process of allocation is more inclusive the set of rules. The institutional rule in Nigeria plays less significant role in determine who gets what when and how but elite or leadership style.

Leadership has multiple applications including business, school, religion, politics among others (Samad, A.; Al Jerjawi, K.; Dadich, A, 2023). A leader suggests someone in charge (Samad et al, 2023) Eneanya (2009) presents leadership as a subset of management, expanding the scope of management beyond the traditional functions of planning, organizing, and control. The multifaceted nature of leadership is also evident in various scholarly definitions, with Yagboyaju (2010) providing an etymological perspective that envisions a leader as one who directs from the forefront. This aligns with Greenleaf's concept of servant leadership, emphasizing the leader's role as a servant dedicated to the well-being of those being led (Rauch, 2007).

This approach contrasts with various leadership classifications, such as charismatic, transactional, democratic, authoritarian and situational, except transformational. Charismatic leaders exhibit innate traits and remarkably influencing abilities, while transactional and situational delegative leadership leaders are influenced by environmental circumstances (Yagboyaju, 2010). Transformational leaders, exemplified by figures like Nelson Mandela, who embodied visionary qualities, guiding individuals toward a brighter future. On the other hand, servant leadership leads by serving and inspiring collective service among followers.

Similarly, Valentin (2023) espouses his version of servant leadership as “trust base leadership” a leadership “leading by example.” This concept referred to leadership as inclusive, collective, and relational-styled leadership. This again reflects a certain cultural disposition in favour of community and inclusiveness (Valentin, 2023). This act of leading by example was later classified as heroic and post-heroic leadership- that is leadership who stays in the background to watch others grow. An empirical observation of such “trust base leadership” in Nigerian democracy suggests that such is non-existence in our clime. The closest that could be reared up is a popular phenomenon called “godfatherism” which is a leader who stays in the background to watch others loot for personal and factional interest. (Ozumba, 2019; Ogbona, 2020; Onuigbo, Okoye and Anemjeh, 2023, etc). Delegative leadership is leaders who commit the work to an expert to do. This is not leadership by example, it is leadership by assigning responsibility to subordinate or experts (Lewin, Lippitt, and White 1939). who supposed to be institutionally accountable.

There is therefore, a theoretical appeal for combination of transformational and servant leadership styles and other variant of leadership although it remains unclear whether this blend or any particular style can universally apply. In Nigeria, certain political figures adopt the title of "servant governor" or "servant leader," but the extent to which they embody servant leadership principles in practice is questionable (Ichima et al, 2014; Igiebor, 2019; etc).

Pogeson et al (2014) in their contribution to the study political leadership in Nigerian context focus Principal Political leadership that is the head of state and the interaction between his policies and influential politicians, groups including the elite network which cuts across ethnic groups political parties and international bodies like the IMF, World Bank, UNICEF, etc. In relation to public sector and good governance (Pogeson et al, 2014). The previous study is limited was limited only one regime 1999-2007. These study explore how leadership style influence inec performs from Obasanjo to Buhari regime.

Nascent and dysfunctional institutional Model

This study adopts the lens of *inclusive and extractive institutions theory* (Acemoglu and Robinson, 2012) and the concept of nascent and advance democracies (Lapuente and Charonne, 2010) to explain the performance or failure of public institutions (INEC).

Inclusive institutions operate public institution by pluralistic participation and rule of law which reduces the tendency to strive for power amongst the leaders or elites and groups for control. The leadership leaders in inclusive system are transactional and constrained by rules of law to be democratic (involve people in decision making) or delegative (hands off governance) or transformative (inspire motivation, innovation and institutional reform) (Lewin, Lippitt, and White, 1939 & Bass and Avolio, 1994) even if they lack the tendencies. The theory extols merit and competency as key determinants in the recruitment process, and operations of public organisations with the utmost regard for the ultimate benefit of the masses who largely determine the cause of action of the ruling class because there is an enlightened civil engagement from the populace who give strong demand, support and feedback.

Extractive institutions theory explains institutions autocratic and narrow leadership (that is ruled by an elite minority) and unrestrained by the rule of law will likely be ineffective in the delivery of their objectives due to cronies' interest and political interference which limit standard bureaucratic practice. The theory however, explains that extractive institutions can make progress but the progress will be unsustainable due to the absence of inclusive conditions that encourage people to participate, thereby making collapse imminent. However, this theory did not explain why less consolidated democracies with all the features of inclusive institutions on paper experience abysmal public service delivery.

Lapuente and Charonne (2010) argue that nascent democracies are synonymous with poor quality governance (and third-world countries). These democracies are laden with citizens demanding for immediate benefit (i.e. cronies and sectional interests) at the expense of long-term bureaucratic goals which halt significant progress in delivery public service. However, advanced democracies possessing enlightened citizens and economic advancement can delay gratification for a long-term goal and make progress as a result. He therefore posits that nascent democracies can over some time become advanced democracies and make progress but autocratic regime progress may not be sustainable since the ruler is just a coup or one decision away from truncating initial success (Lapuente et al, 2010). If he deliberately marginalizes, misinforms, and impoverishes the people whose involvement in continual innovation would help sustain the system (Acemoglu and Robinson, 2012).

The Nigerian state is a hybrid of nascent democracy having an inclusive institutional framework with perfunctory rule of law and citizens. The absence of strong institutions and participant citizen leaves wide room for political leadership or head of state with a strong personality to explore in a Nigerian state. The political leaders only have the elite network (i.e. state captors) to worry about when it comes to critical decisions. The political leaders could embark on what he considered best for the people with little or no checked from the people. The relative checks are instigated by disgruntle elite who lost out in power play. They stir up the people to protest and then go behind the people to negotiate for personal interest (Adilije, 2010). While the real agitation by the people is usually crushed by a coalition of elite through the instrument of the state.

Thus, the combination of the theories and concepts metaphorized into nascent and dysfunctional inclusive institution model to explain the dynamics of political leadership and public institution performance in Nigeria. Therefore, this model is systematically use to analyses the phenomenon of Political Leadership and INEC Electoral Performance under study.

Analysis of Political leadership and INEC's Electoral Performance (2003-2023)

From the inception of the fourth republic to 2023, Nigeria had had spells of four administrations, this administrations' leadership style oscillated within *authoritarian-transactional (strong leadership style)*, *democratic-transformative (moderate leadership style)*, *democratic-delegative (weak leadership style)*, each administration leadership style influences the dynamics of electoral performance of INEC. This study provides thematic analysis of Obasanjo, Yar'Adua, Jonathan and Buhari administrations on conduct of presidential elections from 2003-2023 with aim to provide answers to the research question such as; *how does the relationship between political leadership and INEC-appointed leaders affects the INEC's performance? What is the perception of performance of INEC and what is the effect of the performance of INEC on other*

public entities and society at large? From the data gathered through interviews and relevant literatures. Seven Key Informant interview and a focus group discussion carried out; with participant cut across public servants (INEC serving and retired officials), politicians (from three major parties), journalist, civil society member and concern citizens. The result study presents analyses as follows:

A. Analysis of the first research question on the relationship between political leadership (style) and INEC-appointed leaders affects the INEC's performance.

Obasanjo military background influenced his **authoritarian-transactional leadership style**, in many policies direction and handling of vital issues, he displayed flagrant disrespect for rule of law. The Power Tussle between Obasanjo and Governor Bola Tinubu over creation of Local Council Development Area (LCDA) and Obasanjo's refusal to release federal allocation to Lagos state despite Supreme court ruling exemplify this (Daily Trust, 2018). The fact that he placed politics and party or personal interest ahead the welfare of 16 million Nigerians resident in Lagos at the time speaks to his authoritarian- transactional (strong) style. Political expediency is the rule of the game. Respondent MaSo04 noted that "*Obasanjo put us in this problem, he did not develop the system, he did ..., he did not develop INEC well because, he wanted to be a life president.*," his focus was on third term agenda. Lapuente et al (2010) highlighted one of the problems of nascent democracy as poor decision on the part of the leadership whose decision is enabled by lack of desire by the people to delay gratification. The elections result was not protested by the people who saw no need for such a waste of time while he is hungry. The willingness to sell vote and lend hand rigging weakens the resort to protect votes. According literature, this a typical characteristic of a nascent democracy (Lapuente, 2010). The Obasanjo authoritarian leadership style is expected to be moderated by rule of law but revers is the case it is the President who moderated the rules of law provided by the inclusive frame work of the 1999 constitution. The Obasanjo executive overhand on the use of military in Odi without the recourse to national assembly and without critical investigation of national assembly of his high handedness raises questions on adherence to democratic values of critical political institutions. The ability of Obasanjo to use brute force without consequences emphasizes the extent to which the executive has limitless room to operate unchecked despite provisions in the constitutions. The constitution rhetorically put a cap on the extent to which the executive can overreach. The leadership personality or style only determines the extent a head of state can go not the constitution in practice. The head of state put every machinery within its disposer including security agency to rig election for Umaru Musa Yar'Adua, his last-minute anointed candidate.

Goodluck Jonathan's **Transformational and delegative leader built upon the reforms started by Yar'Adua** Electoral Reform Commission (ERC) headed by Justice Uwais, 83% of Uwais recommendation were accepted by Yar'Adua before his death but he rejected the revolutionary proposal to remove the executive authority on INEC finance and appointment of chairman (kerr, 2024; Ogundiya & Baba, 2022) to avoid political suicide.

President Goodluck Jonathan's administration inherited the ERC reform and did not alter Yar'Adua's position on the reform. Jonathan's leadership style was on one hand transformative s inspiring change through vision, integrity, and motivation (Burns, 1978 and Bass, 1985) rhetorically and symbolically and on the other hand his delegative and hands-off approach to governance allows a great deal of autonomy within his administration. This hands-off approach to governance was christened by critics of his government as "cluelessness" especially on insecurity. His style was strange to the Nigerian populace who are used swift decision and highhandedness of the military and civilian (Obasanjo) regime. Goodluck Jonathan's hybrid transformational–delegative leadership style displayed commitment to democratic values and institutional autonomy, especially in electoral governance. Though he is not without a character flaw as he was allegedly found to be drunk during work hour at some instance in Aso Rock (Premium Times, 2013). His free handedness also allows a lot of corruption within his cabinet, he was low in his fight against corruption. His weak (hands off) leadership style is not needed for nation with weak and dysfunctional institutions like Nigeria. Jonathan will fare better in nation with strong and functional institution.

However, this free handedness worked with INEC when he appointed someone of integrity like Professor Attahiru Jega. His appointment of Professor Attahiru Jega as INEC Chairman was widely viewed as an effort to strengthen the Commission's independence (Wolfe, 2017). Jega's reputation as a principled academic underscored the administration's commitment to credible elections. Jonathan frequently emphasized the importance of democratic institutions, asserting that his legacy would be defined not by personal political

success but by the credibility of the electoral process. His historic concession in 2015, before the full announcement of election results, marked a significant moment in Nigeria's democratic trajectory (Orji, 2015). In 2011 general election Jonathan allowed Jega to do his job, card reader was introduced election fraud was reduced and Jonathan won the election narrowly without special interference. Though the polity was divided between the north and the south. the north wanted Jonathan to relinquish power to a northerner after the end of Yar'Adua term. The south wanted Jonathan to complete Yar'Adua tenure since it was joint mandate. Thus, 2011 presidential election was divided between the Buhari and Jonathan with Jonathan gain traction from north central and the entire south living Buhari with North West and North East. The lack of willingness to hand it over to the INEC saw a great leap towards an election that counts. The president for the first time refuses to use his power of incumbency. In his words, the United States was interested in the outcome of election and he is unwilling to allow his ambition to throw Nigeria into chaos. The question is would Obasanjo have done the same in 2015.

Buhari's leadership style can be classified as **transactional with authoritarian** blend, marked by a preference for centralized decision-making, discipline, and anti-corruption rhetoric also delegative to extent trusted a clique politician like Abba Kyari, the Chief of Staff were given freehand in his administration. Transactional leaders focus on maintaining the status quo through structured orders and exchanges, often emphasizing compliance and loyalty (Bass, 1985). Throughout his tenure, Buhari emphasized anti-corruption and national integrity as core pillars. However, critics argue that this translated into selective accountability, where political loyalty often influenced legal outcomes (Iroanusi, 2020). His administration's relationship with INEC evolved over time—initially promising autonomy but later raising concerns about executive influence. His administration ensure that political power was retained with the use power of incumbency to rig 2019 election. Significant achievement was 2022 Electoral Act that the national assembly passed under his administration. The introduction of innovation and technology to deal with electoral fraud raised the of the voters going into 2023 but was allegedly dashed by the controversy that trail the electoral outcome. The incumbent party (APC) just like PDP in 2007 allegedly used its influence over INEC to retain power.

The Relationship Between Political Leadership And INEC-Appointed Leaders (2003-2023)

President Obasanjo's **strong, autocratic leadership style** was armed with the 1999 constitutional provision that made it possible for him to appoint the INEC chairman and commissioners with process of ratification through the buyable legislative assembly of the regime. The INEC was simply tied to the President's whims and caprices. Respondent MaSh02 sighted that the appointment of INEC chairman is mainly the prerogative of the president in line with constitutional procedure. The 1999 constitution as amended and electoral act. Section 154-157 of the constitution stipulate the procedures. The president nominated the chairman, National commissioners, and RECs for the state keeping in federal character principle is adhered to in the process. The constitutional provision places the buck on the table with sensitivity to ethnic sensibility at the expense of merit. The appointment is therefore at "the discretion of the president" (respondent almo03) whose leadership style also play significant role in appointment of loyalist for political control at the expense of performance. Abel Guobadia in a reported quoted that the problem with 2007 election was started with appointment of "errand boy as INEC chairman" the head of state want INEC chairman with sympathy to its political course. This pointed to the fall out between Guobadia and Obasanjo who would not take no for answer in 2003... which allegedly led to late funding of election until the USAID came to INECs aid. The constitution 1999 contain a body of rule and regulation that is supposed to regulate the relationship between the head of state and INEC and ensures autonomy of INEC (Chairman) but this has been a challenge as INEC are mere tools in the hands of political leaders. The respondents conceded that there are rules and regulations as laid down by the constitution guiding the appointment of the 'DGs and INEC chairmen' however 'adherence are influenced by political considerations ("political mileage"), loyalty, ethnicity, religion, and public perception.' These put politicians and not the law in firm control of who becomes the appointed chairman.

The same way the procedures of appointment are manipulated so also the appointed persons performance could be. Obasanjo worked Abel Gobadia and Maurice Iwu after they scale through the appointment processes the INEC chairmen have to decide to be autonomous and risk tension with the political leadership or serve the common good Respondent IFG1 recall that "the chairmen (he once served under in Abuja i.e. Abel Gobadia, Moris Iwu and Jega) are good people, however the "largely limited by the regime they served"

under. The much they could do was within the room given to them by the government that appoint them” this accentuate and corroborate the reality of political interference and actions based on political expediency “President Obasanjo was a control freak. he would not take a no for an answer. Abel Gobadia was a principled man who refused to be used. He was bold and principled refused to be influences by Obasanjo. This however led to late disbursement of election fund. The UN based VIA, USAID, etc. had to come to the aide INEC” (Respondent IFG1 2024). The 2003 presidential election held with several anomaly that put the incumbent in good stead to retain power. What follows in the next election was President Obasanjo appointment Prof Maurice Iwu as INEC chairman. Under Iwu’s leadership 2007 controversial and violent election held. The Professor had no background in election management or politics.

“Maurice Iwu was just a scholar with no experience in organizing election his ignorance or in experience gave politician opportunity to manipulate the system and rig elections. He was brought in...strategically by politicians. He was messed up.” (respondent IFG01,2024).

Professor Iwu hands off leadership style permitted a lot of atrocities to be carried out behind him he himself was a good man (respondent IFG01, 2024). Thus, 2003 and 2007 presidential elections were characterized with corruption rigging, vote buying, violence and use of security operative to intimidate opponent. Thus, this administration conducted two presidential elections; 2003 and 2007 elections which were marred by irregularities, including ballot stuffing and violence, raising questions about INEC's independence and capacity (Uchegbue & Ezirim, 2023).

Conversely, president Jonathan relationship with INEC was distant and hands off, respected the independence of INEC, refraining from direct interference in electoral operations and supporting the agency’s initiatives for reform. On of the respondent noted that” Jonathan was not a control freak, he gave Jega a free hand.” (respondent IFG01).

The administration provided INEC with statutory access to public funds, reducing executive leverage and enhancing operational efficiency. Jonathan consistently voiced public support for credible elections and encouraged INEC to uphold democratic standards. These actions bolstered INEC’s credibility and contributed to significant improvements in electoral administration. Professor Jega had received more pressure from the opposition party than the incumbent party in 2011 presidential election, a respondent noted that : *“the 2011 election had the INEC state and commissioners divided between north and south...The northerners wanted Jega to delay announcement of result in order ...have time to turn the election result around. Jega was not ready to soil his name, He obliges, and CNN, BBC and other media persons who kept on asking...when will the winner be declared”* (interview 2024). The autonomy granted to Professor Jega visionary leadership of INEC led to the introduced several innovations under Jonathan’s tenure, including the biometric voter register and the Smart Card Reader system.

In 2011 the card reader was introduced but it not able capture farmers misaligned finger print, dirty or moist finger and the manual accreditation were resulted into in this instance. This was abused as over voting and under age were accredited through this loop holes (respondent IFG01,2024). However, these reforms enhanced voter authentication and reduced fraud. The relative success of these measures encouraged their institutionalization in subsequent administrations (Akowe, 2024).

Professor Jega whose” success in handling previous election was due to his unwavering leadership character and personal integrity and the fact that “he deliberately surrounded himself with only people he could trust allies giving sensitive task to only close allies.” (interview 2024); a method that worked well Jega cannot sustain and develop an enduring system. This accentuates the need for success driven by strong institution rather personal individual leadership character. However, the election in 2011 and 2015 was flawed by certain irregularities like vote buying, over voting under age voting and post-election violence among others but a was an improvement from previous elections especially in the southern part of the country.

The trajectory of Buhari’s administration’s relationship with INEC evolved over time—initially promising autonomy but later raising concerns about executive influence. Not paying attention to INEC was term a political suicide partly because the *“Incumbent head of state has the statutory right to spend two terms if elected. It is the reason why control of the electoral body becomes attractive. In one way or another, INEC is subverted to achieve his or her ambition”* (interview 2024).

The administration was accused appointing close relation and party members into INEC the Appointment Aminat Zakari allegedly close relation as INEC chairperson and Loreta Onoche nomination, an APC party member that was annulled by the national assembly after outcry from the civil society and the opposition party. The eventual appointment of professor Mahmoud Yakubu and the electoral act reform and the pace of implementation and assurance from INEC raised the hope voters.

However, Buhari initially delayed assent to key amendments to the Electoral Act, citing procedural concerns. He eventually signed the Electoral Act 2022, which introduced key reforms such as electronic transmission of results. While the passage marked progress, critics noted the delay undermined electoral confidence ahead of the 2023 elections (Premium Times, 2022). Thus, Buhari's party, the All-Progressives Congress (APC), was frequently accused of leveraging state institutions to influence elections at subnational levels. Allegations of military involvement and voter suppression in opposition strongholds raised questions about the neutrality of state agencies during elections (Sahara Reporters, 2023).

In total Obasanjo and Buhari authoritarian leadership style instigated a hands-on push on INEC that ensures election was always in their interest. Jonathan's delegative style ensures autonomy to larger extent that the lost election in 2015. However, none of the president remove the appointment of INEC Chairman and finance of INEC from the executive control, even Jonathan with his delegative style retain that power in the executive.

B. The Perception of Performance of INEC (2003-2023)

The introduction of a new voter register, increased voter education, and digitalization of logistics marked important steps toward electoral reform under Obasanjo. However, these initiatives were undermined by poor implementation and allegations of manipulation, especially during the 2007 elections (Jinadu, 2011). Respondent IFG01, mention that *"the voter register was not robust enough and there was no biometric system to check over voting and under age voting"* in 2003 and 2007 the heads of state and ruling party pay less attention to ensuring free and fair election. Every winner had out rigg the opponent. The ruling party flagrantly declare on campaign ground that election is do or die affair. The president and some governors were moving for third term agenda and when that failed, they had desperate move to retain their proxy in government house. This was what set the tone of the 2007 election (Odoziobodo, 2017). Obasanjo, grip hold on INEC ensure that the Chairman of INEC for 2007 election is the loyal enough not confront PDP political course. The INEC chairman was described as errand boy by former chairman who not be used as errand boy by the president (interview, 2024).

Consequently, INEC was widely seen as lacking autonomy due to its structural and financial dependence on the executive branch. The president appointed INEC chairpersons with perfunctory legislative check, which created perceptions of a bias umpire. The appointments of Abel Guobadia (2000–2005) and Maurice Iwu (2005–2010) were seen as politically motivated, compromising public confidence in INEC's neutrality (Ibeanu, 2007). The electoral performance in 2003 and 2007 were as fair as the political leadership of Obasanjo permitted the umpire to act independently(interview,2024). The independence of the electoral body was a facade under Obasanjo. Thus the 2003 and 2007 election were mostly regarded unfair, fraudulent and violent laden by domestic and foreign observers.

2011 and 2015 elections conducted under the leadership of Goodluck Jonathan, the 2011 election was conducted with the new regime of electoral reforms. Jonathan did not undo the executive control of finance and appointment but unlike Obasanjo permitted the INEC chairman a great deal of autonomy that resulted in a huge improvement in electoral process. The election witnesses the introduction of card reader that was intended to curb malpractices but the failure of card reader in some places were quickly manipulated by some politicians to carry out over voting. Though the result of Jonathan won in the south and Christian strongholds in the north the CPC presented a stronger front in 12 Muslim state in the north but lack in road in the south. Buhari's weakness in the south gave Jonathan an edge in the election. One of respondents highlighted how the supporters of Buhari (the opposition) tried to influence INEC to delay result announcement. The announcement of the result was solely at the discretion of the INEC leadership. Jonathan allegedly distant itself from INEC who made the announcement as at when due. The election was an improvement from 2003 and 2007 but much was left to be done to have better election especially on the sharp north and south division and tension it generates in an election.

Just like as it was in 2011, *“in 2015 Jonathan maintained less interference stance with the INEC chairman, this time around Buhari’s CPC had formed an alliance with ACN, APGA and New PDP known as APC. This time around APC got massive 3million vote from the south west particularly. The power structure could afford Jonathan opportunity to ensure he retained power but he chose not to do anything, PDP stalwart advise him to replace Jega before the election, declined. Though election characterized with over voting, under age voting etc. in some part of the of the country. Jonathan acceptance the outcome election when he has power to decide otherwise was a huge step to firm is stands on election”* (IFG01 2024).

Consequently, the 2011 and 2015 general elections were largely perceived to have made a major improvement compared to previous cycles. The number of post-election legal petitions dropped from over 1,250 in 2007 to about 400 in 2011 (Pointblank News, n.d.). International observers praised both elections for transparency and fairness. Jonathan’s voluntary concession in 2015 set a precedent for peaceful transfers of power and elevated public trust in electoral outcomes (Orji, 2015). His stance encouraged a norm of ethical leadership and strengthened democratic culture.

The INEC under Buhari made further improvement on implementation of technological innovations, including the Bimodal Voter Accreditation System (BVAS) and online result viewing portals. These tools aimed to increase transparency and reduce fraud. However, it appears the forces that want to maintain the anomaly have engrained themselves in the INEC system as was discovered that: *“In 2019 election the card reader was given a role of sending the numbers of accredited voters to the server to ensure that there is check on over voting. It however, discovered that the server generator went out of power.... No one could really account for how that happened. This made difficult to check over voting in 2019.”* (interview 2024). The election was marked with report of APC and PDP busy thumbprinting all around the country but the incumbent Buhari APC succeeded in out maneuvering the election over the Atiku Abubakar PDP in opposition. It was almost like all the successes of previous administration were lost in that allegedly shameful election. The cleaning up of voter’s registration, continuous voter registration and accreditation did not matter with rate of over voting and underage voting.

Build up to 2023 election saw the promulgation of electoral reform reluctantly signed by Buhari after pressure from the public. The addition of Bimodal Voters Accreditation System (BIVAS) to it combines finger print and facial recognitions of voters with Permanent Voter Card (PVC), this was to ensure that only accredited voters vote to prevent impersonation, underage voting and all kinds of fraudulent election act. The card reader in previous election had failed to read some defaced finger print and manual accreditation had left room for politicians to explore but alternative facial recognition of BIVAS will take care of this. INEC Result Viewing Portal (IReV) was also introduced to provide a real-time viewing of result. IReV system was first deployed in 2020 Nasarawa election, it provides real time viewing of the polling units result i.e. of form EC8A. The IRev was abandoned in determining 2023 presidential election despite all preparation that went into ensuring that the election was seamless and transparent most of the technologies were compromised through network glitch, logistic issues, election starting late and some form alteration at the collation centres. *“Delay of materials to opponent stronghold, lateness to the polling booth...are tactics to deliver for the party....”* (interview 2024). Literatures have noted that the inconsistency in deployment of technology in the 2023 general elections undermined public confidence in INEC’s capacity and impartiality (YiagaAfrica,2023). The Supreme Court of Nigeria ruling declare that the IReV malfunctioning during election did not invalidate election result. The failure of IReV suggest the process was free from being transparent to the opposition parties and many citizens...The mantra after the haphazard result was for opposition to just like Gobadia said in 2003 was “go to court” (Odoziobodo,2017), thus, the number of election petitions resurge in 2019 and persisted in 2023 during Buhari’s tenure, reflecting persistent distrust in the process under Buhari’s administration. Despite judicial affirmations of electoral outcomes, widespread legal contestation indicated unresolved systemic issues. The perception of performance of INEC was that the 2023 elections was flawed by the failure to deliver the election result transparently.

C. The effect of the performance of INEC on other public entities and society at large.

The study at this point analyses INEC’s performance in the 2003 to 2023 elections, with attention to its impact on a critical public institution like the Nigeria Police Force (NPF), Economic and Financial Crime Commission (EFCC), Department of State Services (DSS) as well as the Judiciary and broader societal consequences:

The effect of the 2003 and 2007 Presidential election on public entities and society at large

The INEC performance during the 2003 and especially the 2007 presidential elections had far reached implications for the Nigerian public sector, particularly in terms of institutional credibility and the politicization of security agencies. Under President Olusegun Obasanjo's administration, characterized by a centralized and authoritarian leadership style, INEC was perceived as lacking free will to operate impartially (Awopeju, 2021). The 2007 elections, in particular, were marred by ballot-stuffing, late arrival of electoral materials, and open manipulation of results—deficiencies attributed to both poor planning and executive interference (European Union EOM, 2007). Critical public institutions affected under Obasanjo were the EFCC and NPF. The EFCC was a pre-election tool used to arraign hundreds of people including many political opponents, the EFCC played the role of jury by disqualifying accused politician from participating in 2007 election including Atiku Abubakar whose case was later resolved with Obasanjo before the election (oboziobodo, 2017). While the NPF was deployed during not as an unbiased peacekeeping force but as an instrument of electoral suppression and intimidation. Several reports indicated that police personnel colluded with political actors to harass opposition figures, suppress voter turnout in strongholds of rival parties, and shield electoral offenders from prosecution (Okunade & Adedayo, 2023). The Judiciary served the post-election purpose to keep the spoils of most political wars, no presidential election lawsuit has ever been decided by the court in favour of the opposition, the incumbent always impose their wills (interview 2024). This not only damaged public trust in the police but weakened the institutional integrity of law enforcement, leading to a long-term legitimacy crisis.

Moreso, the INEC's underperformance resulted in huge public loss of confidence in Nigeria's democratic project, leading to voter apathy and increasing public loss of interest in politics. The flawed conduct of the 2003 and 2007 elections communicated to citizens that elections were not credible mechanisms for political change, but rather tools for the consolidation of elite dominance (Ezeibe et al., 2022). The disillusionment created ripple effects: civil society groups that had once championed electoral participation began to shift focus toward protest and advocacy for structural reform. In many areas, particularly the Niger Delta and northern Nigeria, the perceived disenfranchisement contributed to political violence and the radicalization of youth, who increasingly saw the state as unresponsive to democratic expectations (Omodia & Bamidele, 2021). More broadly, these elections institutionalized a culture of electoral impunity, where rigging and manipulation were normalized, undermining democratic accountability and weakening the rule of law. Despite subsequent reforms, the legacy of INEC's compromised performance under authoritarian influence continues to affect the public's perception of state institutions and the overall health of Nigeria's democracy.

The effect of the 2011 and 2015 Presidential election on public entities and society at large

The 2011 and 2015 presidential elections in Nigeria recorded a notable improvements in electoral integrity, due to the transformative and delegative (hands off) leadership style of President Goodluck Jonathan. Under his administration, Jonathan not being "control freek" like Obasanjo (interview, 2024) worked for INEC under the chairmanship of Prof. Attahiru Jega, who enjoyed unprecedented autonomy that enabled the commission to implement critical electoral reforms. These included biometric voter registration, the introduction of Permanent Voter Cards (PVCs), and the piloting of the Smart Card Reader system (Awopeju & Adedayo, 2022). As a result, INEC's institutional credibility improved, reducing large-scale fraud and logistical failures witnessed in earlier elections. One major public institution positively influenced during this period was the Nigeria Police Force (NPF), which, under presidential directive, was encouraged to maintain neutrality and professionalism in electoral deployments. For the first time in Nigeria's Fourth Republic, security forces were deployed more evenly and with less overt partisan interference, enhancing public confidence in the role of the police during elections (Okunade & Eze, 2023). This shift not only reinforced INEC's independence but also set a benchmark for electoral behavior within security agencies.

Furthermore, the improved performance of INEC during these elections had a transformative impact on political participation and civic trust in democratic processes. The 2011 elections were widely regarded by both domestic observers and international bodies such as the Commonwealth as a credible exercise, which helped to reverse the disillusionment caused by the 2007 elections (Ezeibe et al., 2022). The 2015 presidential election was even more groundbreaking, as it resulted in the peaceful transfer of power from an incumbent (Jonathan) to an opposition candidate (Muhammadu Buhari), a first in Nigeria's political history. This act strengthened democratic norms and inspired increased political engagement, particularly among youth and

civil society organizations, many of which played active roles in voter education and election monitoring (Omodia & Aondowase, 2021). The transparency and relative fairness of the 2011 and 2015 elections also bolstered Nigeria's international image and increased foreign confidence in the country's political stability, with ripple effects on investment and governance reforms. Though some logistical issues persisted, the leadership style of Jonathan—emphasizing institutional delegation and electoral integrity—was pivotal in enabling INEC to function as an unbiased umpire, thereby advancing democratic consolidation in Nigeria. . Although the 2011 post-election violence in Northern Nigeria was severe, the peaceful 2015 transition helped to reduce future tensions and establish a precedent for non-violent political change. His public remarks encouraging electoral officials to resign rather than compromise ethics set a normative benchmark for public service (Musa, 2025).

The effect of the 2019 and 2023 Presidential election on public entities and society at large

The conduct of the 2019 and 2023 presidential elections under President Muhammadu Buhari's administration reflected a regression in Nigeria's democratic development, with the INEC displaying diminished credibility despite legal reforms and previous milestones. Buhari's leadership style, described by scholars as authoritarian and transactional, prioritized regime preservation and power continuity over institutional independence and democratic accountability (Omodia & Ibrahim, 2022; Okon, 2023). In the 2019 elections, INEC's credibility was marred by widespread reports of vote-buying, voter suppression, delayed logistics, and the militarization of polling environments (Yagboyaju & Akinola, 2021). The 2023 elections, despite the promise of technology-driven transparency through the Bimodal Voter Accreditation System (BVAS) and the INEC Results Viewing Portal (IReV), saw systemic breakdowns in electronic transmission, especially for presidential results—raising questions about political interference (Ojebuyi et al., 2023). A critical institution implicated in this democratic erosion was the Department of State Services (DSS), which was frequently accused of selective enforcement and intimidation of opposition voices. In several instances, the DSS appeared complicit in undermining civic freedoms, conducting politically motivated arrests, and shielding ruling party actors from scrutiny (Adebayo, 2023). These developments weakened the accountability framework within the public sector and eroded the perceived neutrality of Nigeria's core democratic institutions.

From a societal perspective, INEC's inconsistent performance further entrenched public cynicism toward democratic governance. While electoral participation remained steady, trust in the credibility of the electoral process sharply declined between 2019 and 2023, particularly among youth and first-time voters who had rallied around the promise of a transparent, tech-driven process (Obadare, 2023). Civil society organizations reported being harassed or denied access to observe elections in politically sensitive regions, limiting transparency efforts and fostering a climate of fear (Centre for Democracy and Development, 2023). The loss of faith in INEC's ability to deliver impartial elections sparked widespread protests and post-election litigation, most notably following the controversial 2023 presidential result. This erosion of confidence damaged national cohesion and reignited ethno-regional tensions, as many groups perceived systemic exclusion. The weakening of democratic institutions under Buhari's transactional leadership, where electoral concessions were often traded for political loyalty, hindered reform of the public service and discouraged merit-based advancement. Consequently, INEC's compromised performance contributed not only to political instability but also to a deepening of social fragmentation, making democratic consolidation increasingly elusive in Nigeria's Fourth Republic. Despite institutional challenges, civil society organizations became more active in electoral monitoring and advocacy. Groups like Yiaga Africa and BudgIT pushed for transparency and accountability, reflecting a resilient civic space. Buhari strengthened agencies like the EFCC and ICPC, but their operations were criticized for lacking neutrality. While some high-profile convictions occurred, many viewed anti-corruption efforts as politicized (Transparency International, 2022).

Thus, INEC's performance has reflected a mixed trajectory of progress and setbacks largely influenced by the leadership style of the President. While significant strides have been made in technological adoption and institutional reform, persistent challenges—such as political interference, logistical constraints, and weak enforcement mechanisms—continue to undermine the electoral process. Strengthening INEC's autonomy, improving operational logistics, and deepening democratic culture are essential for consolidating Nigeria's electoral democracy.

Conclusion

Obasanjo and Buhari authoritarian leadership style exhibited extractive institution practices in an inclusive system enshrined in 1999 constitution. These two administrations' leadership styles limited in operational autonomy in INEC and democratic consolidation in Nigeria. While Jonathan's transformative and delegative style was effective in giving autonomy and driving performance in INEC but this style was found wanting in implementation when delegative subordinate is ineffective in Jonathan's regime like the ministry of defense on issue of insecurity. Would Jonathan have made much difference had Jega failed to deliver? This shows that leadership styles are undependable to ensure INEC performance, persistent stability and democratic consolidation but building a well-developed self-regulating inclusive institution with recursive checks that stem from the enlightened people is. To do this, there has to be motivation for leaders to do well and consequence for poor performance. There is need to strengthen the institutions with recursive checks system through enlighten participation of the citizen. The Nigerian people will need to have a new political culture through proper education to ask leaders informed question and prioritize long term bureaucratic development than short term personal or stomach benefit.

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Vote Buying and Voter Behaviour in Nigeria's 2023 General Elections

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Abstract

Vote buying has emerged as a significant challenge to democratic consolidation in Nigeria, undermining the integrity of electoral processes and shaping voter behaviour in ways that compromise free and fair elections. Significantly, influencing voters' behaviour; resulting in political apathy, and distorting voters' choices among others. Vote buying characterised by the exchange of monetary/ material incentives for electoral support has become increasingly institutionalized as evident in recent elections such as the 2023 general elections. Despite legal prohibitions outlined in the Electoral Act 2010 to mitigate this menace, yet the practice remains pervasive across multiple stages of the electoral cycle including voter registration, party primaries, campaigns, and election day. This study examines the effect of vote buying on voters' behaviour in terms of voters' preferences and turnout during the 2023 general election in Nigeria, and its implication on electoral processes in Nigeria. Relying on both primary and secondary sources of data. Primary data were sourced through the conduct of interviews while the secondary data were sourced from books, journal articles, the internet, newspapers, and magazines. The qualitative data were analysed using content analysis. The findings from the study reveal that vote buying distorts voter preferences, increases political apathy which led to low voter turnout during the 2023 general elections, discourages issue-based campaigns, fosters electoral violence, weakens electoral bodies, distorts electoral competition, and encourages poor governances among others. The study concludes that addressing vote buying requires not only stricter enforcement of electoral laws, but also targeted civic education, poverty alleviation, and stronger institutional reforms to promote transparency and electoral credibility.

Keywords: Vote buying, voter's behaviour, elections, democratic consolidation

Introduction

Globally, elections are fundamental component of democratic governance, serving as a means through which citizens elect or choose their representative and influence policymaking. However, in many developing democracies, including Nigeria, a key challenge in the democratization processes is ensuring free, fair and acceptable elections (Nwachukwu, 2019). Nigerian politicians have been blamed for the country's under development and multiple problems, including insecurity and a seeming loss of zeal in political activities by the citizens (Fadakinte, 2014). Nigeria has witnessed 11 general elections since obtaining of independence in 1960. These elections occurred in 1964, 1979, 1983, 1999, 2003, 2007, 2011, 2015, 2019 and 2023 respectively (Gabriel and Owa, 2024). Every election year, issues of credibility of the electoral process seem to develop more in both quality and quantity, hence the conduct of most of the elections at all levels have been adjudged to be far below international standards (Ekpe, Daniel & Ekpe, 2013).

Additionally, electoral integrity is often compromised by a range of malpractices, one of which is vote buying. Vote buying is defined as the exchange of votes with money, goods or services and this has become a recurring feature in Nigeria's electoral process. Onapajo *et.al.* (2015), observed that the practice is deeply entrenched at all levels of the electoral process, from local and state elections to national ones and also pervades various state elections to national ones. Similarly, it pervades various stages such as intra-party, primaries, party mergers, conventions and even the passage of bills in state and national assemblies. In addition, Nkwede and Abah (2019) observed that one in five Nigerians has experienced an offer for their vote with rewards such as money, food items like: rice, bread, salt, onions, groundnut oil and trinkets in form of umbrellas, T-shirt, caps, bags and so on. Despite various electoral reforms and efforts by the electoral bodies, civil society organisations, and international observers to mitigate the menace of vote buying in Nigeria, yet it remains a resilient challenge in Nigeria. It not only compromises the principle of one-person-one-vote but also manipulates voter behaviour negatively affecting voters' choices, leading them to vote against their preferences and resulting in electoral outcomes that would not have occurred under fair conditions. Explaining the factors that encourage citizens' participation in electoral processes, Abubakar (2022), opined that vote buying often leads to electoral manipulation and thus discourages many genuine voters to turnout during elections.

In similar vein, Kabir (2023) observed that there has been a continuous decline in voter turnout in Nigerian election. To buttress this, Itu *et. al.*; (2024) explained that the voters' turnout in Nigeria has continued

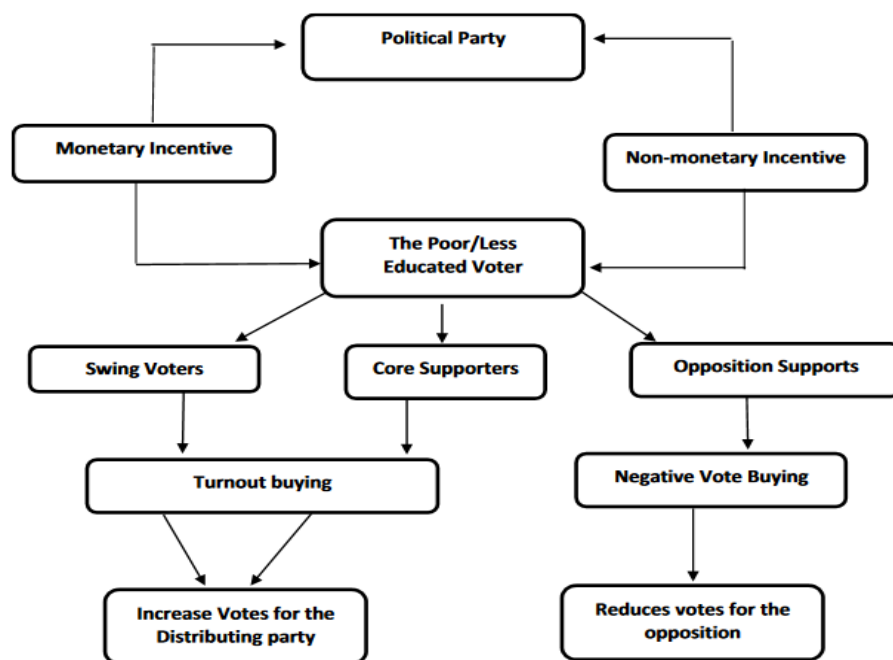
to decline drastically since 1999 and 2023 general elections witnessed the lowest voters' turnout with 28.63% turnout (Kabir, 2023). Despite various measures that were put in place by INEC to enhance voters' turnout and the credibility of elections. YIAGA (2023) reported that there was enactment of a new Electoral Act, the introduction of new technologies such as the Bimodal Voter Accreditation System (BVAS) and INEC Election Result Viewing Portal (IREV), the introduction of improved technology for voter registration, especially online pre-registration to vote and establishment of new polling units closer to voters to facilitate easier access. Vote buying and voters apathy were still prevalent during 2023 general elections in Nigeria. Scholars like Abubakar (2022) have ascribed the continuous voters' apathy in Nigeria to vote buying as this sway voters' from coming out to cast ballot. On the contrary, some scholars like fatai *et. al;*(2023), have argued that vote buying often increase turnout in elections due to the high level of poverty in Nigeria. It then becomes imperative to investigate the influence of vote buying on voters' behavior in Nigeria as the country continues to experience declining in voters' turnout during elections.

Extant works have been done on the effect of vote buying on voters' behavior, previous studies have explored the prevalence of vote buying in Nigeria. However, there remains a gap in empirical understanding of how it affects voters' turnout and preferences, and the broader implications on democratic consolidation in Nigeria. Hence, this study examines the effect of vote buying on voters' turnout and preferences and its implications on electoral processes in the Nigerian 2023 general elections.

Conceptual Clarification

Vote Buying: This is the practice of offering or providing material incentives, such as money, gifts, favours, or other benefits to individuals in exchange for their votes in an election. It undermines the principles of free and fair elections, as it distorts the electoral process by manipulating the outcome through financial or material inducements rather than genuine support for candidates or policies. According to Oladopo, Oyewale, and Abayomi (2020), Vote buying is any kind of material, financial, or promissory inducement or reward given by a political party, agent, or candidate to sway a voter's decision to vote or not vote at all in order to increase the likelihood that a specific candidate will win an election.

Figure 1: Diagram Illustrating Conceptual Review of Vote Buying



Source: Schaffer and Schedler (2005)

Factors that Influence Vote Buying in Nigeria

Vote buying in Nigeria is influenced by several factors, such as poverty, lack of political education, corruption, desperation for power, weak electoral institutions, inadequate enforcement of electoral laws, patronage networks, and high cost of election campaigns. These factors are discussed below:

- a. **Poverty:** One of the key factors responsible for the prevalence of vote buying in Nigeria is poverty. Olalekan (2023), reported that poverty rate in Nigeria has increased to 46 percent in 2023 representing 104 million poor Nigerians, because of this high poverty rate, citizens are easily exploited by politicians and political office holders. Additionally, poverty often creates a sense of desperation, making individuals more willing to engage in corrupt practices in order to meet their basic needs. Onuoha (2020) posited that politicians often target the least wealthy voters since they are in need of money for survival and will be willing to cast their ballots at the lowest cost. In a similar vein, Frank, Shirley, and Isaac (2018), asserted that when vote-buying incentives are distributed, the poor and less educated citizens are the ones most targeted. In line with this, Zukumnan (2022) opined that the party will first buy the votes of the poor electorate before trying to buy those of the rich electorate.
- b. **Unemployment:** There are many unemployed youths in Nigeria today. The National Bureau of Statistics (2023) estimated that Nigeria's unemployment rate surged to 5.0 per cent in the third quarter of 2023. Most of the Nigerian youths lack stable employment opportunities, and as such, trigger their willingness to exchange their votes with incentives as a means of temporary relief from economic hardship.
- c. **Digitalization of Electoral Process:** The introduction of card reader machines and biometric identification by INEC, to a greater extent, has reduced electoral manipulations, which often lead to consistent cancellation of election results by the court of competent jurisdiction across the nation. Nevertheless, for politicians to ensure that they win elections, vote buying now serves as a major means of influencing voters.
- d. **Lack of Trust in the Government:** This is one of the key factors influencing vote buying in Nigeria. The lack of trust in the government undermines the legitimacy of the electoral system, making voters more willing to sell their votes in exchange for immediate benefits rather than participating in a fair and transparent election process. In addition, politicians may exploit this lack of trust by offering bribes or incentives to sway voters in their favour.
- e. **Lack of Voter's Education and Enlightenment:** This is another catalyst for vote buying, as the electorate is mostly unaware of the consequences of their decision. Hence, they sell their future for a pot of porridge. Mmeyerenne Jude, the National Publicity Secretary of the RPN, speaking with Leadership Newspaper, explains that vote buying is undeniably an electoral fraud of the worst kind because the buyers do not just defraud by purchasing the conscience and present entitlement of the electorate but the future of their children for a plate of porridge compared to the enormous proceeds of democracy accrued to them as citizens of the country (Oguntola, 2018).
- f. **Weak Institutions:** According to Sule (2017), the failure of nations can be attributed to weak institutions. When the rule of law is feeble and self-serving elites maintain their grip on power without being held accountable, they evade arrest and prosecution, thus setting a precedent for others to follow. It is crucial to note that when political institutions lack strength, free and fair elections become unattainable, leaders operate above the law, and the constitution loses its effectiveness. In such circumstances, leaders prioritize their interests rather than those of the people (Chidimma, 2011).
- g. **Voter Behaviour:** This is individuals' actions and decision-making processes in the context of participating in elections. It encompasses the choices voters make, such as whether to vote, which candidate or party to support, and why they make those choices. Voter behaviour is influenced by political ideology, socioeconomic status, party affiliation, candidate characteristics, etc.
- h. **Election:** This is a formal process where citizens vote to choose individuals to hold public office or to make decisions on proposed laws or policies. It's a fundamental mechanism through which citizens exercise their right to participate in governance.
- i. **Democratic Consolidation:** This refers to the process by which a new democracy matures, becoming stable and deeply institutionalized, thereby reducing the likelihood of reverting to authoritarianism. It involves not just the conduct of regular elections but the entrenchment of democratic norms, values, institutions, and practices across society. According to Diamond (1999), democratic consolidation

involves the deepening of democratic norms and practices, the reduction of political uncertainty, and the widespread acceptance of democracy as the legitimate form of governance.

Literature Review

Extensively, literature has detailed the effect of vote buying on voters' behaviour and electoral processes in Nigeria. Fatai, Musediq & Emmanuel (2023) researched the dimension of vote buying and its effects on voters' turnout in the Nigerian election using the 2023 general election as a case study. The study adopted a qualitative approach through the use of a semi-structured interview guide and Focus group discussion to source the data. The findings from the study revealed that vote buying increased the voters' turnout and became institutionalized and rampant with the ruling parties. The study also found that voters were enticed with branded materials and monetary incentives. Other dimensions were the use of community leaders in pretentious social care and welfare of their subjects, mainly for their votes. Based on the findings, the study recommended the need for the government to legislate against various vote-buying strategies deployed by the political actors to eradicate vote buying.

Adebayo (2020) conducted research on the implications of vote buying on democratic governance in Nigeria using the 2020 Ondo State governorship election as a case study. The study determines whether material incentives issued to electorates influenced their voting patterns it also assesses voters' perceptions of vote buying during the 2020 gubernatorial election in Ondo State. The study incorporated the primary and secondary sources of data collection. The primary data were gathered through the administration of a questionnaire and interviews, while the secondary data were sourced from books, journals, newspaper articles, and observers' reports of the election. The study found that those material inducements significantly influenced voting patterns. Voters perceived vote buying as a strategy by candidates to secure electoral success, undermining the democratic process. The study concluded that vote buying compromises democratic governance by prioritizing material inducements over policy and integrity, necessitating reforms to strengthen electoral integrity.

Aminu, Abubakar, and Aliyu (2024) carried out a study on trading of votes in sub-national elections in Nigeria: An Empirical study of the nature of vote buying and turnout buying in Kebbi State during the 2023 general elections. The study examined the nature of vote buying and turnout buying in Kebbi State during the 2023 general elections. The study utilized both primary and secondary sources of data collection. Primary data were generated through a structured questionnaire, while the secondary data were sourced from books, journals, and magazines. The study found that votes were traded for material items at different stages of the electoral process, involving various political parties. The findings from the study further revealed that vote buying influenced the voters' turnout in the study location. The study concluded that vote trading is a prevalent practice in Kebbi State, necessitating comprehensive electoral reforms to address the issue.

Ogbomah and Okoko (2024) researched vote buying in Nigeria and its effect on electing credible candidates using the 2023 national and state assembly elections in Bayelsa Central Senatorial District as a case study. The study adopted a survey research design method; the primary data for the study were obtained through a questionnaire and interviews. The findings from the study revealed that poverty is one of the major factors responsible for vote buying in Bayelsa State. The findings also revealed that the failure of the security agents to arrest both the buyers and the sellers of votes is one of the reasons behind the widespread practice of vote buying in the study area. The study recommended, among others, that an effective strategy for the alleviation of poverty in the country should be put in place, and the security agents should arrest and prosecute both the buyers and sellers of votes during elections.

Nwankwo (2018) carried out a study on vote buying in the 2018 governorship election in Ekiti State, Nigeria. The study investigated the effects of vote buying on voters' turnout and choices in the 2018 Ekiti state governorship election. The study adopted both primary and secondary sources of data collection. For the primary source, a semi-structured interview guide was used to generate the data, while the secondary source of data was generated from books, journals, monographs, and published and unpublished theses. The study found that vote buying did not significantly influence voter turnout, but it changed voters' choices. The study also discovered that the election was highly monetized by the two major political parties to induce voters for electoral support them at the poll. The 'see and buy' approach adopted by the political parties easily influences the voters to cast their ballot for the highest bidder. The study recommended institutional electoral reform and strengthening the enforcement of electoral laws.

Theoretical Underpinnings

This study adopts Social Exchange Theory and Rational Choice Theory to provide a comprehensive interpretation of the motivation behind voters' engagement in electoral transactions. These frameworks offer valuable insights into how material incentives influence voter behaviour. While Social exchange theory emphasizes the social norms and relational exchanges that underpin vote buying, rational choice theory, on the other hand, highlights the cognitive calculations involved in such decisions.

Social Exchange Theory

The social exchange theory was introduced by American sociologists George C. Homans (1958) and Blau (1964). The theory emphasizes the role of reciprocal relationships in social behaviour. The central theme of the theory is that human interactions in society lead to many exchanges, and it often involves groups, organisations, and institutions. Homans (1961) further explained that social exchange is the exchange of activity, tangible or intangible, rewarding or less rewarding, costly or less costly, between two or more parties or actors in society. The cost here, according to Homan, was viewed primarily in terms of alternative activities or opportunity forgone by the actors. To Blau (1964), social exchange has to do with reward and cost, that is, what you pay to get what you want. He further explained social exchange as voluntary actions of individuals that are motivated by the returns they are expected to bring.

Within the context of vote buying, this theory argues that voters do not view the electoral process solely through a normative or democratic lens, but also as an opportunity for material exchange-particularly when political actors are perceived as transactional and untrustworthy. In a country characterized by weak public institutions and pervasive poverty, voters may perceive vote buying as a legitimate form of redistribution or compensation for a longstanding government neglect (Lindberg, 2003). The exchange of votes for money, food items, or other material goods is therefore interpreted as a rational response to economic insecurity and political alienation.

Rational Choice Theory

This study utilizes the Rational Choice Theory of Election, which is attributed to the philosophical contributions of Downs (1957) and Arrow (1986). The theory sought to investigate how individuals in society behave through the use of empirical methods. The use of rational choice theory to explain electoral behaviour and party competition can be traced to the work of Anthony Downs in 1957. His work was later reviewed by Hinich and Munger (1997). They went further to revolutionize the studies of elections. Other areas in which rational choice has gone away from Down include areas of collective action, public choice, rent seeking, and so on (Michael, 2013). Other theorists of the rational choice model are William Standley Jevons (1956), Friedman Milton (1985) Cariotha Stern and Peter Hedstorm (2008).

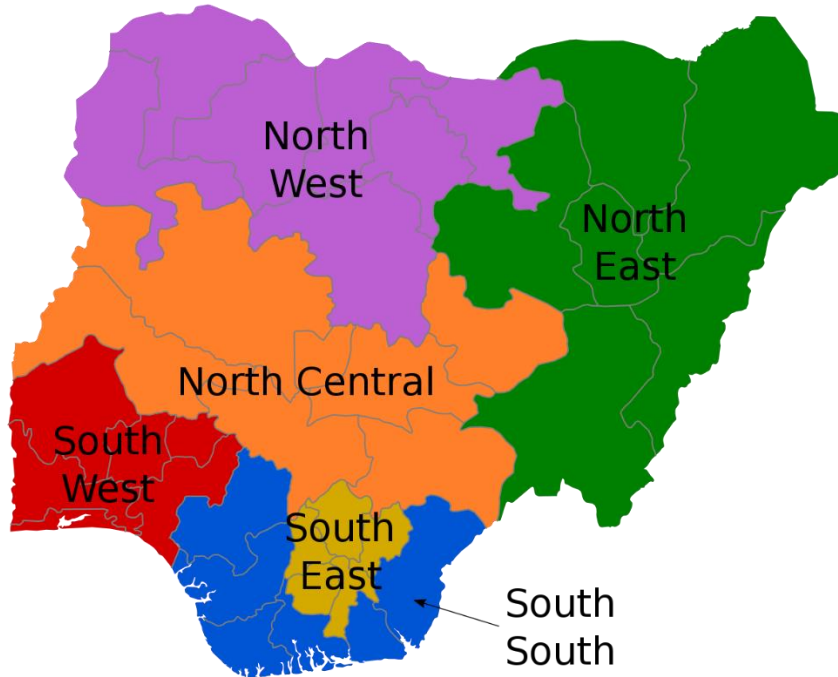
The major assumption of the theory is based on the utilitarian belief that man is a reasoning actor who weighs means and ends, costs and benefits, and makes a rational choice. It seeks to view elections as an economic transaction, where decisions are made through rational choices based on a scale of preferences and the opportunity costs associated with selecting or electing a particular party or politician. The behaviour of both candidates and voters was assessed in economic terms, focusing on the material benefits derived from the electoral process. The theory is rooted in the Theory of Consumer Behaviour in Economics, which explains the rational decision-making of consumers regarding goods and services, as well as the actions of producers aiming to maximize profits in a competitive market.

In the electoral context, this theory posits that voters assess the potential outcomes of their actions and choose the option that offers the greatest personal advantage. If the perceived value of voting ideologically is minimal-due to a lack of trust in candidates, parties, or democratic institutions, voters may consider the immediate benefits of vote selling to be more tangible and rational. This theory is particularly relevant in Nigeria's political landscape, where distrust in political institutions, sporadic service delivery, and weak political accountability prevail. Voters, as rational agents, may calculate that the likelihood of benefitting from a candidate's policy promises is low. Consequently, accepting immediate financial or material incentives in exchange for their votes becomes a rational decision. This decision is often compounded by the understanding that elections may not lead to significant improvements in public welfare, thereby reinforcing the logic of short-term gain over long-term democratic engagement.

Methodology

This study adopted both primary and secondary data. The primary data were collected through a semi-structured interview from selected key respondents across three geo-political zones in Nigeria. From each of the zones, two states were purposively selected based on the voters' turnout during the 2023 general elections. Osun and Lagos (South-West), Plateau and Kogi (North Central), and Akwa-Ibom and Rivers (South-South).

Figure 2: Map of Nigeria



Source: World Atlas (2019)

In all, 36 key informant respondents were interviewed, which comprises INEC officials (6), Political Party officials (12), registered electoral observers (6), media practitioners (6), and security officials (6). Secondary data were sourced from books, published and unpublished, journal articles, internet materials, newspapers, and magazines. The data collected were analysed using content analysis.

Data Presentation and Discussion

This study examines the effect of vote buying on voters' behaviour in terms of voters' preferences and turnout during the 2023 general election in Nigeria, and its implications on Nigerian electoral processes. The study finds that vote buying has become a pervasive challenge in Nigeria's electoral process, significantly influencing voter behaviour. This practice not only undermines the integrity of elections but also affects voter turnout and decision-making. While some voters are swayed to participate solely for financial gains, others become disillusioned and abstain from voting altogether, perceiving that the process has been compromised. Furthermore, vote buying distorts voters' choices, shifting focus from competence and policy to transactional incentives. R^{1,29,30,&36} opined that:

Vote buying in the 2023 general election did not significantly affect voter turnout, as there was still a low turnout. However, it impacted voters' mindset. People who received money from political parties were often swayed by the highest bidder, even if they had initially planned to vote differently. In some cases, voters had already made up their minds, but for others, vote buying influenced their decisions, compromising their conscience and the credibility of the election. It created a transactional bond where voters felt obligated to fulfill their side of the bargain.

While vote buying is widely regarded as a corrupt practice, some scholars have argued that it could be socially desirable in certain circumstances (Hatz *et al.*, 2023). Hatz *et al.* (2023) conducted a study that explored this argument using a list experiment and found that some voters might prefer to sell their votes in exchange for financial incentives.

R², 20,21,22&25 opined that:

During the 2023 election in Osun State, many voters were motivated by inducements, though not necessarily financial. Those who received money before voting could not claim to have voted freely, as the money played a role in their choices. Voter turnout was lower than expected, especially since the governorship election was not held, reducing enthusiasm. Additionally, one party had a clear advantage, leading to a lack of enthusiasm from the opposition. The secrecy of the vote was compromised as party agents were strategically positioned to monitor voters, making it difficult to maintain the privacy of the ballot.

Guerra and Justesen (2022) found that the practice of vote buying has a negative effect on voter turnout. Voters may decide not to participate in the electoral process if they believe that their votes will not count. Similarly, R³ mentioned that:

Vote buying during the 2023 elections had both positive and negative effects on voter turnout. On the positive side, it mobilized voters to turn out in large numbers to vote for specific candidates. On the negative side, it also led to voters being paid not to vote or to vote in a way that invalidated their original preference. In some cases, voters were persuaded to cast invalid votes, affecting both voter turnout and voting patterns.

Nwagwu *et al.* (2020) found that vote buying during the 2015 and 2019 general elections had a negative impact on the integrity and legitimacy of the electoral process. The study revealed that many voters who received gifts or money from politicians did not vote according to their conscience or preferred choice, but based on the amount of money or gift they received. R⁴ specified that:

The current poverty in Nigeria has deeply impacted the electoral system, as financial desperation often leads people to sell their votes in exchange for basic needs. This weaponization of poverty compromises voter integrity, and unless drastic measures are implemented, this issue could worsen by the 2027 elections. Due to widespread hunger, people may feel compelled to accept inducements for a meal. This situation stresses the urgent need for government and stakeholders to create sustainable solutions, as poverty-driven vote buying could become an even more entrenched practice. Voter choice in Nigeria is heavily influenced by vote buying, with about 80% of voters swayed by financial incentives. Due to widespread poverty, most voters prioritize immediate financial gain over personal preference, often choosing the party that offers the most money over their original choice. This undermines the integrity of elections, as vote buying significantly impacts both voter turnout and preferences. Only a small number of voters manage to maintain their stance despite these incentives.

On Election Day, the prevailing slogan becomes "*dibo ko o se obe*," translating to "vote for us and cook soup." Yakubu (2020) reports that the payment range for vote-buying typically falls between ₦2,000 and ₦5,000. Additionally, data from the Transition Monitoring Group (2023) and Transparency International (2023) reveal that during internal primary elections within certain political parties between 2015 and 2023, over 8,000 delegates involved in candidate selection allegedly received \$5,000 each from aspirants.

R⁸ stated that:

Vote buying significantly impacts voter turnout and choice in Nigeria. Many credible voters avoid the polls due to the perception that inducements, rather than genuine votes, determine outcomes. While some voters may take money but still vote their conscience, most feel pressured to prove loyalty to those providing incentives, often by showing a photo of their ballot or swearing an oath. This erodes trust in the system and discourages honest participation, with some voters only participating for the financial reward rather than a true choice.

R¹³ stated that:

Vote buying is seen as anti-democratic, undermining the integrity of the electoral process by pressuring voters to choose based on financial incentives rather than personal conviction. It skews voter choice, particularly among those struggling with poverty, who are more likely to prioritize immediate financial needs over candidate ideologies. This trend shifts the focus from candidate platforms to the highest-paying parties, diminishing trust in the electoral system and impacting democratic values.

Oladoye, Oyedele, and Ogbajie (2022) found that voters who accept money or other material incentives may vote for a candidate who is not their preferred choice. This effect is due to the fact that voters may feel obligated to vote for the candidate who gave them money or other incentives.

R¹⁴ stated that:

In the 2023 general election, vote buying appeared to motivate voter turnout primarily in rural areas, where higher poverty levels and lack of faith in long-term government benefits led voters to accept immediate financial or material incentives. Many rural voters viewed these incentives as the only tangible gain from politicians. However, in urban areas, where people tend to be more politically aware, vote buying had less impact on turnout, and the overall election saw historically low participation.

This finding aligns with Guerra and Justesen (2022), who highlighted the negative consequences of vote buying on turnout, as voters may refrain from participating if they feel their vote will not matter, leading to disillusionment with the electoral process. Similarly, R2 and R15's observations that inducements, particularly in the Osun State elections, had a significant role in voter decisions reflect the transactional nature of this engagement, which may not necessarily encourage free and fair participation. This is corroborated by qualitative responses from participants, such as R1, R5, and R7, who reported that vote buying swayed voters, often causing them to change their initial preferences in exchange for financial incentives. This is consistent with the work of Nwagwu *et al.*; (2022), who found that vote buying compromises the integrity of the electoral process by leading voters to base their decisions on material incentives rather than their true preferences. Voters who accept money may feel an obligation to vote in favour of the candidate who offered the inducement, undermining the legitimacy of the electoral outcome.

The role of poverty in driving vote buying emerged as a significant theme in the qualitative responses. R4, R10, and R11 emphasized that financial desperation among voters, particularly in rural areas, contributes heavily to the prevalence of vote buying. This issue of poverty-driven electoral manipulation has been well-documented, with Yakubu (2020) noting that vote buying is often seen as a survival mechanism for voters facing extreme poverty. The Transition Monitoring Group (2023) and Transparency International (2023) report that large sums of money are often exchanged during elections, particularly during party primaries, further illustrating the widespread nature of this practice and its systemic roots in the Nigerian electoral process.

Conclusion and Recommendations

The study concluded that vote-buying significantly influences voters' behavior and the overall Nigerian electoral process. The findings revealed that vote-buying distorts electoral integrity, leading voters to make decisions based on financial incentives rather than informed choices. In light of these findings, the study recommended that the government implement voter empowerment programs aimed at educating voters on

the importance of making informed decisions based on candidates' integrity and policies. These programs should focus on encouraging voters to prioritize candidates' qualifications and political platforms rather than immediate financial gain. Additionally, the study emphasized the need for strong voter protection mechanisms that allow individuals to safely report incidents of vote-buying, ensuring that those involved are held accountable. This approach would contribute to more transparent and credible elections in Nigeria, fostering a political environment where voters make decisions based on merit rather than monetary influence.

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Endnotes

1. RESPONDENT 1: A member of KIMPACT Development Initiative, Osun State Branch. The interview was held on 1st August 2024 in her office in Osogbo.
2. RESPONDENT 2: A press journalist at Punch Newspaper. The interview was held on the 8th August 2024 via phone call.
3. RESPONDENT 3: The Director of Civil Liberty Organization in Plateau State. The interview was held on 15th August 2024, via phone call.
4. RESPONDENT 4: A journalist at Radio Nigeria, Plateau state. The interview was held on 15th August 2024, via phone call.
5. RESPONDENT 5: A Former Member of the Plateau State House of Assembly. The interview was held on 19th August 2024 via phone call.
6. RESPONDENT 6: A Police Officer attached to Osun State Command. The interview was held on 14th August 2024 at Osun state police command headquarters in Osogbo.
7. RESPONDENT 7: The General manager of Radio Nigeria Prime FM Lokoja, Kogi State, and the former chairman of the Nigerian Union of Journalists in Kogi State. The interview was held on 15th August 2024 at his office in Ankpa Road Lokoja
8. RESPONDENT 8: The executive director committee for the protection of people's mandate as well as head media and publicity for voter's awareness initiative during the 2023 general elections in Nigeria. The interview was held on 3rd September 2024 in his office in Ikeja, Lagos.
9. RESPONDENT 9: A press journalist with Premium Times. The interview was held on 5th September 2024 via phone call.
10. RESPONNT 10: An Electoral Officer in Kogi State. The interview was held on 7th September, 2024 in his office at Lokoja.
11. RESPONDENT 11: A Police Officer attached to Kogi State Command. The interview was held on 8th September 2024 via phone call.
12. RESPONDENT 12: A Reporter at Radio 103.5 FM in Lagos State. The interview was held on 4th September 2024 in Broadcasting House Ikoyi Lagos.
13. RESPONDENT 13: INEC Public Affairs Officer, Rivers State. The interview was held on 17th September via phone call.
14. RESPONDENT 14: A member of the Transition Monitoring Group, Kogi State. The interview was held on 17th September in his office in Lokoja.
15. RESPONDENT 15: A reporter at Radio Nigeria, Rivers State. The interview was held on 17th September via phone call.
16. RESPONDENT 16: A member of The People Advocate, Rivers State. The interview was held on 18th September 2024 at his office in Port Harcourt.
17. RESPONDENT 17: A former member of the State House of Assembly, Rivers State. The interview was held on 20th September at his residence in Port Harcourt.
18. RESPONDENT 18: A Nigerian Civil Defense officer. The interview was held on 20th September 2024 at his office in Port Harcourt.

19. RESPONDENT 19: A member of Action Aid Nigeria. The interview was held on 27th September 2024 via phone call.
20. RESPONDENT 20: The Public Affairs Officer at the Independent National Electoral Commission (INEC), Osun state. The interview was held on 27th September 2024 at her office in Osogbo.
21. RESPONDENT 21: The Principal Engineer of the database and the voters' registry of the electorate in Plateau State for the Independent National Electoral Commission. The interview was held on 24th September via phone call
22. RESPONDENT 22: The Head, Logistics Unit, Independent National Electoral Commission (INEC) Lagos State. The interview was held on 8th October 2024 via phone call.
23. RESPONDENT 23: The Assistant State Training Officer, Independent National Electoral Commission Akwa Ibom State. The interview was held on 9th October 2024 via phone call.
24. RESPONDENT 24: A member of Nigerian police attached to Lagos state command. The interview was held on the 11th of October, 2024 via phone call.
25. RESPONDENT 25: The party chairman Ife-Central local government area in Osun- State. The interview was held on August 24th in his office at the party secretariat Ile-Ife.
26. RESPONDENT (26): The APC spokesperson in Lagos State. The interview was held on 26th September 2024, at the APC party secretariat in Ikeja, Lagos.
27. RESPONDENT (27): The PDP spokesperson in Lagos state. The interview was held on 22nd September 2024 via phone call.
28. RESPONDENT 28: A police officer attached to Akwa-Ibom state command. The interview was held on 2nd October 2024 via phone call.
29. RESPONDENT 29: A former member of the State House of Assembly Rivers State. The interview was held on the 13th of October via phone call.
30. RESPONDENT 30: A member of the APC party in Osun state. The interview was held on 25th September at the Party Secretariat in Osogbo.
31. RESPONDENT 31: The former PDP State Publicity Secretary, Kogi state. The interview was held on the 2nd of October, 2024 via phone call.
32. RESPONDENT 32: A member of the APC party, Kogi State chapter. Interview held on 5th September at the Party secretariat Lokoja.
33. RESPONDENT 33: The former member of the Akwa-Ibom state house of Assembly. The interview was held on 2nd August 2024 via phone call.
34. RESPONDENT 34: A member of the Nigerian Civil Defense Plateau State command. The interview was held on 17th September via phone call.
35. RESPONDENT 35: A member of the APC party in Plateau State. The interview was held on 30th September 2024 via phone call.
36. RESPONDENT 36: A member of the APC party in Akwa Ibom State. The interview was held on 19th September 2024 at the party secretariat in Uyo

NEPAD AND ECONOMIC DEVELOPMENT IN AFRICA

African Integration: The Role of Blockchain Technology in Mitigating Cross-Border Delay - Case of the Tlokweng Border

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Abstract

Purpose of this paper: This research examines the role of blockchain technology in mitigating cross-border delays, as trade is pivotal to African integration. The Tlokweng border connects South Africa to Botswana. The research problem hinges on the delay experienced at the border. Presently, line haul trucks spend a period that ranges from 9 hours to 4 days at the Tlokweng border.

Design/methodology/approach: This is a Qualitative Research design. A thematic content analytical research design method is adopted using the SWOT Analytical framework. The potential of Block Chain Technology as a tool to ameliorate cross-border delay is explored through the lenses of SWOT.

Findings: The findings show the strengths, weaknesses, opportunities, and threats of BCT in ameliorating the Tlokweng cross-border delays, especially for cross-border payments. A strategic block chain framework was developed

Research limitations/implications: The study was limited to South Africa and Botswana

Practical implications: This study's findings provide actionable insights for Botswana and South Africa, especially regarding the use of BCT to mitigate cross-border delays.

Keywords: African integration, cross border delays, Tlokweng border, South Africa, Botswana

Introduction

This research examines the role of blockchain technology in mitigating cross-border delays, as trade is pivotal to African integration. The Tlokweng border connects South Africa to Botswana. The research problem hinges on the current delay experienced at the border. Presently, line haul trucks spend a period that ranges from 9 hours to 4 days at the Tlokweng border. Lengthy cross border delays does not facilitate integration amongst African nations.

Africa makes up about 13% of the world's population and includes 54 countries, 38 of which have access to the continent's long coastline of 30,490 km, and 16 landlocked countries (Trujillo, Gonzalez, and Jimenez, 2013). Landlocked African countries do not have direct access to the coastal lines; hence, shipments of imports and exports have to be routed through neighboring coastal nations. The following nations such as Botswana, Burkina Faso, Burundi, Central African Republic, Chad, Ethiopia, Eswatini, Lesotho, Malawi, Mali, Niger, Rwanda, South Sudan, Uganda, Zambia and Zimbabwe are landlocked countries in Africa.

The United Nations (2025) states that the diversity, uniqueness and challenges of Africa varies widely across different countries and regions. According to the World Bank Group (2024) "Sub-Saharan Africa (SSA) is an extremely diverse region, which comprises of very low, lower-middle, upper-middle, and high-income countries. Twenty-two of these sub-Saharan African nations are conflict-affected while another thirteen small African states are characterized by a small population, limited human capital, and a confined land area (World Bank Group, 2024). Africa is full of rich natural resources such as Gold, Diamond, Crude oil, and many more (World Bank group, 2024). Borders demarcate and distinguish these African nations from others.

Hardi and Uszkai (2017) define borders as "human artifacts, lines in space, drawn on a map by human beings, at a certain moment in time and for certain economic, social, political or military purposes". AFDB (2012) describes a border post as the "location where one country's authority over goods and persons ends and another country's authority begins." This research examines the role of blockchain technology in mitigating cross-border delay, hence enhancing African Integration. According to Deng (2020), there is a difference between the traditional operated border and the digital border. The Tlokweng border is very important because of its busyness and it serves as one of the traditional borders that connect South Africa to Botswana, however, there have been several delays affecting cross-border trade. The research problem hinges on the role of blockchain technology in mitigating border delays. Presently, line haul trucks spend a period

that ranges from 9 hours to 4 days at the Tlokweng border. Blockchain technology has a natural match with cross-border payments and can solve existing problems (Deng, 2020). This research is hinged on the comparative advantage theory which states the countries can harness their internal strengths by producing that which is cost-effective for them to produce.

African integration is the process whereby African nations deliberately collaborate in various areas such as manufacturing, information technology, trade, health, education, etc to address multiple common challenges and harness potential (World Bank 2025).

This study is germane as it contributes to the burgeoning body of knowledge on the role of blockchain technology in mitigating cross-border delays that affect landlocked nations. Botswana is landlocked and relies on neighboring coastal nations such as South Africa for its importation of goods such as consumer food products, pharmaceuticals, clothing, etc.

The remaining part of this research is organized as follows: Section 2 describes the research objectives; Section 3 describes the problem statements; Section 4 examines articles of literature that describe key concepts such as integration, Africa, cross-border delays, etc. Section 5 explains the research methods, Section 6 discusses the results, and Section 7 summarizes the conclusion and the future work of the research.

Research Objectives

- Identify the main cause of the delay at the Tlokweng Border
- Determine the Role of Block Chain Technology in mitigating cross border delay
- Strategic Framework and Recommendations

Problem Statement

Most African borders, if not all, are traditionally inclined, this means that several shortcomings affect cross-border trade and technological breakthroughs are urgently needed (Deng, 2020). Blockchain technology has not been applied yet in the cross-border space and other various freight platforms in Africa. Yet, there is a need since inefficiencies are prominent at the borders as evidenced by delays. Logistical inefficiencies accentuate delays in import and export, especially across the border. Freight delays are a major contributor that adds cost and unpredictability to the supply chain, hence making Southern Africa an unattractive participant in global just-in-time value chains to Hoffman et al. (2016).

Review of Literature: Examination of Basic Concepts

This section examines critical concepts that lay the foundation for this research. African integration is a process whereby African nations deliberately collaborate, and cooperate to achieve a seamless cohesion of synergies. The aim is to achieve more, especially since this interaction is alluding to a symbiotic relationship. The history of African integration can be traced to the establishment of the Organisation of African Unity in Addis Ababa in the early 60's.

African Union (2025), explains the origin of integration with the establishment of the Organisation of African Unity (OAU) in 1963. The birth of the OAU indicated the manifestation of the pan-African vision for uniting African member states (African Union, 2025). However, in 2002 there was a need to relaunch and revisit the OAU's vision since the former vision had become blurry and was geared towards liberation from colonial masters. This gave birth to the African Union, whose mandate and vision are founded on integration and unity (African Union, 2025). Trade among nations is a major contributing factor to integration. No nation is an Island and no country has a monopoly of all the world's resources. This is the basis for inter and intra-African trade. However, Inter-African trade is still at a very low level. According to Brunet-Jailley (2022), Trade is a major prime driver of regional cross-border.

According to UNCTAD (2024), Inter African trade accounts for only 16% of total trade, meanwhile about 50% of the continent's imports and exports are tied to just five economies, all outside of Africa. Meanwhile, only sixteen African nations out of the fifty-four African nations, source more than 0.5% of intermediate goods regionally (UNCTAD, 2024). There is substantial room for improvement. This gap depicts that there are major blockages, and barriers preventing the expedition of Inter African Trade. Figure 1 shows the 54 African nations, distinguishing between landlocked nations and coastal nations. Coastal nations having access to the sea and landlocked as the name depicts do not have access to the Ocean.

The AfCFTA is the world's largest free trade area in the continent, with a 1.2-billion-person market, that can grow and develop and harness the potential of its resources and people (World Bank Group, 2024). According to UNCTAD (2024), the African Continental Free Trade Area (AfCFTA) provides a platform to reduce dependence on global markets and enhance resilience.

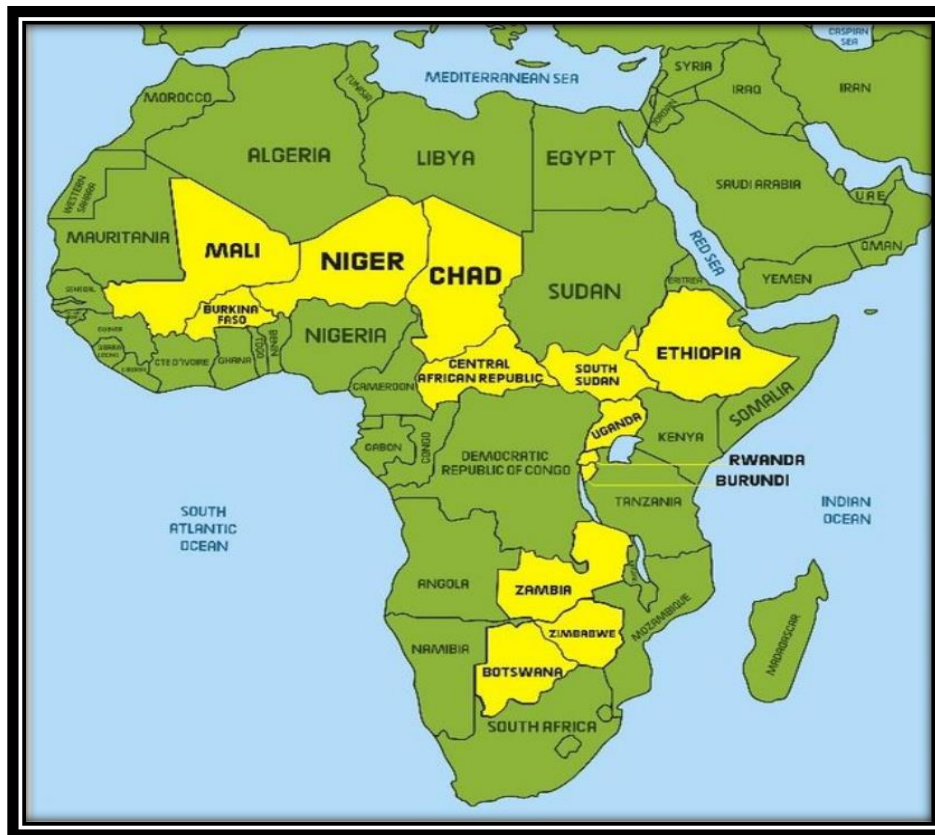


Figure 1: African Map showing both landlocked and coastal nations
Source: Adapted Badi and Pamucar (2019)

According to Pasara (2020), the African process of economic integration has not always been smooth because of several challenges which were either institutional, economic, social, or political. For instance, there has been several delays at the Port of Durban which has necessitated that the Government of Botswana look at alternative routes like the development of Namibia's Walvis Bay port.

Cross-Border Delays: An Overview of South Africa and Botswana

According to the Southern African Institute of International Affairs (2008), border delays can stretch to 36 hours, therefore, costing the region an estimated \$48m annually. Willie and Chikabwi, (2018) posit that extended waiting time at the border and the inherent costs of complying with border formalities are major drivers of trade transaction costs in Africa. Measures to reduce border delays and limitations can have a substantial and immediate downward effect on transport rates in the region (Thando, 2018).

Botswana is an African nation at the center of the Trans-Kalahari Corridor which connects Johannesburg through Botswana to the port of Walvis Bay in Namibia (ITF, 2024).

Botswana is also part of the North-South Corridor which connects the port of Durban through Botswana to Zambia and Tanzania (ITF, 2024).



Figure 2: Map Showing the South African and Botswana Border
Source: Geometas,2025

According to the Botswana Handbook (2022), Botswana is relatively a small, landlocked country in Southern Africa that is a neighbor to South Africa to the south and southeast and shares a border with Namibia to the west and north and Zimbabwe to the northeast. Botswana's proximity to South Africa, Namibia, and Zimbabwe means that they share border posts. According to Badi and Pamucar (2019) Nations that are landlocked depend on their neighboring counterparts for their trade, by making use of their ports.

According to Transnet National Port Authority (2025), South Africa is a coastal nation with eight commercial seaports in South Africa – Richards Bay, Durban, Saldanha, Cape Town, Port Elizabeth, East London, Mossel Bay and Ngqura. The Port of Durban and Cape Town are very prominent ports in South Africa cause of their geographical location, intensity of traffic flow, and placement on the international trade route. Shipment from these ports is moved to landlocked countries by road.

Figure 3 below indicates the trade per commodity of South Africa for the year 2024. The large bubble depicts the volume. Figure 4 indicates the trade per commodity for Botswana for the Year 2024.

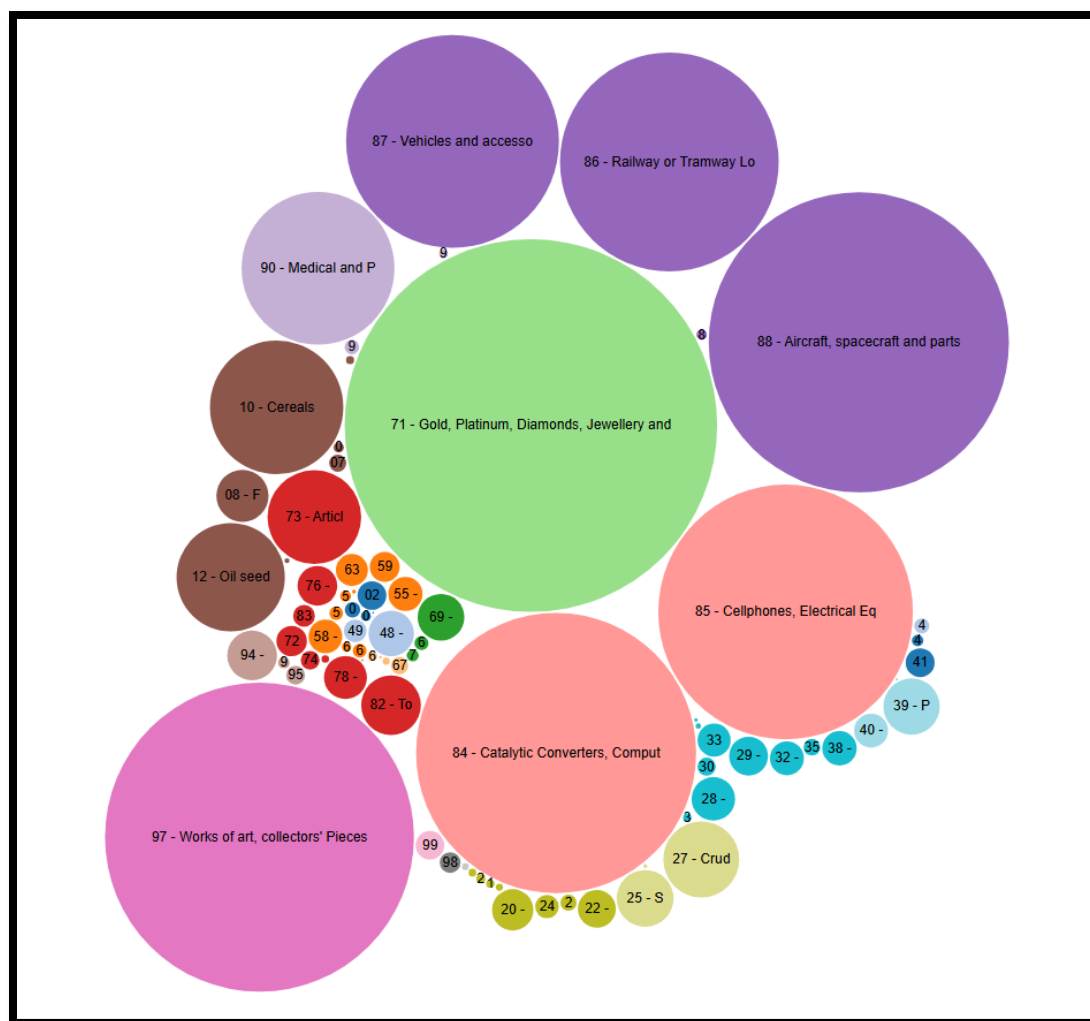


Figure 3: Trade per commodities South Africa for the Year 2024
Source: SARS, 2025

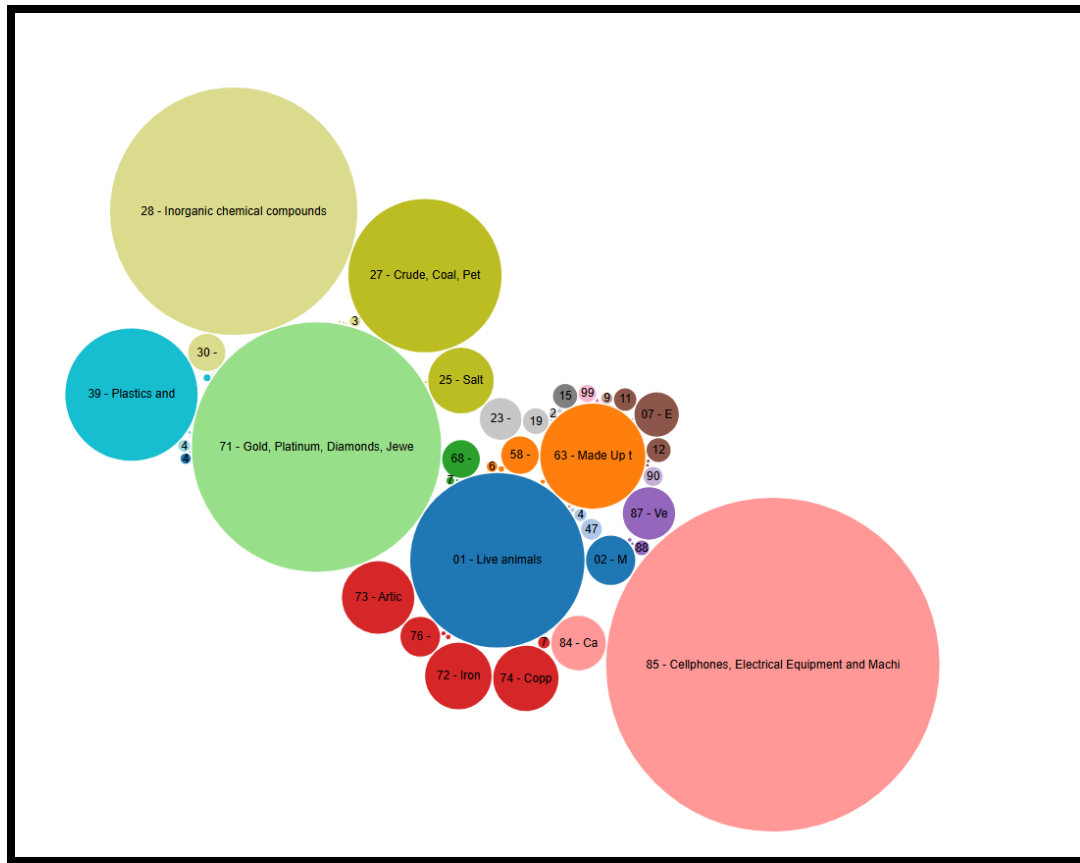


Figure 4: Trade per commodities for Botswana for the Year 2024
Source: SARS, 2025

Causes of Cross-Border Delays

Delay can be defined as a situation of lengthy traffic be it of passenger vehicles or linehauls. Delays are quite unpleasant and painful because time is wasted and money is lost. It is often a situation that depicts a lack of progress in being attended to by the customs officers at the border. Cross-border delays are quite obvious as vehicles, line hauls can be in the queue for hours and even for days without making much progress. There are several reasons responsible for cross border delay. Figure 5 illustrates the several causes of cross-border delays. Sometimes customs procedures can be quite cumbersome, so the people may not meet the requirements for ease of passage. Extensive paperwork can be a major deterrent. Obsolete Information technology software can be a major cause of cross-border delays. In an instance where the demand for passage is more than the supply of customs officers at the borders, delays can ensue. Furthermore, credible infrastructure such as Information technology might be lacking at this border post. A lack of cohesion between the two nations in terms of regulation harmonization can also cause lots of delays since each border post interprets the regulations differently. Also, if the country is going through civil strife and insurrection, like what is occurring in Mozambique, border delays can be accentuated.

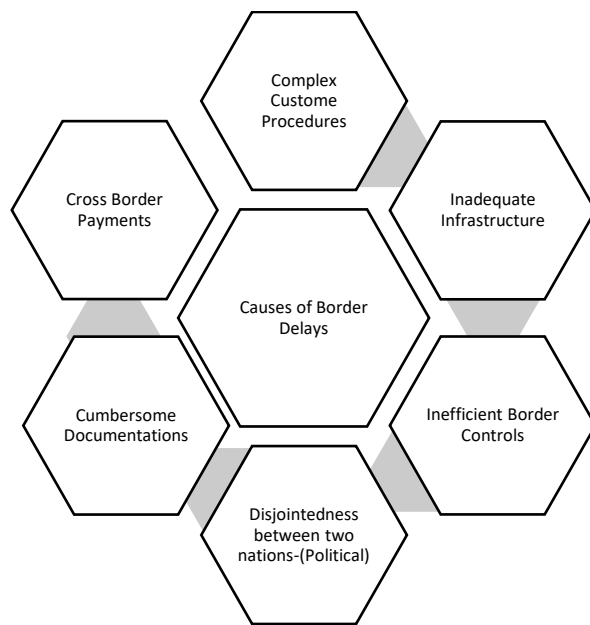


Figure 5: Causes of Cross Border Delays

Source: Adapted by Author, 2025

Tlokweng Border

The Tlokweng is situated near Botswana's capital, Gaborone. The border post is between Botswana and South Africa and it is one of the busiest for transporting goods between South Africa and Botswana. Freight News (2024) posits that the new “cargo clearing procedure instituted by the Botswana Unified Revenue Service (Burs) has directly led to a major build up of cross-border truck traffic passing through the landlocked country, causing border queues and waiting times of up to four days.”

According to Hoffman et al. (2016), Southern Africa critically depends on increased exports to enable economic growth and job creation. Logistical inefficiencies, however, are hampering exports, with cross-border freight delays a key contributor that adds cost and unpredictability to the supply chain, making South Africa an unattractive participant in global just-in-time value chains.

Block Chain Technology

Blockchain technology represents an integrative solution to ensure the immutability, security, integrity, and traceability of data across the supply chain (Bekrar et al., 2021). Okazaki (2018) opines that Block Chain Technology (BCT) can be described as “a type of data structure that identifies and tracks transactions digitally and shares this information across a distributed network of computers, thus creating a sort of distributed trust network”. Blockchains are databases that are secure and which contain historical shreds of evidence of exchanges between their users since their creation (Bekrar et al., 2021).

Application of Block Chain Technology in Mitigating Cross-Border Delays-Case Study

This section provides a case study of the application of BCT in countries such as the United States of America and Singapore. The United States Customs and Border Protection-USBP (2020) states that blockchain technology can preserve and protect Intellectual Property Rights on American imports as well as sensitive information transmitted between multiple parties using a single, streamlined platform. Another nation that is exploring the usefulness of BCT beyond the financial platform is Singapore (SmartOSC, 2025). This is evidenced by various projects that they have embarked on like project ubin. According to the Monetary Authority of Singapore (2025), Project Ubin is a “collaborative project with the industry to explore the use of Blockchain and Distributed Ledger Technology (DLT) for clearing and settlement of payments and securities”.

Deng (2020) opines that because of the salient attributes of “Blockchain technology which includes decentralization, non-tampering of information, and openness, hence makes it critical and relevant for cross-

border payment, thereby improving the efficiency and security of cross-border payments. Figure 6 indicates the application of Block Chain Technology for clearing goods, especially at the border. The process is initiated when someone requests a transaction by virtue of a smart device, phone, tablet, laptops etc. The second stage ensues when this request is distributed via the peer to peer network. The third stage requires that the request is validated and verified using smart contracts and cryptocurrency etc. The fourth stage is where this request is added as a new block to the ledger. This new block is added in a way that is permanent and unalterable. The final stage is where the transaction is complete.

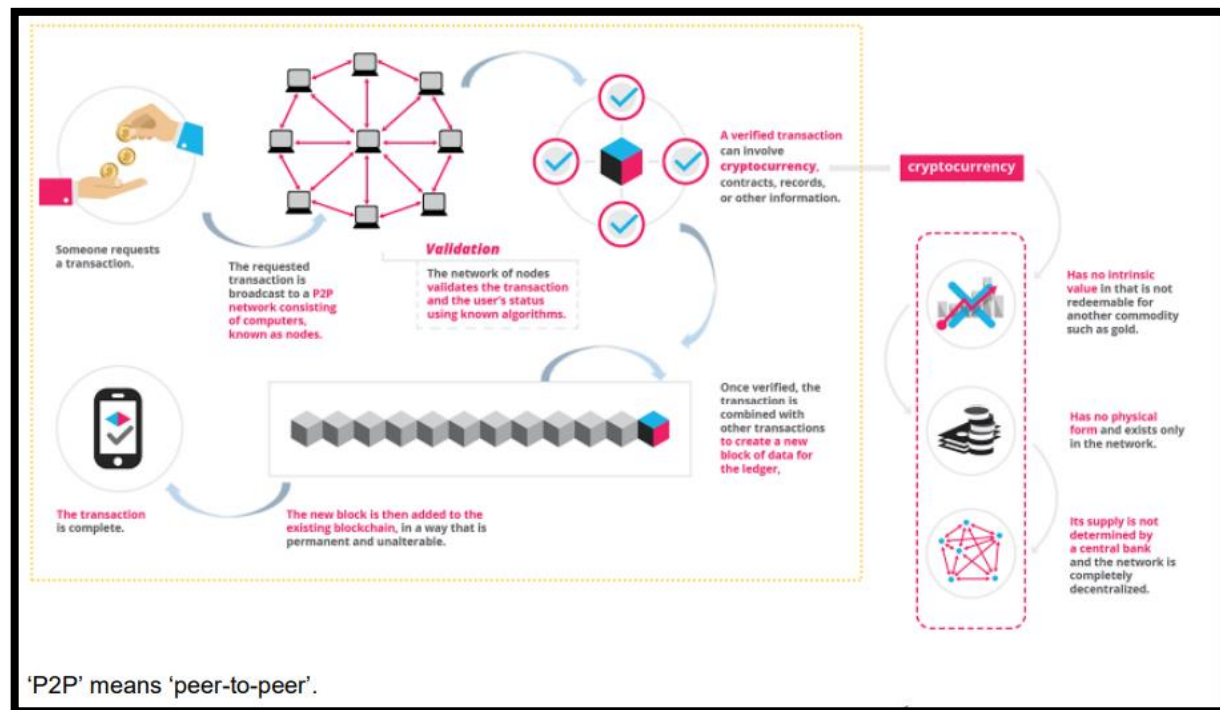


Figure 6: The Application of BCT for the facilitation of Cross Border Trade

Source: Okazaki, 2018

Theory of Comparative Advantage

The theory of comparative advantage has developed by economist David Ricardo, states that nations will produce goods and provide services that they are well able to produce. Therefore alluding to specialisation (Samuelson, 1969). Countries are therefore encouraged to produce that which they are able to do optimally and cost efficiently.

Research Methods

This is Qualitative Research that uses SWOT Analysis. Using peer-reviewed Journal articles obtained from Google Scholar, 50 articles from 2016-2025 were examined to determine the strengths, weaknesses, opportunities, and threats of Blockchain technology as a tool to mitigate cross-border delays.

The Population of the research is made up of all the border gates that links Botswana to South Africa. The following are the borders. Skilpadshek; Pioneer Gate; Ramatlabama; Bray; Derdepoort/Sikwane; Gemsbok; Grobler's Bridge/Martin's Drift; Kopfontein/Tlokwen; Makgobistad; McCarthysrust; Middleputs; Makopong; Platjan/Baine's Drift; Pontdrift/Mashatu; Stockpoort/Parr's Halt and Swartkoppiesfontein/Ramotswa.

The sample is Tlokwen/Kopfontein.

Results and Discussion

Based on the research objectives this section examines the main cause of delay at the Tlokweng border, the application of SWOT analysis to determine the potential of BCT to mitigate cross-border delays and then provides a strategic recommendation.

Main Cause of Delay at the Tlokweng Border

According to Harmse (2023), two main factors that affect effective cross-border payment methods are lags in speed and prices.

The main cause of the delay at the Tlokweng border is attributed to the new cargo-clearing system instituted by the Botswana Unified Revenue Service (BURS). Furthermore, demand at the border is quite high. Sometimes linehauls arrive at the border without the complete required customs documentation or making the necessary payments. Figure 7 shows the main cause of delay at the Tlokweng border.



Figure 7: Causes of Tlokweng Border Delays

Source: Author, 2025

The BURS was established to ensure fair payment of taxes to facilitate trade and manage borders. However, despite this provision, the new BURS cargo clearing process established by the Botswana Unified Revenue Service (BURS) is a cause of major delay. According to BURS (2025), there is a process to be followed when goods (including currency) are imported into or exported out of Botswana, firstly, these goods must immediately be declared to BURS (Customs & Excise Division) against appropriate custom standardized application forms with supporting documents such as the import license, invoice, certificates of origin etc.

Registration is necessary to have access to BURS e-services, and pay by the BISS procedure the online reference number (ORN) is obtained from BURS website. The online reference number (ORN) is mandatory whenever paying BURS. The Transfer of funds electronically from the customer's personal account to the BURS account at the Bank of Botswana. The transfer can be done through Electronic Fund Transfer (EFT) or Real Time Gross Settlement (RTGS). The acknowledgment of payment can be viewed on the BURS website. However, there remains some gap as drivers of linehaul do not present all the necessary documentation; hence, delays ensue. Sometimes, the delay can be due to the lag experienced by the bank. This delay and gaps from the bank is the basis for Block Chain.

SWOT Analysis

This section examines the BCT as it relates to mitigating delays at the border. Using the SWOT Analysis Table 1 displays the Strengths Weaknesses, Opportunities, and Threats for BCT as it relates to Cross Border Trade Facilitation.

Strength	Weaknesses	Opportunities	Threats
Okazaki (2018) BCT is time and cost effective, because more secure documents made all the more robust through encryption and sharing within the network	Stakeholder privacy can be exposed since smart contract needs to be linked to a person's identity (Okazaki, 2018)	The newness of this technology means there is a need to train more people.	Load shedding is a prevailing phenomenon in many African nations such as Nigeria, South Africa, etc, hence a threat to BCT since it requires uninterrupted power and internet supply.
Provides a High degree of competitiveness (Yang, 2019)	When there are plenty of nodes within the network, performance and reliability might be hampered (Okazaki, 2018)	Transformation of traditional borders to digital borders (Deng 2020)	Since this technology is young, stakeholders are skeptical of its successes.
Application of Smart Contract (Chang et.,al.,2019)	Building human capacity in the area of BCT has huge cost implications.	Many BCT practitioners can engage with developing nations to provide training.	Access to technology varies within the context of African nations hence different levels of IT application and access. (Mahreni et al., 2020).
Tracking of Shipment from origin to destination (Chang et al.,2019)	No policy to govern blockchain technology	Opportunity to create virtual platforms for stakeholder coordination	Not yet regulated (Zhuo,et al, 2023)
In BCT, the provision of a shared distribution ledger facilitates the sharing of tracking information but also promotes a network for multilateral collaboration among the value chain members (Chang et al., 2019)	Block Chain Technology is a highly specialised skill hence technical knowledge is needed.	Opportunity to develop customised software for developing nations	Since BCT is virtual there are various threats of virus and other forms of Cyber attacks
Bekrar,et al., (2021) BCT plays an integral role in digitalization of the process, which aims at improving processes.	There no legal framework yet instituted	Opportunity for lawyers, government officials and academicians to develop a legal framework for the development of BCT.	Internet hacking Farah et al., (2024) purport that several cyber attacks on the BCT can grind the entire process to a halt
Blockchain is a digital ledger that provides a secure, tamperproof and permanent record of transactions (US Customs and Border Protection,2020)	Paucity of BCT Talents and Expertise	Opportunity to create a database of BCT Talents and Expertise	Various Social and Cultural African Factors can be a threat (Zhuo et al, 2023).
BCT is critical to combatting Intellectual Property Rights	Paucity of BCT Awareness	Opportunity to create BCT awareness especially at the High	Technical issues (Zhuo,et al, 2023)

violations by allowing CBP to exchange data securely and efficiently with manufacturers, retailers, rights holders, and importers (US Customs and Border Protection,2020)		School and Tertiary Institution level	
Decentralized (Peer to Peer Network, Secure and Transparent, and Secure Marhaeni,et al., (2020)	The high cost of implementation of BCT.	Opportunity for government, multinational funding	Bad quality of Internet connections offshore
All transactions on a typical blockchain are recorded on a public ledger, providing full transparency and traceability (SmarOSC,2025)	Disunity amongst stakeholders	Opportunity of the African Union to intervene in the place of clear regulations	Implementation And regulatory framework are not yet in force even in Africa for this emerging technology (Weernink, et al., 2017).
BCT can facilitate cross border payments (SmarOSC, 2025)	Lack of Trust	Opportunity to engage stakeholders to build trust	Guan, P. <i>et al.</i> (2024) posit that the global port industry is known for its historical resistance to technological advancements.
The decentralized nature of blockchain allows technology startups to enter the normally high entry barrier sector and provide more flexible and affordable financial services, especially with stablecoin applications (Zhuo et al, 2023).	Harmse (2023) states that BCT users encounter administration time and costs of managing their cryptocurrency, including moving money between wallets and between on and offchain rails. These transfers typically come with an additional processing fee.	Opportunity for banks to upgrade.	Harmse (2023) Legacy banking and payment systems are known, while concepts of blockchains, keys, and wallets are still unfamiliar in some cases, strange

Source: Author, 2025

Strategic Framework and Recommendations

This section examines the way forward to mitigate cross-border delays. Firstly, delays at the border are a risk to African integration and development. Policy. The various Government Agencies must identify cross-border delay as a risk.

Engagement of panel of experts refers to seeking for help from the various body of blockchain experts, academics, and international agencies that can provide specific and specialised assistance. The result of this is to ensure that the customised Blockchain Technology solution can assist in mitigating this delays especially with sharing and authenticating of data amongst multiple stakeholders. BCT can also facilitate payment process and confirm validity.

The critical components of Block Chain Technology are stakeholder coordination and engagement within African nations such as Botswana, South Africa, etc. Stakeholders include banks, government departments, state owned enterprises, private sectors, Small Medium and Micro Enterprises (SMME), regulatory organisations etc. However, awareness of BCT and its role must be created and explained in order to dispel doubts and concern on the role of BCT in mitigating cross border delay. Training and capacity building is also critical for the stakeholders in both nations. The process of information sharing and data validity are salient issues to be addressed.

Figure 8 displays critical components of the Block Chain Cross Border Framework.

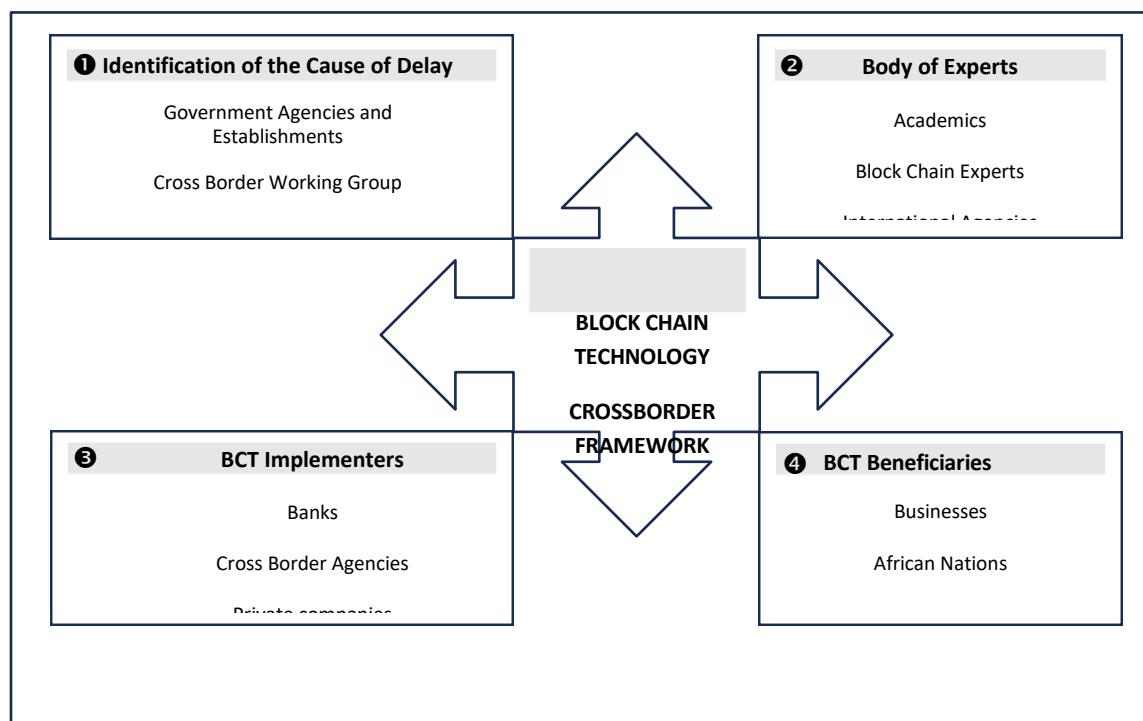


Figure 8: Block Chain Cross Border Framework
Source: Osundiran, 2025

Conclusion and Recommendations

African integration is critical to the success of the continent. Cross border delays of more than 4 days as is the case for the Tloeweng border does not in any way integrate the continent. Africa's economic future depends on breaking and removing barriers, attending deliberately to the challenges and harnessing opportunities for regional integration and diversification (UNCTAD,2024).

This exploratory research focused on the role of Block Chain Technology in mitigating Cross border delay. The SWOT Analysis examined the four critical dimensions of BCT, hence providing better insights. The BCT can provide crucial solution to the issue of cross border payment and document validation. A BCT strategic framework was developed. It is expected that BCT will create a unique platform for stakeholders within and outside the African nations. A more integrated regional trade system would positively uplift Africa's resilience, support sustainable growth and enhance global competitiveness (UNCTAD, 2024). Although efforts by African governments, regional organizations, and international partners are ongoing to address these challenges and promote sustainable development and integration (UN,2025), BCT provides a credible platform. In conclusion there is need for a customized and contextualised BCT.

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The Future of ECOWAS in a Changing World Order: New Politics and Emerging Powers

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Abstract

The Economic Community of West African States (ECOWAS) stands at a crossroad as global power dynamics shift and new political realities emerge. Established in 1975 to foster economic integration and regional stability, ECOWAS now faces complex challenges, including political instability, democratic backsliding, security threats, and economic uncertainties. The withdrawal of French military forces from several West African nations, the growing presence of Russian mercenaries, and the increasing influence of emerging powers such as China and India are reshaping the region's geopolitical landscape. Additionally, internal conflicts, governance struggles, and the stalled implementation of a single regional currency further complicate ECOWAS's efforts toward deeper integration. This paper explored the evolving role of ECOWAS in this changing world order, analyzing the impact of global and regional shifts on its political and economic future. While external influences present both opportunities and risks, ECOWAS has the potential to strengthen its strategic position by enhancing regional cooperation, promoting good governance, and adapting to new economic realities. The paper concluded that the organization's ability to navigate these transformations will determine its long-term relevance and effectiveness in shaping West Africa's future. It was therefore recommended that the organization must take a proactive approach to navigating the challenges posed by global political shifts, ensuring that it remains a strong advocate for West African interests. By embracing strategic diplomatic engagement, strengthening regional identity, and reinforcing integration efforts, ECOWAS can secure a more prosperous and stable future for the region.

Keywords: ECOWAS, world order, integration, new politics, emerging powers

Introduction

The Economic Community of West African States (ECOWAS), founded in 1975, has played a pivotal role in promoting regional integration and stability in West Africa. Its establishment was driven by the desire to enhance economic cooperation among member states. The integration efforts have since expanded to encompass political stability, peacekeeping, and conflict resolution. As the global landscape shifts dramatically due to geopolitical tensions, economic transformations, and the rise of emerging powers, the future of ECOWAS is more uncertain than ever. An analysis of recent developments revealed a complex interplay between political, economic, and social factors that shape the future of this vital regional organization (Olufowobi, 2022; Moller, 2021; Ajani, 2023).

This is the focus of this paper as it explored how these changing dynamics affect ECOWAS, considering the internal political challenges faced by member states and the growing influence of countries such as China and India. It argued that while ECOWAS faces significant hurdles, there are also unique opportunities to strengthen regional cooperation and resilience.

For the methodology, the paper relied on qualitative research approach using content analysis and it was based on secondary sources.

Historical Context of ECOWAS

Launched with the aim of fostering economic cooperation among its member states, ECOWAS has evolved to address numerous political and security issues in the sub-region. Its establishment marked a crucial step towards regional integration and efficient resource allocation, enhancing collective bargaining power on the international stage. Over the years, ECOWAS has utilized various methodologies, including peacekeeping operations and economic sanctions, to navigate conflicts that threaten regional stability. Key milestones in its development include the signing of the Protocol on Free Movement of Persons, which aimed to facilitate trade and mobility among member states. The organization has also played a critical role in responding to crises, such as in Liberia and Sierra Leone, providing peacekeeping troops and mediation efforts (ECOWAS, 2021).

In its early years, ECOWAS focused on economic collaboration, particularly in trade and infrastructure. The Community's primary objective was to establish a free trade area by eliminating trade barriers, tariffs, and restrictions among the member states. The creation of a common market was intended to enable the free movement of people, goods, services, and capital. In addition to economic goals, the organization sought to

strengthen cooperation in various sectors, such as energy, transportation, and agriculture (Adebajo, 2002). Over time, ECOWAS expanded its focus to include political cooperation, seeking to influence peace and security across West Africa.

Throughout the 1980s and 1990s, ECOWAS became more involved in political and security issues in the region, particularly in response to the outbreak of civil conflicts in countries like Liberia and Sierra Leone. ECOWAS, through its intervention force, ECOMOG (ECOWAS Monitoring Group), played a significant role in mediating and managing conflicts. While these interventions were controversial, they underscored ECOWAS's commitment to regional peace and stability. In particular, ECOWAS's role in peacekeeping efforts was a testament to its evolving mandate from purely economic to a more comprehensive political and security body (Ojo, 2014).

ECOWAS has also sought to influence political systems in the region, advocating for democratic governance and human rights. The organization has set out protocols for the promotion of democracy and good governance, with clear guidelines on political stability and constitutional processes. One of the significant achievements in this regard was the establishment of the ECOWAS Protocol on Democracy and Good Governance in 2001, which stipulates sanctions against governments that come to power through undemocratic means. This shift towards a more politically engaged ECOWAS has been crucial in shaping the development of governance structures in West Africa (Chauveau, 2004).

Despite these successes, ECOWAS faces several challenges in achieving its objectives. The region continues to struggle with issues of poverty, underdevelopment, and political instability. Furthermore, the organization has faced criticism for its limited capacity to enforce decisions and manage conflicts effectively. The need for stronger institutional structures and greater financial independence remains a critical issue. Nevertheless, ECOWAS has made significant strides in fostering regional cooperation, with increasing involvement in peacekeeping and promoting democratic governance (ECOWAS, 2021). As the region grapples with complex security threats such as terrorism and civil unrest, ECOWAS's historical framework becomes increasingly relevant in discussions about sovereignty, collective security, and regional identity.

Changing World Order

The current global landscape, having been reshaped by the COVID-19 pandemic and rising geopolitical tensions, poses new challenges for regional organizations like ECOWAS. The pandemic highlighted the interconnectedness of global health and economics, revealing vulnerabilities in national systems that require collective action (World Bank, 2021). With the shift from a Western-dominated world order to one where emerging economies are gaining prominence, West Africa finds itself at the intersection of new political influences. The rise of China as a global power has had far-reaching implications for Africa, not only in terms of investment but also in terms of shifting diplomatic allegiances (Alden & Large, 2019). China's Belt and Road Initiative, for instance, has led to significant investment in infrastructure across the continent, recalibrating traditional power dynamics. Critics argue that such engagements often come with hidden costs, including debt dependency and limited local involvement in projects (Corkin, 2021).

Meanwhile, the United States is reassessing its strategies in Africa, with a renewed focus on counter-terrorism and trade relations, highlighting the need for region-specific approaches. As global rivalries intensify, particularly between China and the West, there is an opportunity for ECOWAS to position itself strategically to advocate for West African interests. Furthermore, emerging powers like India and Brazil are also showing increasing interest in the region, leading to a multipolar dynamic that could either strengthen or complicate ECOWAS's role in fostering regional integration. This shifting landscape requires a nuanced understanding of the interplay among global, regional, and local factors that shape political realities in West Africa.

New Political Dynamics within ECOWAS

Internally, ECOWAS faces significant political challenges, including governance issues, democratic backsliding, and civil unrest in several member states. Recent coups in Mali, Guinea, and Burkina Faso have raised questions about the organization's ability to maintain stability and uphold democratic norms. These actions challenge ECOWAS's foundational principles, which emphasize democracy, human rights, and good governance. The organization tends to respond to coups with condemnation and sanctions, yet the effectiveness of these measures has been disputed. Stakeholders argue that while sanctions may achieve

temporary compliance, they do not address the root causes of instability, such as poverty, unemployment, and lack of political participation (Mensah, 2021).

The region has a history of political instability exacerbated by economic hardship, often prompting citizens to support military interventions as alternatives to ineffective civilian governments. ECOWAS has responded to these crises by reinforcing its commitment to democratic governance through the adoption of various protocols. Notable among these is the 2001 Protocol on Democracy and Good Governance, which outlines measures for promoting democratic practices among member states. This protocol mandates that elections be held as scheduled, and it provides guidelines for fair political processes. However, enforcing these protocols has proven to be challenging, particularly in member states grappling with deep-seated issues such as ethnic divisions and systemic corruption (Dawda, 2023; Kone, 2022).

Moreover, the organization's efforts are often hampered by the diverging priorities and interests of member states. Some countries may be more willing to accept intervention in neighbor states, while others resist external influence, citing sovereignty concerns. The resultant fragmentation complicates ECOWAS's ability to function as a cohesive body for conflict resolution. Additionally, the COVID-19 pandemic has exacerbated existing governance weaknesses, exposing the limitations of health and social welfare systems across the region. The impact of the pandemic also highlights the interconnection between health security and political stability, prompting ECOWAS to adopt a more integrated approach to governance that encompasses health, economic, and security dimensions (Ogunyemi, 2022).

On the security front, ECOWAS has faced rising threats from extremist groups operating in the Sahel region. The emergence of groups linked to Al-Qaeda and ISIS has pushed the organization to evolve its security strategy from peacekeeping to a broader counter-terrorism approach. This transition is reflected in ECOWAS's renewed commitment to the African Standby Force (ASF), which aims to provide rapid response capabilities to crises. However, the effectiveness of this approach will depend on the commitment of member states to allocate necessary resources and personnel for regional security initiatives. The internal dynamics of ECOWAS are further complicated by regional rivalries, such as those between Nigeria and Ghana, which can hinder collective action. Despite these hurdles, there is a growing recognition of the need for a unified regional approach to governance and security, underscoring the importance of collaboration and consensus-building within ECOWAS (Aning & Edgerton, 2021).

The Expulsion of French Troops and the Role of Russian Mercenaries

A critical shift in the region's geopolitical landscape has been the expulsion of French troops from several West African countries, including Mali, Burkina Faso, and Niger. France's long-standing military presence in the region, particularly through Operation Barkhane, was aimed at countering jihadist insurgencies. However, growing anti-French sentiment, fueled by allegations of neocolonial influence and inefficacy in addressing security threats, led to demands for French withdrawal. These sentiments were further amplified by public protests and political rhetoric from newly established military governments in Mali, Burkina Faso, and Niger. In January 2025, Ivory Coast also announced the departure of French troops, following similar moves by Senegal and Chad, further reducing French influence in the region (Associated Press, 2025; Financial Times, 2024).

Following France's withdrawal, some West African nations have turned to Russia for security assistance, with the presence of Russian mercenaries, particularly the Wagner Group, increasing in the region. Russia has positioned itself as an alternative security partner, offering military training, equipment, and direct combat support. The involvement of Russian mercenaries has had mixed implications—while some governments view them as a reliable force in fighting insurgencies, others criticize their human rights record and lack of accountability. Reports indicate that Moscow has expanded its influence significantly in Africa, with Russian private military contractors playing a key role in various conflicts (Le Monde, 2024).

ECOWAS now faces the challenge of navigating this shifting geopolitical environment. The growing influence of Russia and the reduction of Western military presence could reshape regional security dynamics, potentially altering the balance of power within ECOWAS. The organization's ability to address these changes will depend on its capacity to maintain diplomatic cohesion among member states while strengthening regional security mechanisms (Aning & Edgerton, 2021).

Despite these hurdles, there is a growing recognition of the need for a unified regional approach to governance and security, underscoring the importance of collaboration and consensus-building within ECOWAS.

Emerging Powers and ECOWAS

Increasingly, ECOWAS must navigate its relations with various emerging powers. The engagement of China, India, and Russia in Africa presents both opportunities and challenges for the region. China's investments in infrastructure have been transformative, allowing for greater connectivity and access to markets. However, there are concerns about the long-term implications of increased Chinese presence, particularly regarding debt sustainability and local labor conditions. Reports indicate that controversial loan agreements and unregulated labor practices often accompany these investments, raising alarms about potential neocolonial dynamics (Ogunniyi, 2021).

India's growing influence through trade and technology partnerships has been characterized by a more decentralised approach, focusing on skill transfer and capacity building. Initiatives such as the India-Africa Forum have strengthened diplomatic ties, bolstering economic collaboration in sectors like information technology and healthcare. However, challenges remain in ensuring that these partnerships are equitable and beneficial for local populations, particularly in terms of technology transfer and job creation. In contrast, Russia has made strategic moves to establish its influence in West Africa by offering military cooperation and arms sales. Russia's engagements often hinge on opportunistic diplomatic ties, which can complicate the efforts of regional organizations promoting collective security and governance (Ogunde, 2023).

Within this context, the role of the United States remains critical, as it re-evaluates its engagement strategy towards Africa amid changing political and economic realities. U.S. policies often emphasize democratic governance and human rights, providing a counter-narrative to the often pragmatic approaches of emerging powers. This dynamic creates a unique space for ECOWAS to advocate for a balanced foreign policy that incorporates the interests of its member states while promoting sustainable development (Smith, 2023).

Understanding the balance of power fostered by these relationships will be crucial for ECOWAS's future. The organization must enhance its strategic positioning by fostering partnerships beyond traditional ties while maintaining its agency in regional politics. Engaging with emerging powers could yield invaluable resources and support for ECOWAS's development agendas, but the organization must remain vigilant in ensuring that such partnerships align with its overarching goals of regional stability and prosperity (Okoro, 2023).

The Adoption of a Single Currency and France's Intervention

A major economic initiative within ECOWAS has been the proposed adoption of a single currency, the ECO, aimed at fostering greater regional integration and reducing reliance on foreign currencies, particularly the CFA franc. The ECO is expected to enhance intra-regional trade, lower transaction costs, and strengthen monetary policy coordination among member states. Proponents argue that a unified currency will promote macroeconomic stability and reduce external vulnerabilities, positioning West Africa as a stronger economic bloc (Bello, 2022).

However, the adoption of the ECO has faced significant obstacles, including disparities in economic performance, varying levels of fiscal discipline, and political hesitancy among member states. One of the biggest challenges has been France's role in the currency transition. Eight ECOWAS member states currently use the CFA franc, which is pegged to the euro and backed by the French Treasury. France has historically maintained influence over the region's monetary policies, and its involvement in the ECO transition has sparked concerns about continued external control over West African economies (Project Syndicate, 2021).

While some countries, particularly Nigeria, advocate for a truly independent regional currency free from European influence, others—especially the CFA franc-using states—have shown reluctance to sever economic ties with France. France's intervention in the ECO project, including its push to maintain a monetary guarantee, has led to delays and divisions within ECOWAS. As a result, the implementation of the single currency remains uncertain, with some critics arguing that the project may only serve as a rebranded version of the CFA franc rather than a genuinely autonomous West African currency (Société Générale, 2024).

Opportunities and Challenges for ECOWAS

Emerging powers offer substantial opportunities for development, particularly in areas such as infrastructure, trade, and technology. The increased investment in roads, railways, and energy projects promotes economic growth and competitiveness among member states. However, these opportunities come with challenges that include the risk of dependency, unequal power dynamics, and the potential erosion of sovereignty. Critics warn that while emerging powers can provide much-needed resources and investments, reliance on foreign entities for development could weaken local governance structures and autonomy (Johnson, 2023).

The demands of globalization also necessitate that ECOWAS adapt to changing economic landscapes. With increasing competition from other regions, particularly from East Asia, West Africa must ensure that it remains an attractive destination for business and investment. Enhancing intra-regional trade through initiatives such as the African Continental Free Trade Area (AfCFTA) offers significant potential for economic diversification and resilience. ECOWAS can play a pivotal role in facilitating the implementation of these initiatives by harmonizing trade policies and removing barriers between member states. The successful realization of such frameworks helps to not only bolster economic growth but also strengthens the collective bargaining power of the region (Salami, 2022).

Another challenge ECOWAS faces is the growing prevalence of non-state actors, including armed groups and transnational criminal organizations. These groups threaten regional stability, often exploiting weak governance and socioeconomic grievances within communities. ECOWAS's existing conflict prevention mechanisms must evolve to address these new realities effectively. Developing comprehensive strategies that incorporate community engagement, socioeconomic development, and education can help mitigate risks associated with non-state actors. Moreover, the internal political climate within member states can further complicate ECOWAS's efforts. Instances of political instability and civil unrest contribute to regional insecurity and make it difficult for the organization to achieve its objectives. Addressing the root causes of such instability requires a multi-faceted approach, encompassing not only political reforms but also economic empowerment and social cohesion initiatives (Nwankwo, 2023).

Climate change also poses a significant challenge to regional development and stability. West Africa is particularly vulnerable to the effects of climate shifts, including food insecurity, water scarcity, and increased migration. These factors can exacerbate existing tensions and contribute to conflict, necessitating that ECOWAS integrate climate change considerations into its security and development strategies. Partnerships with international organizations focused on climate resilience can provide additional resources and expertise to bolster regional capacity.

In fostering dialogue and cooperation with emerging powers, ECOWAS must ensure that its engagements are based on mutual respect and win-win outcomes. This will require navigating complex geopolitical landscapes while advocating for the interests of its member states. Establishing frameworks that promote accountability and transparency in international partnerships will safeguard against the pitfalls of neocolonialism and empower member states to retain agency over their development trajectories (Bassey, 2023).

In light of these opportunities and challenges, it is vital for ECOWAS to develop a comprehensive strategic framework that addresses the complexities of today's geopolitical landscape. By balancing its engagements with emerging powers while maintaining a focus on democracy, governance, and economic stability, ECOWAS can create a resilient and united West Africa (Akindele, 2023).

The Future Outlook for ECOWAS

The future of ECOWAS will depend on its ability to adapt to new political realities while maintaining the integrity and cooperation of its member states. Strengthening institutional frameworks and ensuring accountability within the organization can enhance its effectiveness in navigating challenges. The establishment of platforms for sharing best practices and experiences among member states would also foster mutual learning and collaborative problem-solving. (Bamidele, 2023)

ECOWAS's role in regional security will also evolve as geopolitical dynamics shift. Leveraging partnerships with international organizations, such as the African Union and the United Nations, can enhance its effectiveness in conflict prevention and resolution (Bah, 2020). Collaborative security frameworks that incorporate local communities will increase the legitimacy and effectiveness of operations conducted under ECOWAS mandates (Omotola & Saliu, 2019). Environmental sustainability must be at the forefront of future planning. Climate adaptation strategies can no longer be sidelined; the organization should lead efforts to

develop frameworks prioritizing sustainable development goals that address environmental degradation and resource management (UNDP, 2022). Investing in green technologies and renewable energy sources will also secure a more sustainable economic future for West Africa (Adebayo, 2023).

Additionally, ECOWAS must strengthen its diplomatic outreach to ensure that member states are effectively represented on international platforms. This includes engaging with global financial institutions and development partners to secure funding and support for regional initiatives. As external influences continue to evolve, ECOWAS must remain proactive in addressing potential challenges that could arise from global rivalries, particularly in the context of competition for resources and political influence. Developing an agile foreign policy that embraces a multilateral approach will strengthen the organization's position in these diplomatic negotiations (Kabba, 2023).

The inclusion of women in leadership positions and decision-making processes is vital for ECOWAS's future. Promoting gender equality and women's empowerment will not only enhance governance but also lead to more comprehensive and inclusive policies reflective of the entire population's needs.

Conclusion

As West Africa navigates a rapidly changing global landscape, understanding the dynamics affecting ECOWAS is essential. Emerging powers significantly influence regional politics, presenting both opportunities and challenges. To ensure the future success and stability of the region, ECOWAS must embrace a proactive approach, strengthening its institutional framework while fostering unity among its diverse member states. A commitment to democratic governance, sustainable development, and regional cooperation will be pivotal in shaping a resilient West African community equipped to face contemporary challenges. By capitalizing on the opportunities presented by emerging powers while preserving its core principles, ECOWAS can secure a brighter and more integrated future for the region it serves. Additionally, economic sustainability and self-reliance should be prioritized by investing in industrialization, trade facilitation, and human capital development. By leveraging the African Continental Free Trade Area (AfCFTA), ECOWAS can enhance intra-regional trade and improve competitiveness, reducing reliance on external actors.

Security remains a pressing concern for the region, and ECOWAS must enhance its response mechanisms to tackle emerging threats such as terrorism, insurgency, and transnational crime. Strengthening security cooperation among member states and leveraging strategic partnerships with international organizations will be crucial for maintaining stability. Initiatives like the African Standby Force (ASF) and intelligence-sharing frameworks should be expanded to ensure a more coordinated and effective security strategy.

Beyond security, ECOWAS must place greater emphasis on social development, particularly in areas such as education, healthcare, and digital transformation. Investing in youth empowerment and technological advancements will equip future generations with the tools necessary to drive sustainable progress. Enhancing digital connectivity and implementing e-governance initiatives can improve service delivery and bridge development gaps across the region.

Ultimately, the success of ECOWAS will depend on its ability to adapt, innovate, and forge strategic alliances while upholding the principles of democracy, human rights, and regional solidarity. The organization must take a proactive approach to navigating the challenges posed by global political shifts, ensuring that it remains a strong advocate for West African interests. By embracing strategic diplomatic engagement, strengthening regional identity, and reinforcing integration efforts, ECOWAS can secure a more prosperous and stable future for the region.

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NEPAD's Governance Agenda: Contributions to Political Stability and Economic Growth in African States

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Abstract

The post-independence trajectory of African nations has been largely shaped by the pursuit of political stability and economic development. In response to persistent challenges such as conflict, economic stagnation, and poor governance, the New Partnership for Africa's Development (NEPAD) was established in 2001 by African leaders as a continental framework to promote accountability, good governance, and sustainable growth. Despite the determined goals under NEPAD's governance agenda (including the African Peer Review Mechanism (APRM) and various institutional reforms), many African states continue to struggle with political instability, weak institutions, and inconsistent economic performance.

The study employs panel data (2001-2024), and use **Panel Data Analysis** that involves the use of fixed effects or random effects panel **regression models**. This includes using the Hausman test to compare and choose among the fixed effects, random effects, and Ordinary Least Squares (OLS) panel estimation techniques to estimate the relationship between Governance reforms associated with NEPAD and economic growth and Political stability. The results suggest significant impact of NEPAD's governance agenda on economic growth and Political stability in Africa. It is recommended that African countries should adopt NEPAD's governance frameworks in their national development strategies and policy processes.

Key words: Economic Growth, Governance Agenda, Political Stability, New Partnership for Africa's Development (NEPAD)

Introduction

Governance issues have been persistent with African states for years, including corruption, weak institutions, limited rule of law, and political instability, which hinder development. The New Partnership for Africa's Development (NEPAD), launched in 2001, is directed at these challenges through a governance agenda, promoting democratic values, institutional reform, and accountability. In spite of **NEPAD's** goals, a lot of debate exist over NEPAD's real impact on the political and economic trajectories of African countries. While some nations demonstrated improved governance and growth, others remain entangled in instability and economic stagnation.

African countries are abundantly blessed with natural resources and human capital, but many African states are contending with economic underdevelopment and political instability. The ethnic tensions, colonialism, corruption, ineffective governance structures, and weak institutional frameworks, have consistently hindered development attempts across the continent (Zoogah et al., 2015). While substantial progress has been recorded in some regions, challenges linked with accountability, democratic governance, rule of law and transparency are rampant in many African states (AfDB, 2020). These governance deficits have prolonged the cycles of instability, hindered investment flows, and inhibited economic growth potential.

The New Partnership for Africa's Development (NEPAD), established in 2001 and later incorporated into the African Union as the African Union Development Agency (AUDA-NEPAD). AUDA-NEPAD began a comprehensive governance framework through the African Peer Review Mechanism (APRM) and other initiatives designed for transforming governance practices across the continent (Akopari, 2018). However, the varying levels of commitment and implementation by member states have brought about significant disparities in outcomes. The detach between NEPAD's determined governance agenda and its practical

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implementation is insufficiently understood, specifically concerning the causal pathways through which governance improvements transform into political stability and economic growth (Hope, 2019).

While substantial literature exists on governance in Africa, there is a crucial knowledge gap regarding the specific contributions of NEPAD's governance agenda to political stability and economic growth. Most previous studies isolated case studies or specific governance dimensions without broadly examining the interrelationships between NEPAD's governance mechanisms, political stability indicators, and economic performance metrics across different African contexts (Khadiagala, 2018). Though existing literature acknowledges NEPAD's normative aspirations (Hope, 2002; Uwem & Ogbette, 2015), there are limited empirical analyses that evaluate the tangible contributions of NEPAD's governance agenda to concrete outcomes such as improved political stability and economic growth across the continent. Furthermore, there is insufficient understanding of the specific pathways through which NEPAD's governance reforms influence national development trajectories. This gap underscores the need for a systematic study that critically assesses the actual impact of NEPAD's governance initiatives across diverse African contexts, beyond rhetorical obligations.

This study is premised on several key justifications, linking NEPAD-inspired governance reforms and political and economic outcomes, thus moving beyond descriptive analyses and causal evaluation. The World Bank (2021) recognised good governance as critical factor to sustainable development, hence, analysis of the effectiveness of continent-wide initiatives like NEPAD is important for determining future governance innovations in Africa. Besides, the study provides useful policy insights into the institutional conditions that mediate governance outcomes in different African settings.

As African countries are pursuing Agenda 2063 in addition to other regional development frameworks, examining NEPAD's legacy presents an opportunity to learn lessons that can bring about more resilient, inclusive, and democratic governance systems (African Union Commission, 2015). Therefore, this study intends to contribute to academic discourse and the practical agenda of governance reform in Africa.

Considering the increasing global attention on governance as a development need, evaluating NEPAD's governance agenda offers insights for African policymakers, development partners, and institutions seeking to promote growth and stability. This study fills a gap in governance and development economics literature by evaluating an African-led initiative. It contributes meaningfully to the debates on governance-led growth models and endogenous development strategies.

This study adds to the theoretical understanding of the governance-development nexus in the African context. By examining the causal mechanisms through which NEPAD's governance initiatives influence political stability and economic growth, can extend institutional theory and developmental state paradigms within the specific context of African political economy (Mkandawire, 2015). Furthermore, it extends existing theoretical frameworks on the relationship between governance quality and development outcomes, offering new insights into how continental governance initiatives interact with national institutional environments.

The findings from this study have substantial policy implications for African governments, AUDA-NEPAD, the African Union, and international development partners. The study offers evidence-based recommendations for strengthening NEPAD's governance agenda and maximizing its impact on political stability and economic growth (Adejumobi, 2018a). This is imperative as African states are working towards accomplishing the goals outlined in the African Union's Agenda 2063 and the United Nations' Sustainable Development Goals.

There is limited empirical research that systematically links NEPAD's governance agenda with measurable improvements in political stability and economic performance. This gap undermines the understanding of NEPAD's effectiveness and policy relevance in contemporary African development. Besides academic and policy contributions, this study has implications for development outcomes in Africa. By explaining the specific governance mechanisms that effectively promote stability and growth offers practical insights for designing and implementing more efficient governance reforms (Edigheji, 2018). This could fast-track progress towards sustainable development, poverty reduction, and enhanced living standards for millions of African citizens.

The Research Questions

The research question that arise from the foregoing are:

1. How does NEPAD's governance agenda affect economic growth in Africa?

2. What are impact of NEPAD's governance agenda on political stability in Africa?

Objectives of the Study

The broad objective of the study is to analyse the impact of NEPAD's governance agenda on economic growth and political stability in Africa. The specific objectives are:

1. to estimate the impact of NEPAD's governance agenda on economic growth in African states
2. to analyse the impact of NEPAD's governance agenda on political stability in Africa states

Stylised Facts on NEPAD

The New Partnership for Africa's Development (NEPAD) was adopted by African leaders in 2001, as a socio-economic development framework. It intends to eradicate poverty, promote sustainable development, and integrate Africa into the global economy through African-owned and -led development programs. NEPAD was adopted during the 37th Summit of the Organization of African Unity (OAU) in Lusaka, Zambia, and officially launched in October 2001 (NEPAD, 2001).

NEPAD arose from earlier continental initiatives including the Lagos Plan of Action and the Abuja Treaty, signifying a paradigm shift in Africa's approach to development through stressing African ownership and accountability (Adejumobi, 2018b). The revolution of NEPAD into AUDA-NEPAD in 2018 indicated a renewed effort on implementation and coordination with the African Union's development frameworks (African Union, 2018). Throughout its development, governance has remained a central pillar of NEPAD's agenda, based on the recognition that sustainable development requires transparent, effective, and accountable governance systems.

NEPAD was endorsed as an initiative of the African Union (AU), which makes all AU member states (currently 55 countries) participants by default. There was no formal accession process involving specific dates for each member state's joining. Instead, member states endorsed NEPAD through AU summits and national implementation frameworks. Key early supporting, and founding member states are: South Africa, Nigeria, Algeria, Senegal, and Egypt. These countries were part of the founding group that shaped NEPAD's vision and framework (AUDA-NEPAD, 2020).

NEPAD's governance and implementation are now administered by the African Union Development Agency-NEPAD (AUDA-NEPAD), a technical body of the AU established in 2018 to strengthen implementation and coordination capacity.

Key Management Organs

Heads of State and Government Orientation Committee (HSGOC) (Comprises 20 African leaders who provide political leadership and strategic direction); AUDA-NEPAD Secretariat (Based in South Africa; handles implementation, coordination, and technical support); EPAD Steering Committee (Includes representatives of HSGOC members and supports the formulation of policies and programs); and African Union Commission (AUC) (Works closely with AUDA-NEPAD to align NEPAD priorities with AU frameworks, including Agenda 2063) (AUDA-NEPAD, 2020; African Union Commission, 2015)

NEPAD's goals are entrenched in Africa's self-reliant development through partnership, governance, and structural transformation. Its core objectives include: Eradicating Poverty; Promoting Sustainable Economic Growth; Accelerating Regional Integration; Empowering Women; Bridging the Digital Divide; Improving Governance and Accountability; Expanding Access to Health and Education; Developing Infrastructure; Enhancing Agricultural Productivity; and Attracting Investment and Building Private Sector Capacity (NEPAD, 2001; AUDA-NEPAD, 2020)

The major achievements of NEPAD can be felt in: a. Infrastructure Development (PIDA) - The Programme for Infrastructure Development in Africa (PIDA) was launched to prioritize and implement cross-border energy, transport, ICT, and water infrastructure. PIDA has mobilized billions in funding and technical support, including from the AfDB and development partners (UNECA, 2016); b. Agriculture (CAADP) - The Comprehensive Africa Agriculture Development Programme (CAADP) supports agricultural investment and policy reform. Over 40 AU member states have signed CAADP compacts, leading to improved agricultural spending and sector growth; c. Governance (APRM) - The African Peer Review Mechanism (APRM) was launched in 2003 under NEPAD to promote accountability, governance, and democratic practices. As of 2024, 43 African countries have joined the APRM and undergone governance reviews (APRM, 2023); d.

Health and Education - NEPAD supported increased investment in healthcare delivery, HIV/AIDS response, and universal education access, including through initiatives such as the e-Schools Programme and partnerships with WHO and UNESCO; e. Private Sector and Investment Climate - NEPAD promoted investment policy reform, SME development, and FDI through mechanisms such as the NEPAD-OECD Africa Investment Initiative and the Africa Investment Climate Facility; and f. Science, Technology, and Innovation NEPAD initiated programs to build Africa's science and innovation capacity, including, African Science, Technology and Innovation Indicators (ASTII), and NEPAD Biosciences Network (BioFISA) (AUDA-NEPAD, 2020; OECD, 2014; UNECA, 2016)

In year 2018, the AU restructured NEPAD into the African Union Development Agency (AUDA-NEPAD) to function as a technical executive agency. AUDA-NEPAD now focuses on: Policy coordination and implementation support; Capacity building; Resource mobilization; and Monitoring and evaluation. This transformation has reinforced the agency's ability to align with Agenda 2063 and the UN Sustainable Development Goals (SDGs) (AUDA-NEPAD, 2020).

NEPAD continues to be a foundation of Africa's strategic development vision. Its transformation into AUDA-NEPAD has modernized its institutional capacity, allowing it to support member states in implementing continental priorities. NEPAD's contributions to governance, agriculture, infrastructure, and regional integration demonstrate Africa's agency in shaping its development trajectory.

Literature Review

Development economics literature progressively identifies governance as a major determinant of economic performance. Good governance - measured through indicators such as political stability, rule of law, and control of corruption, is observed to correlate strongly with higher rates of economic growth and development outcomes (Kaufmann, Kraay, and Zoido-Lobaton, 1999). Similarly, Rodrik (2000) stressed that institutional quality, mostly governance frameworks that ensure policy credibility and reduce political risk, is crucial for sustained economic development. NEPAD is tailored towards this theoretical consensus by positioning governance reforms at the heart of its development agenda. Though, Taylor (2005) maintained that translating normative governance standards into political stability and economic growth in diverse African contexts presents significant implementation challenges.

Economic growth theories relevant to African development began with the neoclassical approaches stressing capital accumulation and technological progress to endogenous growth models emphasising the role of human capital and innovation (Fosu, 2018). Institutional economics, as articulated by North (2018) and Acemoglu and Robinson (2019), underscores the critical role of governance structures in bringing about conditions favourable to sustainable economic growth. The African developmental state model, as explained by Mkandawire (2015) and Routley (2017), offers an alternative framework for understanding the relationship between state capacity, governance quality, and economic transformation in the African context.

In the African context, governance entails state capacity, institutional quality, rule of law, and public accountability (Kaufmann, Kraay, & Mastruzzi, 2010). NEPAD intended to redefine governance through African ownership, contrasting donor-driven models (Olowu & Sako, 2002). The NEPAD's governance initiative, controlled by the African Peer Review Mechanism (APRM), stressed participatory democracy, transparency, and peer learning (Hope, 2005). Herbert and Gruzd (2008) have revealed varying levels of commitment and implementation across countries.

Governance structures always have a lot of influence on political stability, determined by conflict incidence, regime durability, and public trust. Collier and Hoeffler (2005) opined that inclusive institutions minimise conflict risk, while Acemoglu and Robinson (2012) revealed that institutional quality brought about state resilience. Good governance is one of the enablers of growth through reduction in transaction costs, boosted investor confidence, and effective resource allocation (Rodrik, Subramanian, & Trebbi, 2004). However, Fosu (2009) observed that the governance-growth relationship can vary across contexts and demand for disaggregated analysis.

Governance entails the processes, institutions, and mechanisms for exercising authority, making decisions, and implementing policies in a society (World Bank, 2017). Governance in the African context has distinguishing features shaped by cultural factors, historical legacies, and contemporary challenges. Hyden (2016) describes African governance as functioning within complex systems where formal institutions usually exist along with informal power structures. NEPAD's approach to governance underscores democratic

principles, the rule of law, effective public administration, and respect for human rights as important components of good governance (NEPAD, 2002).

Political stability can be described as the durability of political systems and their capacity to bring about change and conflict through institutionalized mechanisms rather than violence (Alesina et al., 2019). The measures of political stability comprise the absence of violence, effective conflict resolution mechanisms, the legitimacy of political institutions, and regular and peaceful political transitions. In the African context, political stability has been perceived as the presence of resilient institutions capable of obliging diverse interests and handling political competition, not only as the absence of conflict (Le Billon, 2020).

The African Peer Review Mechanism (APRM), formed in 2003 as NEPAD's primary governance assessment tool, signifies an innovative method to fostering governance improvements through peer learning and voluntary compliance (Gruzd & Turianskyi, 2018). The APRM's comprehensive review procedure comprises four thematic areas: democracy and political governance, economic governance and management, corporate governance, and socio-economic development. Masterson (2018) recognises substantial variations in the implementation and impact of the APRM across participating countries, stressing the impact of domestic political factors on the efficiency of the mechanism.

Apart from the APRM, NEPAD has established various governance initiatives such as the African Governance Architecture (AGA), capacity building programs for public administration, anti-corruption measures, and initiatives promoting transparency in natural resource management (Hope, 2019). These complementary mechanisms aim to strengthen different aspects of governance across the continent. Governance initiatives related to specific sectors, such as the Comprehensive Africa Agriculture Development Programme (CAADP) and the Programme for Infrastructure Development in Africa (PIDA), incorporate governance elements focused on policy coordination, regulatory frameworks, and investment facilitation (AUDA-NEPAD, 2020).

There are mixed results in the empirical studies examining the link between governance quality and political stability in Africa. Asongu and Nwachukwu (2017) concluded that improvements in political governance indicators, specifically democratic accountability and political rights, correlated positively with political stability across African countries. Similarly, Brown (2020) revealed that effective implementation of APRM recommendations has contributed to conflict prevention and peaceful political transitions in several African states. However, Englebert and Dunn (2019) found that formal governance improvements had limited impact on stability wherever informal power networks remain dominant, signifying the need for more nuanced approaches to understanding this relationship.

There exist complex patterns in the findings of the studies on relationship between governance and economic growth in Africa. Fayissa and Nsiah (2018) found that improvements in rule of law, regulatory quality, and control of corruption brought about higher GDP growth rates across African countries. African Development Bank (2020) suggested that countries implementing NEPAD governance frameworks recorded higher levels of foreign direct investment and private sector development. Nevertheless, Rodrik (2018) notifies against presuming universal governance-growth relationships, contending that the explicit institutional arrangements favourable to economic growth may differ depending on countries' developmental stage and structural characteristics.

The analysis of APRM participating countries suggests moderate improvements in governance indicators, specifically in areas of economic management and regulatory quality (Gruzd, 2018). Nevertheless, progress in political governance dimensions has been more uneven. Bing-Pappoe (2018) observed that NEPAD's governance initiatives have been more efficient in countries with stronger initial commitment to reform and existing institutional capacity, highlighting the importance of domestic political factors in mediating NEPAD's impact.

In conclusion, there exist literature on NEPAD's normative aspirations, but limited empirical analysis are available on evaluating the concrete contributions of NEPAD's governance agenda to tangible outcomes such as improved political stability and economic growth across African countries. This gap underscores the need for a systematic and comparative study that critically assesses the actual impact of NEPAD's governance initiatives, beyond rhetorical commitments, across diverse African contexts.

Theoretical Framework

Deriving from the literature reviewed, this study embraces an integrated theoretical framework that merges institutional theory, developmental state approaches, and African political economy perspectives. This framework identifies that NEPAD's governance contributions to political stability and economic growth operate through multiple pathways, including: Institutional development pathways - strengthening formal governance institutions and their capacity to manage political processes and economic policies effectively; Legitimacy and social contract pathways - enhancing state-society relations and the perceived legitimacy of governance arrangements; Policy coordination pathways - improving policy coherence and implementation across sectors and levels of governance; Resource governance pathways - enhancing transparency and accountability in the management of natural resources and public finances; and Regional integration pathways - strengthening governance mechanisms for regional cooperation and coordination. This integrated framework guides the empirical investigation of how NEPAD governance mechanisms contribute to political stability and economic growth outcomes across different African contexts.

Methodology

Two estimations were carried out using different panel estimation techniques starting with the Pooled OLS Regression model serving as the baseline model for comparing the performance of other models. Subsequently, fixed and random effects was estimated after the choice had been determined by the Hausman test (Table 4).

Model Specification

The models for regression are specified as follows:

$$gdp_{it} = \beta_0 + \beta_1 gov_{it} + \beta_i X_{it} + \varepsilon_{it} \quad (1)$$

$$pol_{it} = \beta_0 + \beta_1 gov_{it} + \beta_i X_{it} + \varepsilon_{it} \quad (2)$$

Where gdp_{it} is the per capita GDP growth rate as measure of economic growth for country⁵ i in year t and pol_{it} is the political stability for country i in year t . gov_{it} is the measure of government effectiveness, which is a proxy for NEPAD's governance Agenda. Also, X_{it} represents the vector of control variables which include Foreign Direct Investment (fdi), Credit to Population Growth (pop), and Net Natural Resources (nrr). In all, models were specified as follows:

$$gdp_{it} = \beta_0 + \beta_1 gov_{it} + \beta_i fdi_{it} + \beta_1 pop_{it} + \beta_i nrr_{it} + \delta_t + \lambda_t + \varepsilon_{it} \quad (3)$$

$$pol_{it} = \beta_0 + \beta_1 gov_{it} + \beta_i fdi_{it} + \beta_1 pop_{it} + \beta_i nrr_{it} + \delta_t + \lambda_t + \varepsilon_{it} \quad (4)$$

All variables remain the same as defined in equations 1 and 2. While, δ_t , λ_t , and ε_{it} are country fixed effects, time fixed effects, and error term respectively. Equations 3 and 4 are economic growth and political stability models of estimation respectively.

Data Descriptions and Sources

The descriptions and sources of data used in the analysis covering the period of 2001 – 2024 are shown in Table 1.

Table 1: Data Descriptions and Sources

Variables	Definitions	Sources
Growth Rate of Gross Domestic Per Capita (GDPC)	GDP per capita is gross domestic product divided by midyear population.	World Bank Development Indicators

⁵ About Forty-Nine (49) African countries that have requisite data were selected for the analysis. They are: Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Dem, Congo, Rep, Côte d'Ivoire, Egypt, Equatorial Guines, Eswatini, Ethiopia, Gabon, Gambia, The, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Seychelle, Somalia, South Africa, Sudan, Tanzania, Togo, Tunisia, Uganda, and Zambia.

		(WDI)
Political Stability (pol)	Political Stability and Absence of Violence/Terrorism: Estimate	World Bank Governance Indicator
Government Effectiveness (gov)	Measure of Government Effectiveness as proxy for NEPAD's governance Agenda	World Bank Governance Indicators (WDI)
Foreign Direct Investment (fdi)	Foreign direct investment, net inflows (% of GDP)	World Bank Development Indicator
Total natural resources rents (nrr)	Total natural resources rents (% of GDP), proxy for natural resources endowment	World Bank Development Indicator

Source: Authors' computation

Empirical Results

The results of the descriptive statistics of variables included in the analysis are presented in Table 2. There are about 1176 total observation of the variables. The average values of variables are positive, except pol and gov. The results of standard deviation implied that the nrr is the most volatile variable, while pol, and gov are the least volatile variables.

Table 2: Descriptive Statistics of variables in the analysis

	gdpc	Pol	gov	fdi	pop	nrr
Mean	7.25	-0.60	-0.74	4.11	2.40	12.07
Median	7.08	-0.43	-0.76	2.45	2.58	8.34
Maximum	9.88	1.28	1.15	103.34	5.79	88.59
Minimum	5.54	-3.31	-2.44	-17.29	-5.28	0.00
Std. Dev.	1.01	0.91	0.63	7.49	0.98	12.02
Skewness	0.55	-0.34	0.37	6.34	-1.15	2.23
Kurtosis	2.34	2.55	3.04	63.16	9.04	10.30
Jarque-Bera	80.43	32.99	26.81	185190.33	2043.52	3588.14
Probability	0.00	0.00	0.00	0.00	0.00	0.00
Sum	8523.91	-703.17	-871.77	4831.93	2821.98	14197.42
Sum Sq. Dev.	1194.72	975.90	471.66	65835.23	1130.17	169750.91
Observations						
	1176.00	1176.00	1176.00	1176.00	1176.00	1176.00

Source: Authors' computation

To avoid the challenge of multicollinearity, which can result in doubt on the robustness of results obtained through the appropriate estimation techniques. The correlation coefficients were adopted in this study to establish that the variables used are independent (Table 3). All variables used in the model estimation were observed to be free from the multicollinearity problem, because the coefficients are not beyond 0.9 threshold. About 2 models were estimated (equations 3 - 4), and there was no element of multicollinearity.

Table 3: Matrix of Correlation

	gdpc	pol	gov	fdi	pop	nrr
gdpc	1.00	0.39	0.50	-0.01	-0.46	0.11
pol	0.39	1.00	0.67	0.06	-0.22	-0.23

gov	0.50	0.67	1.00	-0.01	-0.44	-0.44
fdi	-0.01	0.06	-0.01	1.00	0.09	0.17
pop	-0.46	-0.22	-0.44	0.09	1.00	0.32
nrr	0.11	-0.23	-0.44	0.17	0.32	1.00

Source: Authors' computation

Regression results

To determine which panel data model estimation technique to use for the analysis between fixed effects and random effects model estimation, the Hausman Test was conducted. The null hypothesis (H_0) is that the preferred model is the random effect, while the alternate is the fixed effect. It tests whether the unique errors are correlated with the regressors, the null hypothesis is that they are not. The decision rule is that if the p-value of the Chi-Sq. The statistic is less the 0.05, the null hypothesis is rejected, and the Fixed effect model is used and vice versa.

Table 4: Hausman Test Result

Correlated Random Effects - Hausman Test				
	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.	Decision
Economic Growth Model	73.55	4	0.000	Fixed Effect
Political Stability Model	11.55	4	0.021	Fixed Effect

Source: Authors' computation

This study aims to estimate the impact of NEPAD's governance agenda on economic growth and political stability in African states. For NEPAD's governance agenda and economic growth analysis, the regression results suggest that government effectiveness (gov), population growth (pop) and total natural resources rent (nrr) have a positive significant impact on economic growth (Column 1, Table 5). Hence, they influenced economic growth in Africa during the study period. The coefficients of gov, pop, and nrr are about 0.218, 0.033, and 0.005 respectively. This implies that ceteris paribus, a 1 percent increase in gov, pop, and nrr would result in about 0.218, 0.033, and 0.005 percent increases in Africa's economic growth respectively (Table 5).

The NEPAD's governance agenda impact on political stability implied that gov, pop, and fdi have a significant impact on political stability in Africa. The coefficients of the variables are about 0.817, 0.056 and -0.0034 respectively (Column 2, Table 5). This implies that ceteris paribus, a 1 percent increase in gov, pop, and fdi would bring about 0.817, 0.056 and -0.0034 percent boost in African political stability respectively (Table 5).

Table 5: Regression Results

	Economic Growth Dependent Variable: gdpc	Political stability Dependent Variable: pol
Gov	0.2182*** (.018)	0.8171*** (.0620)
Fdi	-0.0009 (.0006)	-0.0034* (.0019)
Pop	0.0331*** (.0070)	0.0563** (.475)
Nrr	0.0045*** (.0061)	0.0019 (.0240)
_cons	7.2804*** (.0216)	-0.1369* (0.0740)
Observations	1176	1176
R-squared	0.98	0.82

Standard errors are in parentheses; *** p<.01, ** p<.05, * p<.1

Source: Authors' computation

Summary and Conclusion

This study estimates the impact of NEPAD's governance agenda on economic growth and political stability in African states. This involves the use of a fixed and random model with data between 2001 and 2024. The results suggest that the NEPAD's governance agenda have significant impact on economic growth and political stability in African states. It is pertinent for policy makers in African countries to integrate NEPAD's governance frameworks, such as accountability, transparency, and citizen participation into their national development strategies. Establish monitoring and evaluation networks for tracking implementation and outcomes of NEPAD's governance intervention.

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CLIMATE CHANGE, ADAPTATION, FINANCING AND RESILIENCE

Migration and Development in the Sahel in a Context of Geopolitical Instability and Climate Change Effects: A Study Based on Migrants from Neighboring Countries of Senegal in the Territory of Upper Casamance

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Abstract

This study explores the nexus of migration and development in the Sahel, focusing on the geopolitical instability and climate change impacts in the Upper Casamance region of Senegal. This study investigates the transborder migration dynamics in Kolda, a key migratory crossroad in Western Africa, focusing on the interactions between migrants and the local socio-economic and climatic environment. Kolda's strategic geographical position makes it a hub for arrivals, transit, and departures of migrants, primarily drawn by agricultural and trade opportunities. The research methodology encompasses document analysis, quantitative and qualitative surveys, and focus groups involving migrants and local stakeholders. Utilizing this mixed-methods approach, the research analyzes the socioeconomic integration and environmental vulnerabilities of migrants from neighboring West African countries. Findings highlight the diverse profiles of migrants, their economic and familial motivations for migration, and the significant challenges they face in integration, particularly in accessing employment and basic services. The results indicate also that geopolitical shifts and climatic factors significantly influence migration patterns, with many migrants seeking better livelihood opportunities due to economic duress and ecological degradation in their home countries. The study highlights the critical need for policies that support sustainable development and enhance the resilience of migrant populations against climate risks. It also underscores the importance of regional cooperation in addressing the complexities of migration in the Sahel.

Keywords: Migration, Sahel, Climate Change, Environmental Vulnerability, Geopolitical Instability, Socioeconomic Integration

Introduction

In a context marked by climatic disruptions, economic hardship, and geopolitical instability across West Africa, the region of Kolda in southern Senegal has become a critical zone of arrival, transit, and settlement for migrants from neighboring countries. Attracted by its agricultural potential, cultural proximity, and relative stability, migrants from Guinea, The Gambia, Guinea-Bissau, Mali, and Burkina Faso increasingly choose Kolda as a destination to rebuild their livelihoods. While numerous studies have focused on returning Senegalese migrants and their reintegration processes, this article takes a different perspective by examining foreign migrants from the sub-region, highlighting their motivations, vulnerabilities, and strategies for integration and adaptation in Kolda.

Context of the study

The Kolda region, situated in Upper Casamance in southern Senegal, occupies a pivotal position in the dynamics of West African migration. Bordered by The Gambia to the north and both Guinea-Bissau and Guinea to the south and southeast, Kolda is at the heart of transborder mobility patterns shaped by a mix of environmental stress, economic precarity, and political instability across the subregion. Its geographic proximity to conflict-affected and climate-vulnerable territories makes it both a zone of destination and a corridor of transit for migrants seeking safety, livelihoods, and social continuity (Cissokho et al., 2024).



Kolda's appeal lies in its relatively stable security context and abundant natural resources. The region's Sudano-Guinean climate supports diverse agricultural production, while its extensive pastoral lands and water systems, including the Casamance and Kayanga rivers, sustain farming, fishing, and animal husbandry. Migrants from Guinea, Mali, Burkina Faso, and The Gambia are drawn to these opportunities, particularly in labor-intensive sectors such as banana farming in Vélingara, seasonal rice cultivation, and informal commerce around markets like Diaobé⁶ (Wade, 2024).

Moreover, the region benefits from long-standing cross-border cultural and linguistic ties. Shared ethnicities—Fulani, Mandinka, Balanta—facilitate social integration and reduce communication barriers, especially as local languages are spoken on both sides of national borders. These cultural continuities play a key role in sustaining family reunification and collective adaptation efforts (Ngom, 2022).

However, Kolda also embodies the dual nature of migration destinations: it offers opportunity but also reproduces vulnerability. Migrants often settle in unplanned peri-urban or rural zones lacking proper infrastructure and land tenure systems. Many are exposed to environmental hazards, including bushfires triggered by deforestation, seasonal flooding due to poor drainage and unregulated settlement, and increasing climate variability. Their housing is frequently precarious—built with combustible or flood-prone materials—and health and education services are unevenly accessible (Mballo and al., 2021).

In addition, migration to Kolda is not merely a spontaneous movement; it is increasingly shaped by larger geopolitical and climatic forces. The deterioration of governance structures in Mali, Burkina Faso, and Guinea, combined with persistent droughts and erratic rainfall, has undermined livelihoods and triggered migration across fragile Sahelian zones. For many, Kolda represents a safer, agriculturally productive broader. But the absence of formal integration policies and limited institutional support means that migrants

⁶ The Diaobé market, located in eastern Kolda, is a major **sub-regional trading hub** that attracts merchants and buyers from over five countries, including **Senegal, The Gambia, Guinea, Mali, and Guinea-Bissau**. This commercial convergence facilitates cross-border exchanges in livestock, grains, textiles, and manufactured goods, reinforcing Kolda's role as an economic and migratory interface in the West African sub-region.

rely heavily on kinship networks and informal strategies, which are insufficient in the face of accelerating climatic shocks.

As both a receiver and sender of migrants, Kolda encapsulates the evolving realities of climate mobility and geopolitical displacement in West Africa. Understanding this context is essential for designing inclusive policies that strengthen local resilience, manage migration humanely, and promote regional cooperation in the face of shared vulnerabilities.

Methodology

This study employs a mixed-methods approach, combining quantitative rigor with qualitative depth to explore the intertwined geopolitical and climatic factors influencing migration to Kolda, as well as the integration trajectories of migrants from neighboring countries. While quantitative surveys offered structured insights, the emphasis was placed on qualitative methods to capture the complexity and subjectivity of migrant experiences.

The research began with an extensive **documentary analysis**, drawing on institutional reports (IOM, FAO, CILSS), academic literature on West African migration and climate change, national statistics from ANSD and the 2023 population census (RGPH-5), and grey literature from NGOs and municipal offices. This review served as the analytical foundation for understanding the regional migration context and identifying priority areas for field investigation.

A **quantitative survey** was then conducted with over 200 migrants across the departments of Kolda, Vélingara, and Médina Yoro Foulah. Structured questionnaires captured data on socio-demographic profiles, reasons for migration (economic, political, climatic, or familial), access to basic services, and perceptions of environmental changes.

However, the core of the study lies in its **qualitative inquiry**, notably through **semi-structured interviews and focus group discussions (FGDs)**. In-depth interviews were conducted with local authorities, leaders of migrant associations from Guinea, The Gambia, and Guinea-Bissau, as well as NGOs, religious figures, and community organizations. These conversations revealed critical insights into the governance challenges, policy gaps, and informal mechanisms surrounding migration management and environmental adaptation.

The **focus groups**, organized in key localities such as Diaobé, Medina Yoro Foulah, and Tellew, enabled the exploration of collective narratives and everyday realities. Participants included men and women of different ages engaged in farming, trade, and informal services. They shared their experiences of migration, often shaped by a combination of deteriorating environmental conditions (droughts, floods, bushfires), economic hardship, and social networks. Discussions revealed widespread concern about climate-related risks, precarious housing, and limited access to land and essential services. At the same time, they highlighted forms of social resilience—through kinship, religious solidarity, and informal labor networks.

Moderators conducted the FGDs in local languages (Fulani, Mandinka, and Bambara), with the help of trained interpreters to ensure inclusivity and build trust. The exchanges yielded rich qualitative data on the perceptions, challenges, and strategies of migrants, and led to actionable recommendations such as the need for vocational training, financial inclusion, and more participatory local integration policies.

This qualitative-centered approach allowed for a grounded and participatory understanding of the migration–climate–governance nexus in Kolda.

Key findings of the study

Transnational Migrant Communities in Upper Casamance: Profiles, Permanence, and Cultural Affinities

Upper Casamance, encompassing the administrative regions of Kolda, Sédhiou, and Ziguinchor, hosts a diverse mosaic of migrant populations originating from across West Africa. This subnational territory has long been shaped by its strategic geographic position, cultural continuities, and economic opportunities, making it a key interface for regional mobility and integration.

Among the most historically rooted communities are the Malian migrants, whose presence in Upper Casamance—particularly along riverbanks and inland lakes—is closely linked to continental fishing activities. For decades, Malian fishers have settled seasonally or permanently in riparian areas, contributing to the development of inland fisheries and engaging in fish processing and trade. Their settlement often blends

into local communities through intermarriage, religious affiliation (notably within the Tidjane and Mouride brotherhoods), and shared Sahelian heritage.

In contrast, Burkinabé migrants represent a more recent and rapidly expanding group, especially visible in banana-producing zones of Kolda and Sédhiou. Fleeing climatic degradation and insecurity in eastern Burkina Faso, many have arrived in the past decade, integrating into the agricultural labor force. Their specialization in banana plantation work has made them indispensable in the regional value chain, although their status often remains informal and precarious.

Gambian nationals are particularly concentrated in cross-border areas, where cultural, linguistic, and religious proximity with Senegalese communities facilitates fluid mobility. The absence of significant physical or linguistic barriers allows for daily or seasonal migration flows across porous borders. In addition to informal trade, Gambians often engage in transport services, livestock commerce, and subsistence agriculture in the hinterlands of Vélingara and Médina Yoro Foulah.

The most demographically significant foreign populations in Upper Casamance, however, originate from the two Guineas (Guinea-Conakry and Guinea-Bissau). Their migration is driven by a complex mix of political instability, rural poverty, and strong historical ties with the Casamance region. Shared ethno-linguistic groups—notably the Fulani (Peul) and Mandinka—exist across the Senegalese-Guinean borders, reinforcing a sense of belonging and easing integration. Migrants from these countries often rely on extended kinship networks, settle in rural zones, and engage in both subsistence farming and local markets. Their presence is less transient and increasingly characterized by family migration, school enrollment, and long-term settlement.

Overall, the transnational character of migration in Upper Casamance reflects the sub-regional interdependence of West African societies. Migration is not only a response to structural vulnerabilities but also a continuation of centuries-old cultural and commercial exchanges, embedded in a borderland context where national boundaries are socially fluid. The diversity of migrant origins—Malian, Burkinabé, Gambian, Guinean—points to the need for nuanced migration policies that acknowledge these plural identities and promote integration through localized, culturally sensitive approaches.

Geopolitical and Climatic Drivers

Political instability in Guinea and Mali, along with recurring coups and the erosion of state institutions, has been consistently identified as a major factor driving migration toward southern Senegal. In Mali, the expansion of jihadist groups in the central and northern regions, particularly since 2012, has exacerbated insecurity, disrupted rural livelihoods, and led to mass displacement. Communities living in conflict-affected areas face not only the threat of violence from armed groups, but also restricted access to markets, education, and healthcare. Similarly, in Guinea, prolonged political tensions, social unrest, and governance breakdowns have undermined public services, leading many to migrate in search of stability and opportunities.

The Gambia, while often seen as more politically stable, has experienced pockets of insecurity—especially in rural and border areas—linked to post-dictatorship volatility, unresolved land disputes, and weak enforcement of law. These conditions have led to subtle but persistent outflows of people, particularly among youth seeking employment and protection in cross-border areas like Kolda.

At the same time, mounting environmental pressures—including land degradation, declining soil fertility, erratic rainfall patterns, and diminishing water availability—have compounded these geopolitical drivers. Migrants from drought-prone zones, especially in eastern Gambia and northern Guinea-Bissau, are increasingly drawn to the relatively fertile and agriculturally productive lands of Kolda. As a result, Kolda serves as a buffer zone—a relatively secure rural area where migrants hope to rebuild their livelihoods in the face of both armed violence and ecological stress in their home regions.

Political instability and conflict across several West African countries—particularly Mali, Guinea, and Burkina Faso—have emerged as key push factors in regional migration dynamics. In Mali, the prolonged presence of jihadist groups in the central and northern regions has triggered widespread displacement, disrupted agricultural systems, and severely weakened state authority. Similarly, Burkina Faso has experienced a rapid deterioration of security since 2015, with armed insurgencies and intercommunal violence spreading into previously stable rural areas. Entire communities have been forced to flee as violence escalates, especially in the eastern and northern provinces bordering Niger and Mali. These crises have overwhelmed

national response capacities and caused hundreds of thousands to seek safety elsewhere—including in Senegal.

In **Guinea**, recurrent political tensions, violent protests, and governance breakdowns—particularly surrounding contested elections and constitutional changes—have undermined public trust and service delivery. These conditions have motivated youth and families to migrate, particularly from border areas affected by underdevelopment and political neglect.

Though often perceived as relatively stable, **The Gambia** also presents security concerns in certain rural and border regions. The post-Jammeh transition period has exposed latent vulnerabilities, including unresolved land conflicts, cross-border banditry, and weak state presence in peripheral areas. These factors contribute to a steady trickle of migrants seeking greater stability and economic opportunity in cross-border zones like Kolda.

Overlaying these geopolitical stressors is a growing **environmental crisis**. Across the Sahel, migrants report deteriorating soil quality, increasingly erratic rainfall, prolonged dry spells, and water scarcity—all of which undermine traditional farming and herding livelihoods. For many, these ecological pressures compound already fragile living conditions, making migration to Kolda—a relatively peaceful, fertile, and culturally familiar region—both a necessity and a survival strategy.

Socioeconomic Integration

Migrants in the Kolda region tend to integrate primarily through informal social networks rooted in shared ethnicity, language, and religion—notably among Fulani, Mandinka, and related ethnic groups. These networks facilitate access to housing, land for subsistence farming, and entry into local informal economies. Religious affiliation, particularly with Sufi brotherhoods such as the Tijaniyya and Mouridiya⁷, also plays a vital role in fostering trust and social support between host communities and newcomers. In many cases, migrants are hosted by distant relatives or co-ethnics, allowing them to bypass formal administrative procedures and settle quickly in villages or peri-urban areas.

Economically, migrants often find work in low-entry sectors such as agriculture, fishing, and informal trade. In rural zones, they contribute to seasonal farming activities and engage in the *nawetan* system⁸—collective labor groups that share work on rotational plots. In urban areas like Diaobé or Kolda town, others work as street sellers, porters, or small-scale traders in livestock and food markets.

However, despite these integration mechanisms, migrants face significant structural challenges. The absence of formal work contracts and legal residency limits their access to social protection and makes them vulnerable to exploitation and job insecurity. Land tenure remains precarious, as most migrants cultivate land based on oral agreements with local landowners or village chiefs, which can be revoked without notice. This insecurity hampers long-term agricultural investment and reinforces economic fragility.

Moreover, access to basic public services—notably healthcare, education, water, and administrative documentation—is often limited for migrants, particularly those in informal or remote settlements. Women and young migrants face additional barriers due to gender norms and language gaps. Although the cultural proximity between migrant groups and local populations supports integration on a social level, the lack of institutional support and targeted public policies restricts their full inclusion in local development dynamics.

Adaptation Strategies

Migrants in the Kolda region display a range of adaptive strategies aimed at mitigating the compounded effects of climate stress and socio-economic exclusion. Faced with unpredictable seasonal patterns, declining agricultural yields, and limited access to formal employment, many migrants employ diversified livelihood portfolios. These include rotating between seasonal agricultural labor, informal trade, fishing, livestock herding, and increasingly, petty services in semi-urban markets such as Diaobé and Médina Yoro Foulah.

⁷ In Senegal, Sufi brotherhoods—particularly the *Tijaniyya* and *Mouridiyya*—play a central role in religious and social life. The *Tijaniyya* emphasizes spiritual discipline and is influential in cities like Tivaouane and Kaolack, while the *Mouridiyya*, founded by Cheikh Ahmadou Bamba, promotes work ethics and loyalty to the *marabout*, with Touba as its spiritual center.

⁸ The term "nawetaan" refers to seasonal workers who migrate temporarily during the rainy season — locally known as "nawett" — to engage in agricultural labor. These workers, often coming from other regions or neighboring countries, contribute significantly to farming activities during this period of intense agricultural work.

A notable strategy involves the rotation of labor across seasons and activities, allowing households to spread risk across climatic cycles and income sources. For instance, migrants from Guinea and Mali engage in rainy-season farming while turning to charcoal production or fishing during the dry season. This cyclical labor mobility is reinforced by strong kinship networks, which provide housing, food, and information to newly arrived migrants. Extended family members often serve as intermediaries in securing land for cultivation or introducing migrants to job opportunities within informal economies.

In response to land scarcity and environmental degradation, some migrant groups have formed collective farming cooperatives. These groups pool labor and share production inputs, allowing them to cultivate larger plots or negotiate access to land from local landowners. In some cases, particularly in banana plantations near Vélingara, migrants from Burkina Faso organize themselves to collectively manage planting, harvesting, and sale, despite their tenuous land rights. While these practices promote economic resilience, they often operate outside of formal institutional recognition and support, leaving these communities vulnerable to land disputes or eviction.

Environmental displacement due to floods and bushfires has also led to local relocation efforts, particularly in flood-prone zones near the Anambé basin and around Tellew. According to field interviews (Wade, 2024), entire fishing communities from Mali were resettled with the support of municipal authorities and local chiefs, following repeated flood events that destroyed housing and disrupted access to fishing grounds. Although this reflects a form of local climate adaptation, the support provided remains highly uneven. In certain cases, relocation sites lack basic services such as clean water, sanitation, and access to markets, undermining long-term integration and recovery.

The adaptive responses observed among migrants underscore a degree of agency and innovation, but also reveal the structural limitations of informal coping mechanisms. Without sustained institutional backing, these strategies may remain fragile, unable to absorb future shocks. Scaling up community-based resilience therefore requires formal recognition of migrant groups, investment in inclusive infrastructure, and training in climate-resilient agriculture and income diversification. The Kolda case thus highlights both the potential and precarity of localized adaptation in the face of broader climatic and geopolitical transformations.

Climate Perception and Vulnerability

Interviews with migrants in the Kolda region of southern Senegal reveal a growing awareness of the disruptive effects of climate change on traditional livelihoods. Migrants consistently cited irregular seasonal patterns, delayed rainfall, and the increasing frequency of extreme weather events—particularly floods and bushfires—as major concerns impacting both agricultural and fishing activities. This heightened environmental uncertainty is particularly troubling in a region where the vast majority of migrants depend on rain-fed agriculture or small-scale fishing to survive.

Although some migrants are attempting to adapt by modifying planting calendars or transitioning from fishing to farming, the overall lack of institutional support remains a critical barrier to effective climate resilience. As the report led Wade (2024) illustrates, most migrants operate without access to technical assistance, early warning systems, or financial resources needed to implement long-term adaptation strategies. Their coping mechanisms—while innovative in certain contexts—remain largely informal and vulnerable to additional shocks, particularly given their often-precarious legal and land tenure status.

This situation is not unique to Kolda. Across the Sahel and West Africa, scholars such as Bettini & Gioli (2016) and van der Land and al. (2018) have emphasized the complex interaction between climate variability, social vulnerability, and forced migration. Specifically, Burkina Faso, Mali, and Guinea have experienced overlapping crises of violent conflict, economic stagnation, and environmental degradation, all of which contribute to outbound migration toward more stable zones like southern Senegal. These dynamics are reinforced by the findings of Black and al. (2011), who argue that climate change acts as a "threat multiplier," exacerbating existing socio-economic pressures and governance weaknesses that drive displacement.

In the Kolda context, the impact of late rains and prolonged dry spells has directly undermined local food systems, forcing migrants—especially those from Burkina Faso and Mali—to diversify their livelihoods or relocate multiple times. Yet, the absence of coordinated policies on migrant integration and environmental risk reduction further exposes them to cyclical vulnerability. For instance, as noted in the field study, some migrants relocate to low-lying flood-prone areas due to affordability or lack of alternatives, only to suffer asset loss and displacement during the rainy season.

The need for institutional engagement is therefore urgent. International frameworks, including those recommended by the FAO (2023) and the IOM, advocate for the promotion of climate-resilient livelihoods and inclusive adaptation planning that explicitly consider the needs of migrants. In Kolda, this could include the development of solar-powered irrigation systems, training in climate-smart agriculture, and improved access to microfinance—initiatives already suggested by Wade (2024) and supported by prior interventions in similar Sahelian contexts (e.g., Cissé et al., 2021).

Ultimately, the challenge is not only technical but also political: ensuring that migrant communities—despite their often-irregular status—are recognized as legitimate stakeholders in regional development and climate resilience strategies. Without this, their knowledge of climate dynamics and informal adaptive strategies may remain underutilized, and their vulnerability, perpetuated.

Discussion

The region of Kolda in southern Senegal is increasingly recognized as a strategic space for subregional migration in West Africa. Due to its geographical position—bordering the Gambia, Guinea-Bissau, and Guinea—Kolda serve as a destination and a transit corridor for migrants fleeing insecurity, economic hardship, and environmental degradation in countries such as Mali, Burkina Faso, Guinea, and The Gambia. Migration to Kolda is driven by a combination of geopolitical and climatic pressures. In Mali and Burkina Faso, the persistence of jihadist insurgencies and the collapse of state authority following recent coups have rendered many rural communities unsafe and economically unsustainable. In parallel, environmental stressors—such as prolonged droughts, erratic rainfall, soil degradation, and reduced water availability—have severely impacted agriculture-based livelihoods, prompting thousands to seek refuge in more stable areas like Kolda.

Kolda's relative peace, fertile soils, and cultural proximity with migrant groups (notably the Fulani, Mandinka, and Balanta communities) offer favorable conditions for resettlement. However, integration remains a complex process. Migrants often rely on informal networks to access housing and employment in sectors such as agriculture, small-scale trade, fishing, and transportation. Yet, they face significant obstacles, including insecure land tenure, limited access to public services, and vulnerability to environmental hazards such as bushfires and seasonal floods.

Recent studies have emphasized the interplay between conflict, environmental degradation, and migration in this region. Wade's 2024 research in Kolda reveals how climate vulnerability and insecurity in neighboring countries are reshaping migration flows and affecting migrant's socioeconomic integration. Cissokho and al. (2024) highlight how failures in rural development policy have increased youth emigration from Kolda, while Issa Mballo and al. (2021) analyze the impact of rainfall variability on agricultural output and rural livelihoods. The FAO's 2023 adaptation plan also draws attention to the urgent need for climate-resilient agricultural practices in Kolda's departments.

To address these overlapping challenges, experts advocate for integrated interventions. These include vocational training in sustainable agriculture and green technologies, the development of solar-powered irrigation systems, education in financial literacy, and the creation of inclusive governance frameworks that protect the rights and assets of migrant populations. As West Africa continues to grapple with both armed conflicts and climate change, Kolda emerges as a critical site where regional resilience strategies must be tested and implemented.

Conclusion

Migration to the Kolda region is increasingly governed by a complex interplay of climate change, geopolitical instability, and socio-economic disparities across West Africa. As demonstrated by the experiences of migrants from Mali, Burkina Faso, Guinea, and The Gambia, displacement is rarely the result of a single factor. Instead, it reflects the convergence of multiple vulnerabilities: failed rains and land degradation in rural areas, escalating violence and state fragility in the Sahel, and the collapse of rural economies due to insufficient governance and investment.

Kolda's relative political stability, agro-ecological potential, and shared cultural and linguistic heritage with neighboring populations make it a key destination for both temporary and permanent migrants. However, the region's role as a climate and geopolitical refuge is increasingly under strain. Migrants face critical challenges in accessing land, securing dignified employment, and coping with environmental hazards such as

bushfires, floods, and drought. Their precarious housing, limited access to education and health services, and exclusion from formal economic circuits further compound their vulnerability.

Climate mobility—defined as migration influenced directly or indirectly by environmental change—is now a visible reality in Kolda. As noted in the fieldwork, changes in rainfall patterns, soil fertility, and water availability have prompted adaptive shifts in livelihoods, including changes in cropping calendars and a shift from fishing to agriculture. However, such adaptations remain mostly informal, underfunded, and disconnected from institutional frameworks of support. Similarly, geopolitical mobility—driven by conflict and socio-political upheaval—is no longer limited to crisis periods but constitutes a sustained driver of displacement, with long-term implications for regional planning and territorial cohesion.

To transform these migratory dynamics into opportunities for sustainable development, public policies must be proactive, inclusive, and climate-resilient. Firstly, securing access to arable land and sustainable employment for migrants is essential to stabilize livelihoods and reduce tension with host communities. Secondly, investments in rural infrastructure—particularly in housing, potable water, health care, and education—are urgent to address structural inequalities that undermine integration. Thirdly, targeted training in agroecological practices, sustainable fishing, and green entrepreneurship can support both environmental restoration and migrant inclusion. Finally, effective responses must transcend national boundaries: regional cooperation frameworks on migration management, climate adaptation, and cross-border development are indispensable to address the structural drivers of mobility in the Sahel-Soudan zone.

In summary, Kolda exemplifies the need for place-based, multisectoral strategies that recognize the agency of migrants while addressing the root causes of displacement. By investing in both human security and ecological resilience, the region can shift from reactive reception to proactive planning—transforming vulnerability into opportunity for both migrants and host communities.

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Enhancing Groundwater Yield in Nasarawa State through AI-Driven Predictive Analytics and Geospatial Multi-Criteria Evaluation

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Abstract

This study investigates drought hazard and identifies groundwater yield zones in Nasarawa State, Nigeria. Artificial Intelligence (AI), Remote Sensing (RS), Geographic Information System (GIS), and the Analytical Hierarchy Process (AHP) methodologies were integrated for this investigation. Nine hydrogeological factors were analyzed spatially by utilizing data derived from remote sensing and ancillary sources. The factors include the 12-month Standard Precipitation Index (SPI-12), Groundwater Storage Anomaly (GWSA), Rainfall, lithology, lineament density, drainage density, slope, aspect, and land use/land cover (LULC). Image processing and rose diagram generation, which depict lineament orientations, were performed using R and Python programming languages. The SPI-12 analysis for ten years revealed near-normal to mild drought conditions across the state, with the eastern region experiencing more pronounced dry periods. The AHP, a qualitative methodology, established GWSA as the primary driver of groundwater yield with a weight of 38%. Other layers were weighted based on their influence on groundwater occurrence. The consistency ratio obtained was 0.0197, indicating coherent assessments by experts. The AHP-generated map provided a generalized overview, which indicates a low yield in the eastern part and a high yield in the northern part of the study area. To enhance AHP results, AI was employed; the result obtained revealed subtle and distinct patterns that AHP could not identify. Random Forest and Extreme Gradient Boosting (XGBoost) achieved accuracies of 99% and 98% respectively, which indicates their strong performance in predicting groundwater yield. The Precision-Recall and other graphs indicate the superior performance of Random Forest over XGBoost. The XGBoost performed well but showed a high false positive rate of 61% for moderate groundwater yield zones and missed an instance of high groundwater yield, unlike Random Forest. The models identified Keffi, Kokona, and others as high groundwater yield zones, while Toto, Awe, and others were classified as low groundwater yield zones.

Keywords: Drought, groundwater yield, artificial intelligence, analytical hierarchy process, geographic information system, remote sensing

Introduction

Groundwater refers to the water found beneath the earth's surface within saturated zones, specifically in layers of sand, gravel, and pore spaces of crystalline and sedimentary rocks (Oseji and Ofomola, 2010). According to Todd (2004), groundwater exists in all the voids within a geological stratum, making it a crucial natural resource for social development, especially in regions where water supplies are limited (Kordestani et al. 2019). Groundwater is stored in aquifer units and flows slowly across the subsurface geological formations (Idowu & Ojo, 2024). In crystalline basement complex terrains, groundwater is located in fractured and weathered basement formations and partly in the transition zone between weathered and fresh basement rocks (Oni et al., 2020).

Drought is an unfavourable event that adversely affects ecosystems, water resources systems, and the living existence of humans on earth (Alam et al., 2013). It is a period of dryness or continuous shortage of water resulting from low rainfall or high temperature (Chen et al., 2009; Sordo-Ward et al, 2017). Drought is characterized by a temporary reduction in water availability over an extended period. The consequences of drought are profound and have been documented in numerous studies globally (Orimoloye et al., 2021). This natural phenomenon is complex and often linked to a significant decrease or absence of rainfall, particularly in semi-arid to arid regions (Olabode et al., 2021). Frequently, these regions experience severe water shortages, making groundwater a necessary alternative (Fenta et al., 2015). For example, central and northern Nigeria face persistent drought issues, resulting in numerous borehole failures, largely due to inadequate prior information regarding the hydrogeological conditions of those areas (Ezekiel & Dominic, 2015; Alao et al., 2024).

Assessment of drought conditions in Nigeria has been carried out using the Standardized Precipitation Index (SPI) and the Standardized Evapotranspiration Index (SEI) (Ogunjo et al., 2018), while SPI is the most common tool used for determining drought intensity (Ideki & Nwagbara, 2019). Drought indices are always used to determine droughts, and the derived information from these drought indices is used for designing

applications and planning (Sordo-Ward et al., 2017). According to Adeaga (2010), the Sahel savannah in Northern Nigeria is prone to extreme drought, while the Sudan and Guinea savannahs usually experience mild to moderate drought. In the central part of Nigeria, drought vulnerability assessment was carried out by Ideki & Nwagbara (2019) using SPI and geospatial techniques. The results indicate increasing trends of drought with near normal to moderate conditions in Abuja, Ilorin, Lafia, and Lokoja; and moderate to severe droughts in Minna and Jos. These findings spur the need for monitoring drought events in Nasarawa, a necessity for management strategies.

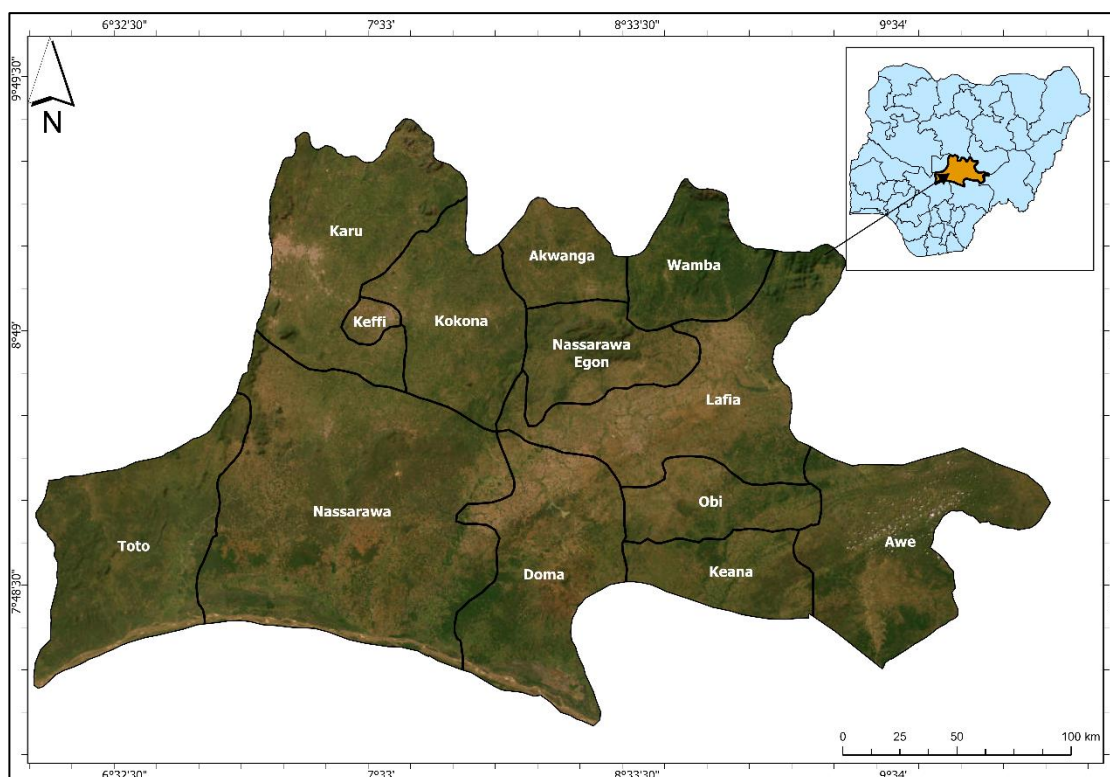
Groundwater is a dynamic resource influenced by various environmental factors, including drought, drainage patterns, land use and land cover (LULC), geomorphology, lithology, topography, slope, precipitation, soil characteristics, and hydrological conditions (Pradhan 2009). Unlike surface water, groundwater is less susceptible to pollution; rather, it is significantly affected by underlying geology, the intensity of chemical weathering, recharge efficiency, groundwater levels, and the origins of certain surface elements (Yıldırım 2021). The demand for groundwater in North Central Nigeria is increasing due to the combined effects of drought, rapid population growth, and urbanization (Ezekiel & Dominic, 2015).

The integration of Artificial Intelligence (AI), Remote Sensing (RS), and Geographic Information System (GIS) tools presents a cost-effective, efficient, and robust approach to mapping groundwater yield zones (Manap et al., 2014). These advanced tools excel in managing extensive and complex datasets (Singh et al., 2019) while providing insights across various spatial and temporal dimensions (Jha et al., 2007). The use of GIS and Remote Sensing, in conjunction with the Analytic Hierarchy Process (AHP) traditional method, proves beneficial for investigating groundwater yield zones across diverse geological contexts (Thapa et al., 2017) and demonstrates effectiveness in defining these zones (Igwe et al., 2020). When addressing decision-making cases, AHP aids in the representation of problems by integrating several criteria, while an order of importance is established within the structure by pairwise comparison. However, AHP can exhibit inconsistencies in its measurements and dependencies among element groups, underscoring the necessity for consistency checks (Ajayi et al., 2022).

Machine learning algorithms, a subset of AI, have recently evolved in precise forecast modeling, identifying detailed patterns, particularly irregular data, and developing extremely accurate forecast models (Olden et al., 2008). AI can detect subtle patterns that may not be accurately detectable in traditional methods. They have a more substantial mastery of resolving complicated interactions due to their advanced learning and decision-making capabilities (Zaresefat et al., 2022). This study aims to assess the spatio-temporal patterns of drought hazard and delineate groundwater yield zones in Nasarawa State, Nigeria, by combining Artificial Intelligence and Analytical Hierarchy Process methods for robust decision-making.

Study Area

The study area, located in Nasarawa State in North Central Nigeria at Longitude 7.7118° E and Latitude 8.5475° N, with a total area of approximately 27,117 km² (Figure 1). This region is situated within the middle Benue Trough, which refers to the central portion of Nigeria's Benue Trough. Geological analysis indicates that about 60% of the area is characterized by Basement complex rocks, while the remaining 40% comprises sedimentary rocks associated with the Benue Trough (Adewumi & Salako, 2017). The climate of the research area is predominantly warm tropical, featuring relatively high temperatures year-round, with an average monthly temperature around 27.5°C; maximum daytime temperatures can vary between 25 to 30°C, depending on seasonal changes (Iloeje 1981). The seasonal weather pattern is marked by a prolonged wet season from late March to July, interspersed with intense rainfall, a brief dry season from late July to August, followed by a short wet season in September and October, before the onset of the dry season in November (Iloeje 1981; Ifediegwu, 2022).



⁹Figure 1: Map showing Nasarawa State, the Local Government Areas, and its location within Nigeria.

Materials and Methods

Preparation of the thematic layers

The Landsat 8 dataset for December 27th, 2024, and the Digital Elevation Model datasets were acquired from www.earthexplorer.usgs.gov. Additionally, lithology data and population settlement data were sourced from the ESRI and GRID3 websites, respectively. For the AI and AHP models, nine thematic layers were analyzed, including Groundwater Storage Anomaly (GWSA), Rainfall, Standard Precipitation Index (SPI), lineament density, drainage density, slope, aspect, Land Use Land Cover (LULC), and lithology datasets.

Lineaments were generated through the manual digitization of a hillshade dataset derived from Landsat data, focusing only on those of enough size to minimize noise and prevent the introduction of spurious features. The length of each lineament, along with its coordinate endpoints (X and Y), was calculated within

⁹ Nasarawa State is bordered by Benue State to the south, Kaduna State to the north, Taraba State to the east, and Abuja to the west.

ArcGIS Pro. Additionally, a rose diagram illustrating the orientation of these lineaments was created using the Python programming language, and a line density analysis was performed to derive the Lineament density.

The fill function was applied to the Digital Elevation Model (DEM) data to address sinks and peaks, effectively correcting minor imperfections in the raster data. Following this, a flow direction map was constructed utilizing the D8 method available in the hydrology toolset of ArcToolbox, which was executed on the filled raster. The flow accumulation was then derived from the flow direction output. Stream order analysis was subsequently conducted using both the flow direction and accumulation results. This analysis led to the stream to feature assessment based on the “stream order” output. To visualize the results, the stream to feature data was converted to graduated symbols in Symbology, with grid code selected as the associated value. Finally, a line density analysis was performed on the stream to feature results to determine the drainage density, while the slope and aspect layers were extracted by applying the respective tools to the DEM data within ArcGIS Pro.

A composite raster was generated utilizing bands 1 to 7 from the Landsat imagery. The study area was examined using Google Earth Pro to delineate built-up areas, open spaces, water bodies or wetlands, and vegetation zones. For the supervised classification process, the selected band combination consisted of bands 4, 5, and 3. In this classification, built-up regions were represented in shades ranging from white to grey, while open spaces exhibited various tones of brown. Water-covered areas were depicted in bluish or blackish hues, and vegetative regions appeared green. Training samples for the four identified classes varied between 74 and 170 samples. These training samples were employed to extract pixel values from the composite image utilizing the R programming language. Finally, the Random Forest (RF) and Support Vector Machine (SVM) Algorithms were implemented in Python to generate the creation of the Land Use Land Cover (LULC) map, achieving an overall accuracy of 80% and 82% respectively. The SVM result was used as the LULC layer for further analysis due to its better accuracy. Additionally, the lithology layer for the region was sourced from ESRI, with a resolution adjusted to 30 meters to align with the resolution of the other data layers.

The launch of the Gravity Recovery and Climate Experiment (GRACE) satellites in March 2002 has made it possible to access and analyze groundwater storage (Rodell & Reager, 2023). The GWSA raster was estimated by subtracting other storage components from the GRACE (Gravity Recovery and Climate Experiment) measured total water storage anomaly.

$$GWSA = TWSA - SMSA - SWSA - SWEA - CWSA$$

Where TWSA-total water storage anomaly, SMSA-soil moisture surface anomaly, SWEA-surface water storage anomaly, and CWSA-canopy water storage anomaly (Ma et al., 2024). Google Earth Engine (GEE) was used to analyze storage rasters and generate the final mean GWSA output from January 2024 to December 2024.

Rainfall and Standard Precipitation Index

This study used geospatial data techniques and the Python programming language to obtain the mean rainfall layer and to calculate long-term drought impact in Nasarawa state using a 12-month standard precipitation Index (SPI-12) for ten years (January 2014 – December 2023). The monthly time series rainfall data were downloaded from the Chirps website (<https://data.chc.ucsb.edu/products/CHIRPS/v3.0/monthly/africa/>). The mean rainfall raster for the 10 years was calculated and represents the rainfall layer used for further analysis. To obtain the SPI layer, each monthly raster dataset was read, and negative values were masked to avoid bias during calculation. After which the rainfall raster data were stacked into a 3-dimensional array using the NumPy library in Python. For each pixel, the sum of rainfall and accumulated rainfall fitted with a gamma distribution was calculated for 12 months to compute SPI-12. The study used a gamma distribution, which is a function of probability density, to fit the long-term rainfall data as described by Ogunrinde (2018). Extreme wet and dry conditions are identified by SPI values greater than 2 and less than -2, respectively (Table 1) (Bordi et al, 2007).

Table 1: Weather classification according to SPI values

SPI values	Classification
2.00 and above	Extremely wet
1.50 – 1.99	Very wet
1.00 – 1.49	Moderately wet
-0.99 – 0.99	Near Normal
-1.00 - -1.49	Moderately dry
-1.5 - -1.99	Severely dry
-2.00 - less	Extremely dry

Analytical hierarchy process (AHP) Modeling

The Analytical Hierarchy Process (AHP), introduced by Saaty in 1980, is frequently referred to as the Saaty method (Saaty, 1980; Saaty, 1990; Wang et al., 2008). This approach is a qualitative traditional method that has been utilized in the analysis of multi-criteria decision-making problems to derive solutions with greater accuracy. By employing pairwise comparisons, AHP facilitates the calculation of the relative importance of various attributes, yielding a significance test for the features under consideration (Wang et al., 2008).

The ranks for the nine thematic layers were assigned based on Saaty's scale (Table 2) with expert knowledge based on the influence of each layer on groundwater occurrence using the AHP technique. To calculate the consistency vector (λ), the pair-wise comparison matrix values are multiplied by normalized pair-wise matrix values of the thematic layers using matrix multiplication (Muralitharan and Palanivel, 2015).

$\lambda = \Sigma(C_{ij}X_{ij})$ where λ = Consistency vector. Consistency Index (CI) was calculated using the following formula:

$CI = \frac{\lambda - n}{n - 1}$, where CI = Consistency Index, n = Number of criteria used, RI = Random Consistency Index for 9 variables (Table 3). Consistency Ratio (CR) was calculated using the following formula:

$$CR = \frac{CI}{RI}$$

A consistency ratio of <0.1 means the assigned weights and the matrix were significant and coherent (Saaty, 1990). All the thematic layers were reclassified using the ArcGIS Pro platform. Finally, the groundwater yield zones were identified by integrating all the thematic layers using the weighted overlay technique in the spatial analysis tool. The result was classified into three classes, namely: high, medium, and low groundwater yield zones.

Table 2: Saaty's 1-9 Scale of Pairwise Comparison Importance (Saaty, 1990).

Intensity of Importance	Definition
1	Equal important
3	Somewhat more important
5	Much more important
7	Very much more important
9	Absolutely more important
2, 4, 6, 8	Intermediate values when a compromise is needed

Table 3: Saaty's ratio index for different values of n (Saaty, 1990).

Order	1	2	3	4	5	6	7	8	9	10
RI	0	0	0.52	0.89	1.11	1.25	1.35	1.4	1.45	1.49

Artificial Intelligence (Machine Learning) Modeling

Locations of known groundwater (borehole and hand-dug wells) in Nasarawa were obtained from previous studies (Kana et al., 2014; Obaje et al., 2020; Cardiff University n.d.). A total of 70 Training samples were extracted from these location points. Clustered borehole points were labelled as “High Yield”, the non-clustered ones and hand-dug well locations were labelled as “Moderate Yield”, while areas with very low groundwater accumulation and areas highly affected by drought were labelled as “Low Yield” using the GWSA and SPI layers. R programming was used for pixel extraction, while Python was used for other preprocessing and modeling. A total of 362 training samples were obtained after pixel extraction from all nine layers. The nine layers and the shapefile were projected to UTM Zone 32N for area-based analysis. A 30-meter spatial resolution was adopted, layers were stacked into a multi-band array, and pixels containing no data were identified and excluded from the modelling. The training data was split into 70% and 30% for training and testing, respectively. Random Forest and Extreme Gradient Boosting (XGBoost) algorithms were trained using 100 estimators. The models were evaluated based on an independent testing set. Overall accuracy, feature importance (as bar charts), confusion matrix, classification result, and the final raster outputs were generated from the algorithms.

Results and Discussion

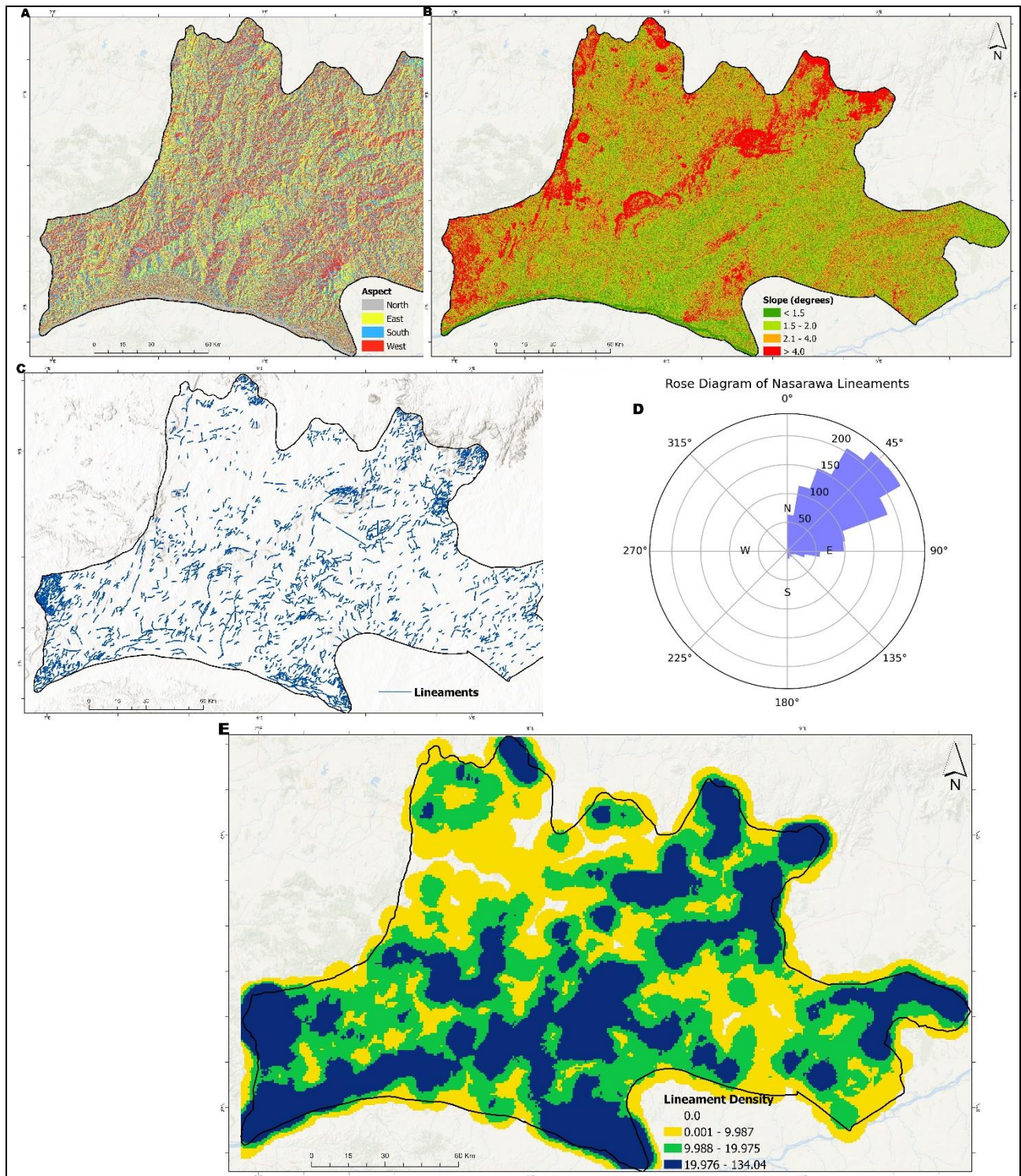
Slope and Aspect Thematic Layers

Slope is a crucial factor in determining the steepness or gentleness of terrain, which in turn influences the rate of water infiltration into the subsurface. Conversely, aspect pertains to the directional orientation of the slope. Generally, regions characterized by low slope values experience minimal surface flow, while areas with steep slopes tend to generate greater runoff, resulting in reduced infiltration and diminished groundwater yield (Boitt et al., 2023). In the study area, slope values range from 0° to 74°, with the majority of steep slopes located in the northern region (Figure 2a). Furthermore, the overall topography indicates a prevailing inclination towards the northern and eastern aspects (Figure 2b).

Lineament and Lineament Density Thematic Layer

Hillshade images provide a visual representation of terrain through shaded relief (Ajayi et al., 2022), making it easy to spot various landscape elements, including lineaments. In geology, lineaments are defined as linear features on the Earth's surface, such as faults, fractures, and joints. These structures serve as pathways for groundwater movement, resulting in increased porosity and identifying groundwater prospect zones (Obi Reddy et al., 2000). In this study, hillshade raster was used to effectively extract lineaments, capitalizing on its ability to enhance topographic expressions (Figure 2c). Python programming generated a Rose diagram of the study area, indicating that the predominant orientations of the lineaments are directed toward the northeastern sector (Figure 2d). This orientation implies that the overall groundwater flow direction and the structural influences on aquifer systems are also aligned to the northeast. The lineament density values observed in the study area range from 0 to 134 km/km², with the highest densities, between 19 and 134 km/km², predominantly located in the southern and central regions (Figure 2e). Consequently, zones with elevated lineament density are regarded as favorable locations for groundwater storage due to their high infiltration rates (Gupta et al., 2010).

Figure 2 (a): Aspect map showing the orientation of the slope. (b) Slope map showing the level of **steepness**. (c) Manually digitized lineaments of the study area. (d) Rose diagram showing the orientation of the lineaments to the NE of the study area. (e) Lineament density showing zones of high and low densities.

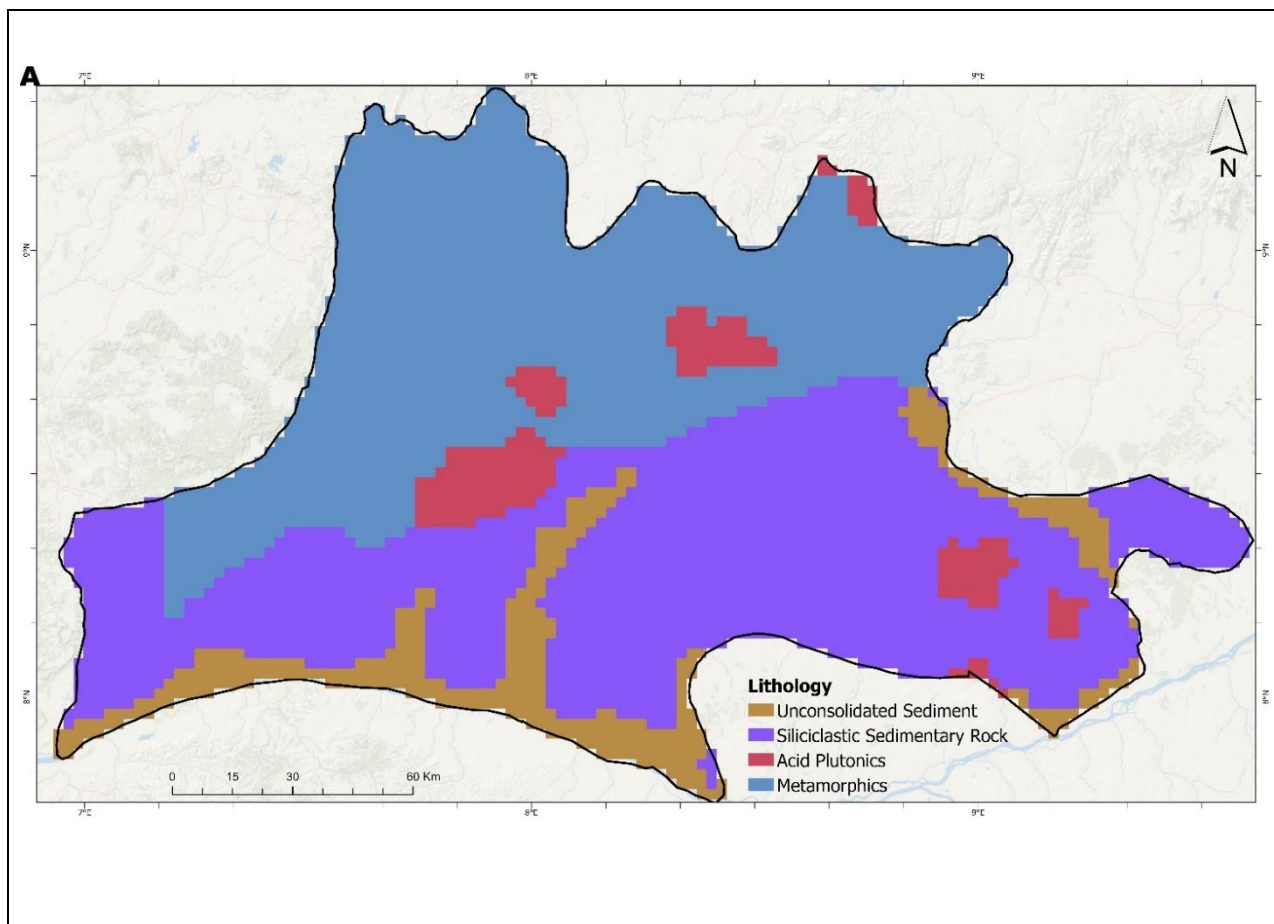


Lithology and Land Use Land Cover Thematic Layers

Lithology refers to the physical characteristics of rocks, essentially representing the geological framework of a given area, which plays a significant role in determining the porosity and permeability of aquifer rocks (Rahmati et al., 2015). In the study area, four distinct lithologies have been identified: unconsolidated sediment, siliciclastic sedimentary rock, acid plutonics, and metamorphic rocks (Figure 3a). Unconsolidated sediments, such as gravel, sand, and silt, are characterized by high porosity and permeability, enabling efficient water movement. Siliciclastic sedimentary rocks, which originate from the fragmentation of pre-

existing rocks, include porous and permeable varieties such as sandstone, shale, and siltstone. Conversely, acid plutonics, exemplified by granite, and metamorphics, represented by gneiss, typically exhibit lower porosity and permeability; however, highly fractured metamorphics can develop secondary porosity and permeability enhancements.

Siliciclastic and unconsolidated lithologies are indicative of the presence of groundwater due to their capacity to facilitate the percolation of surface water (Adelana et al., 2008; Ige et al., 2021; Ajayi et al., 2022). Land use and land cover encompass both natural and anthropogenic features present on the Earth's surface. In the study area, open space categories are the most dominant, followed by water bodies and wetlands, vegetation, and urbanized regions (Figure 3b). Vegetation cover plays a crucial role in groundwater recharge by providing pathways for water infiltration, effectively loosening the rock and soil (Shaban et al., 2006). Settlement areas are primarily located in the northwestern and eastern sections of the study area. Additionally, water bodies and wetlands are prevalent in the southern region of Nasarawa, which aligns with the course of the Benue River and the various smaller rivers feeding into it from different areas.



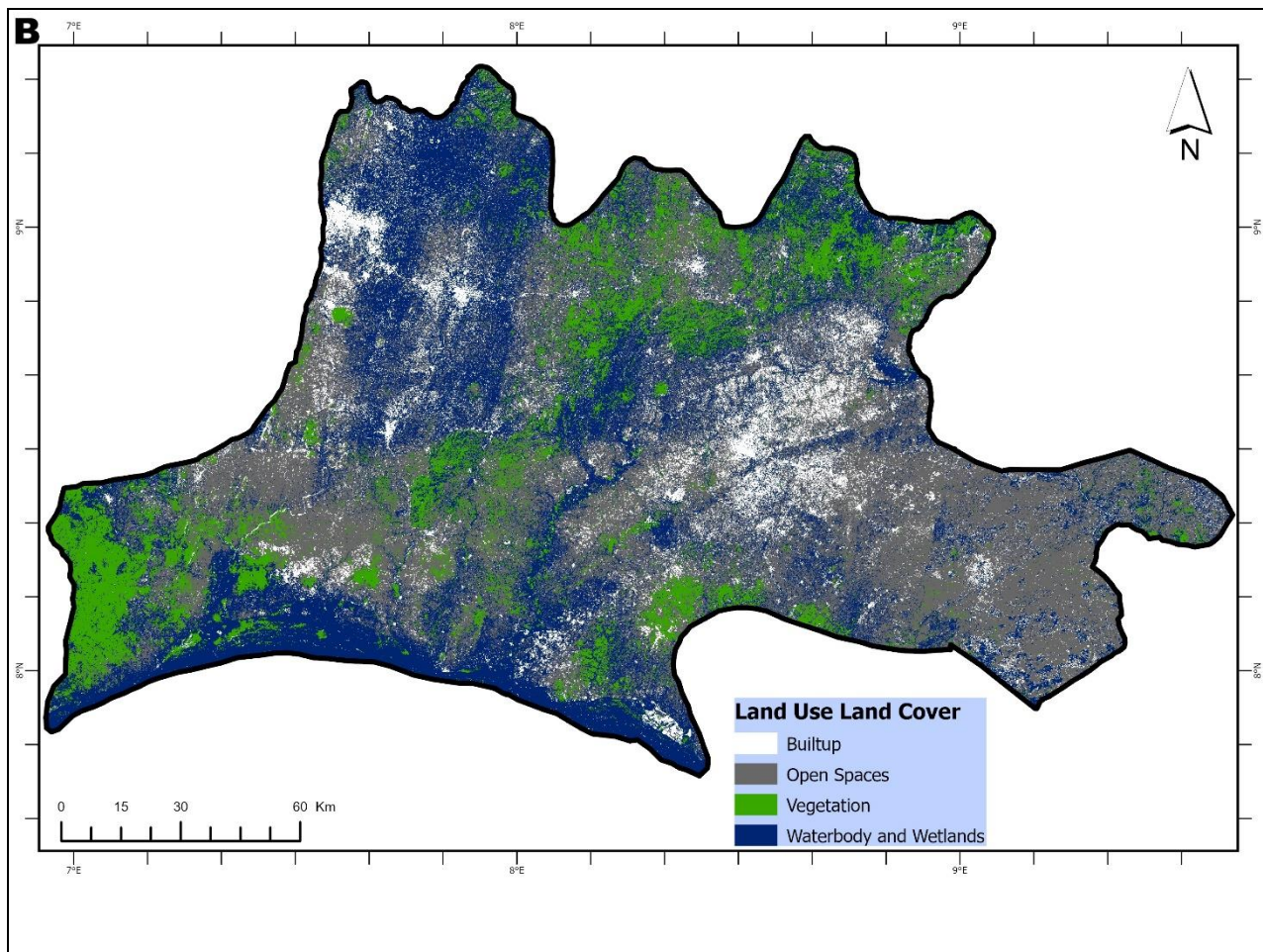


Figure 3: (a) Lithology map showing the rock types that are peculiar to different parts of the study area. (b) LULC map derived from support vector machine showing predominance of open spaces, followed by water bodies and wetlands, vegetation, and built-up land use.

Standard Precipitation Index and Drainage Density Thematic Layers

Drainage density classification plays a crucial role in understanding the ecosystem of streams and rivers (McManamay & DeRolph, 2019). In the study area, a notably high drainage density pattern extends from the northern and western regions towards the southern area, where the Benue River flows. Noteworthy rivers in Nasarawa State include the River Mada, River Dep, River Inaji, River Ahina, and River Farin Ruwa. Rivers Mada and Dep primarily traverse from the central region to the south, while River Farin Ruwa descends from the southwestern area. In contrast, Rivers Inaji and Ahina originate from the southeastern sector of the study area. The majority of regions exhibiting the highest drainage density levels are located in the southern and central parts, with recorded values exceeding 4550 km/km² (Figure 4a). For groundwater assessment, it is observed that lower drainage density corresponds to higher infiltration rates (Lavanya & Muthukumar, 2024). Consequently, lower-density drainage is assigned a higher rank, while higher-density drainage receives a lower rank.

The SPI result generally shows that the drought impact in Nasarawa over the ten years is near normal or mild (between 0 to -0.99) (Figure 4b). Locations with positive SPI values occur in the northwestern and the southern regions of the study area, which indicates greater than median precipitation or wet conditions. Most of the areas with negative SPI values are in the eastern part and a few in the northern part of the study area, indicating less than median precipitation or dry conditions (drought). Overall, Nasarawa State has a near-normal drought classification. This result is consistent with Ideki and Nwagbara's (2019) findings, which indicate that Lafia, the state capital of Nasarawa, has a near-normal condition. Additionally, it aligns with Adeaga's (2010) results, which conclude that the Guinea Savanna region in Nigeria typically experiences mild drought.

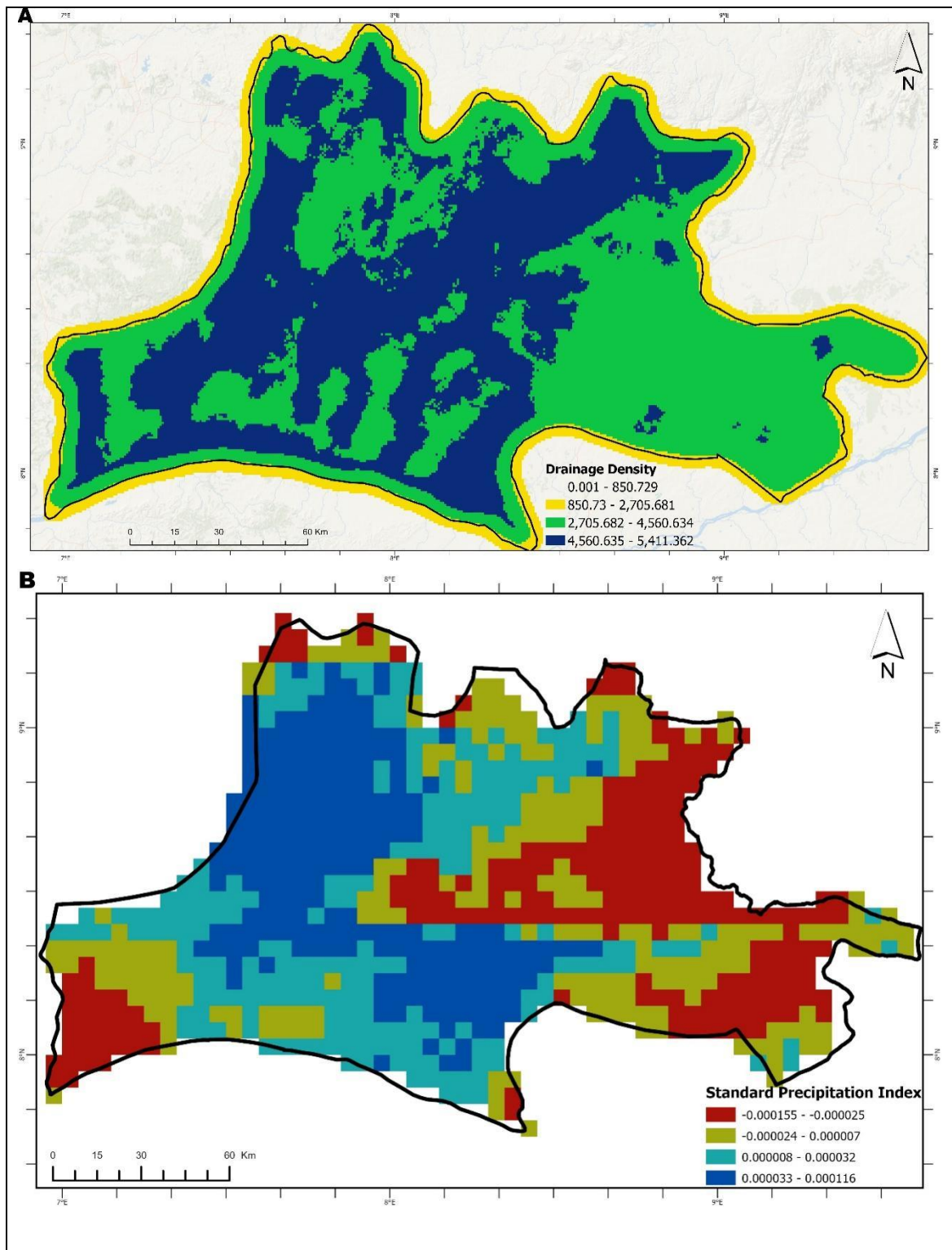


Figure 4: (a) Drainage density map showing low and high zones of drainage in the study area. (b) SPI map showing dry and wet areas of the study area

Rainfall and Groundwater Storage Anomaly

The result obtained for the mean rainfall layer is presented in Figure 5. Areas that recorded high rainfall over the past decade are in the northern and central parts of the study area. Some parts of the eastern side and most of the southern part of the study area recorded lower rainfall. This indicates that there is a high chance of high groundwater yield in the northern and central parts compared to other parts of the study area.

Similarly, the GWSA result in Figure 6 shows that most of the northern part of the study area, particularly the northeastern part, has high groundwater accumulation. Although the negative values suggest that in 2024, Nasarawa State faced a challenge with declining groundwater levels. The central and southern parts have a moderate groundwater accumulation, while the eastern part has a low groundwater accumulation. The low groundwater accumulation recorded for the eastern parts corroborates the rainfall and SPI results. Likewise, the high groundwater accumulation in the northeastern part corroborates with the Rose diagram results, which indicates that the lineaments are oriented towards the northeastern part of the study area.

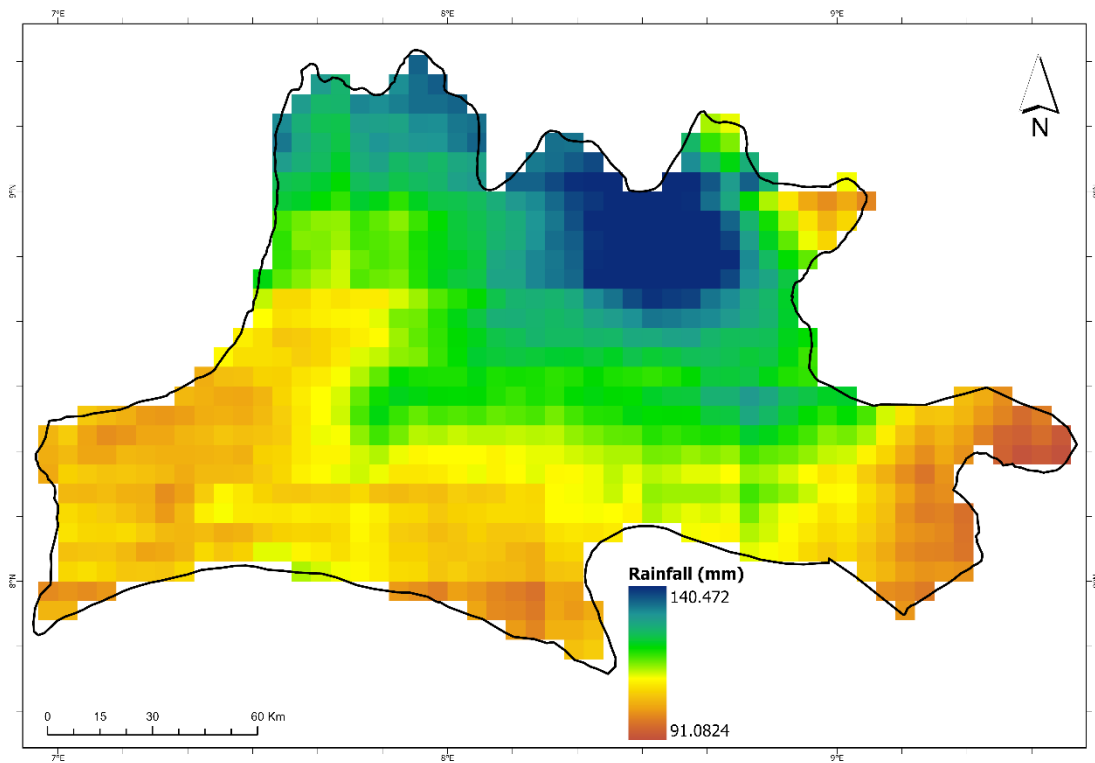


Figure 5: Average rainfall from 2014-2024 showing high and low rainfall patterns in the study area

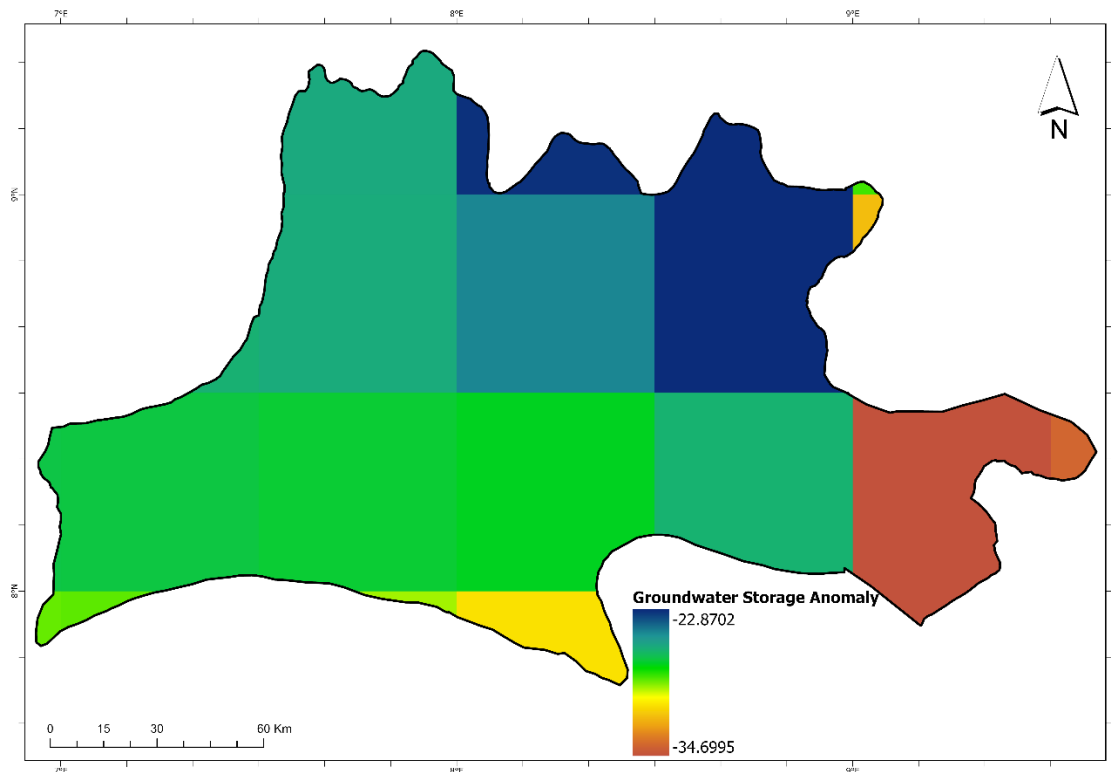


Figure 6: GWSA map showing patterns of groundwater accumulation (storage) in the study area.

Analytical Hierarchy Process (AHP) and Weighted Overlay Tool

The Analytic Hierarchy Process (AHP) was employed to ascertain the relative importance of each criterion, as detailed in section 3.1. The scale of importance assigned to each criterion and the calculated normalized weights are presented in Tables 4 and 5. These criteria were subsequently integrated using the weighted overlay tool within the ArcGIS environment to generate the groundwater yield zones map for the study area. The weights determined through AHP calculations were as follows: 38% for GWSA, 24% for rainfall, 4% for drainage density, 7% for the Standard Precipitation Index (SPI), 11% for lineament density, 4% for land use/land cover (LULC), 4% for slope, 4% for lithology, and 4% for aspect (Figure 7). The calculated consistency index (CI) was 0.0286, and using a random consistency index of 1.45 for the nine variables, the resulting consistency ratio was found to be 0.0197, indicating that the assigned weights and the matrix were both significant and coherent.

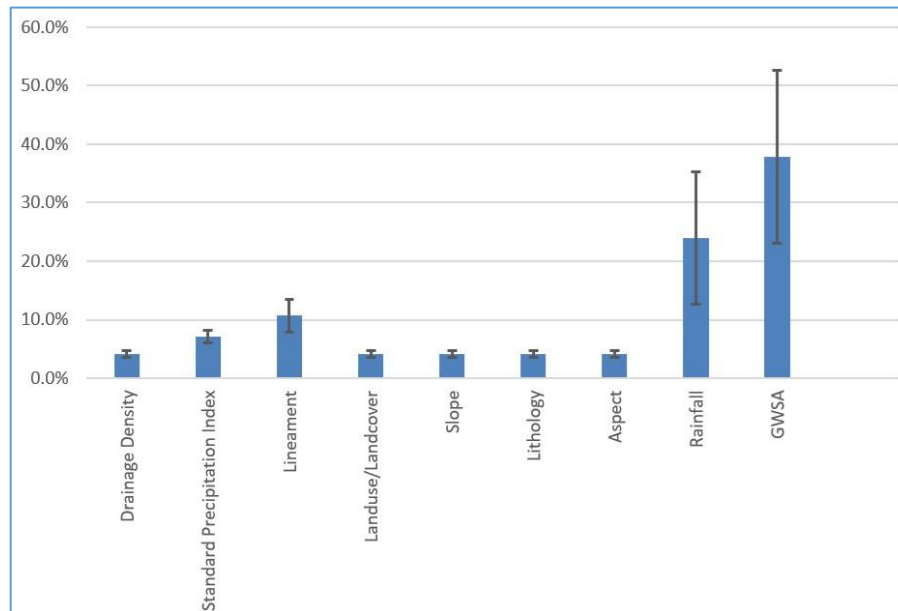
The analysis of the weighted overlay output indicates that the study area generally has a moderate groundwater yield. Most of the northern region and some parts of the central region exhibit high groundwater yield. In contrast, a considerable portion of the eastern region is characterized by low groundwater yield. An overlay of population points reveals settlements that correspond to the varying groundwater yield zones. Specifically, Local Government Areas (LGAs) that fall within the low groundwater yield zones include Awe and minor parts of Lafia (e.g., Arikyia locality), Doma (e.g., Akpanaja locality), and Nasarawa (e.g., Loko locality) (Figure 8). Furthermore, the high groundwater yield zones are Nasarawa Egon, Akwanga, Karu, Wamba, Lafia, and some parts of Obi, Keana, Kokona, Nasara, and Doma.

Table 4: Pairwise comparison matrix of influencing factors

Factors	Drainage Density	Standard Precipitation Index	Lineament	LULC	Slope	Lithology	Aspect	Rainfall	GWSA
Drainage Density	1	0.5	0.33	1	1	1	1	0.2	0.1429
Standard Precipitation Index	2	1	0.5	2	2	2	2	0.25	0.1667
Lineament	3	2	1	3	3	3	3	0.2	0.2
LULC	1	0.5	0.33	1	1	1	1	0.2	0.1429
Slope	1	0.5	0.33	1	1	1	1	0.2	0.1429
Lithology	1	0.5	0.33	1	1	1	1	0.2	0.1429
Aspect	1	0.5	0.33	1	1	1	1	0.2	0.1429
Rainfall	5	4	5	5	5	5	5	1	0.33
GWSA	7	6	5	7	7	7	7	3	1

Table 5: Normalized relative weight of influencing factors

Factors	Drainage Density	Standard Precipitation Index	Lineament	LULC	Slope	Lithology	Aspect	Rainfall	GWSA
Drainage Density	0.05	0.03	0.03	0.05	0.05	0.05	0.05	0.04	0.06
Standard Precipitation Index	0.09	0.06	0.04	0.09	0.09	0.09	0.09	0.05	0.07
Lineament	0.14	0.13	0.08	0.14	0.14	0.14	0.14	0.04	0.08
LULC	0.05	0.03	0.03	0.05	0.05	0.05	0.05	0.04	0.06
Slope	0.05	0.03	0.03	0.05	0.05	0.05	0.05	0.04	0.06
Lithology	0.05	0.03	0.03	0.05	0.05	0.05	0.05	0.04	0.06
Aspect	0.05	0.03	0.03	0.05	0.05	0.05	0.05	0.04	0.06
Rainfall	0.23	0.26	0.38	0.23	0.23	0.23	0.23	0.18	0.14
GWSA	0.32	0.39	0.38	0.32	0.32	0.32	0.32	0.55	0.41

**Figure 7: Bar chart showing the percentages assigned to each of the criterion (variables) based on AHP calculations.**

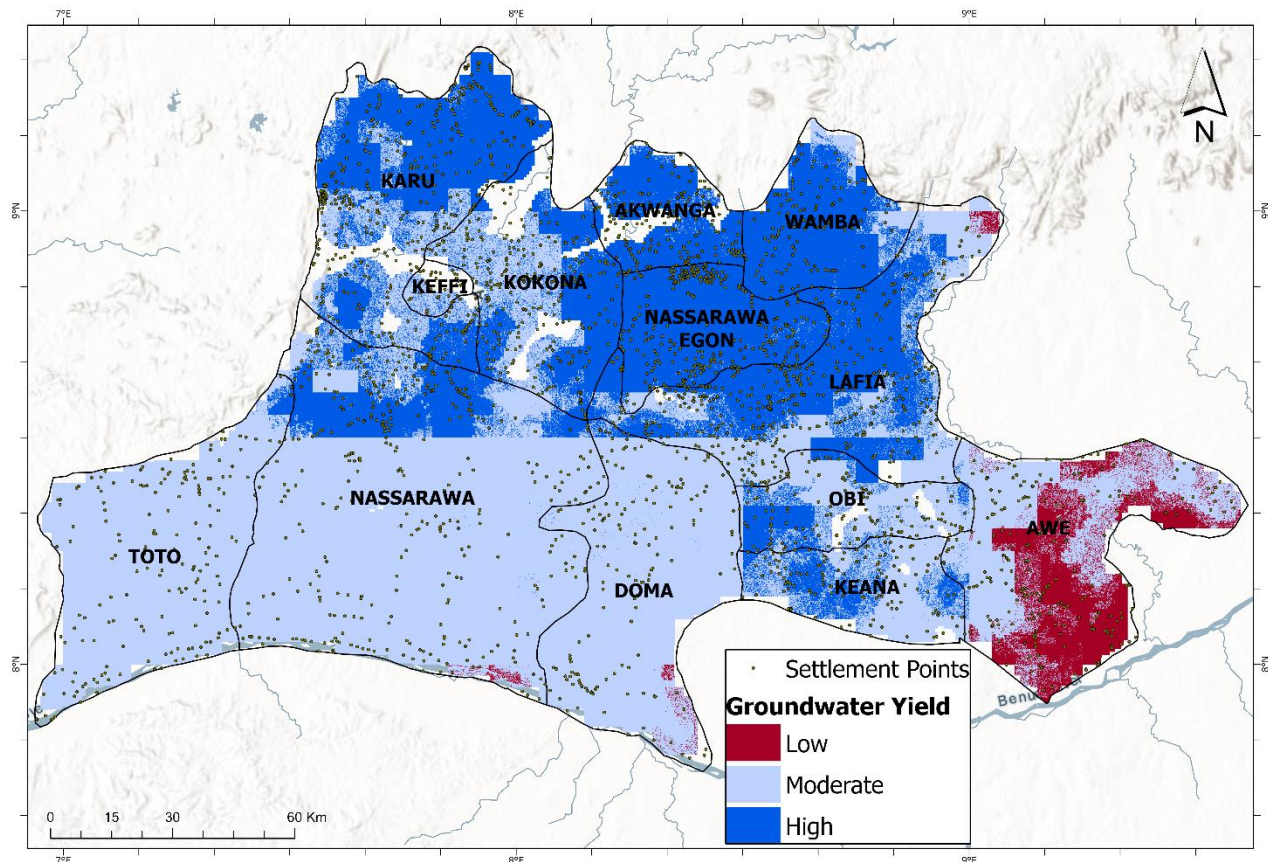


Figure 8: Weighted overlay map from AHP modeling showing low, moderate, and high groundwater yield zones and settlement points that coincide with these zones

Artificial Intelligence (Machine Learning- Random Forest and Extreme Gradient Boosting)

The results from the Random Forest and XGBoost algorithms are presented in Figures 9, 10, 11, 12a, and b. XGBoost and Random Forest have an overall accuracy of 98% and 99% respectively. The confusion matrices of the models show that both models performed well due to their accurate predictions of the low, moderate, and high groundwater yield classes (Figure 9). A total of 72 and 31 instances of low and moderate groundwater yield were correctly predicted as low and moderate by both models. They both incorrectly classified a moderate instance as low. Random Forest classified all instances correctly as high, while XGBoost classified 4 out of 5 instances as high. Overall, Random Forest performed slightly better than XGBoost in correctly identifying all high groundwater yield zones.

The predicted probability histograms revealed that both models exhibit high confidence levels for a large majority of the test samples (Figure 10). XGBoost shows a slightly higher frequency (100 instances) compared to Random Forest (98 instances). This suggests that XGBoost tends to be more extreme in probability assignment by pushing a slightly higher number of instances to 100% certainty. The Precision-Recall (PR) curve shows that the green line (high groundwater yield class) extends from 1.0 (100%) precision horizontally until it reaches and drops down to 100% recall (Figure 11), which indicates that both models performed well in predicting the high groundwater class. Random forest maintained a high precision of 0.76 (76%) for the moderate class (pink line) while XGBoost dropped to 0.4 (40%), which indicates that XGBoost included a higher number of false positives for the moderate class. The Receiver Operating Characteristic (ROC) graph shows that Random Forest demonstrates a superior performance over XGBoost with 100% in all three classes (Figure 12). For example, the graph shows that Random Forest incurred a small false positive rate for the moderate class at 12% while that of XGBoost was 61%.

The XGBoost model assigned the highest feature importance to the SPI (51%) (Figure 13). This is followed by GWSA (18%), rainfall (9%), drainage density (8%), lineament density (7%), lithology (3%),

LULC (2%), aspect (2%), and slope (1%). In contrast, the Random Forest model assigned the highest feature importance to the Rainfall (32%) (Figure 14). This is followed by SPI (22%), GWSA (18%), lineament density (10%), drainage density (10%), LULC (3%), slope (2%), lithology (1%), and aspect (1%). The final maps from both models display similar groundwater yield patterns, with few notable differences (Figure 15a and b). Both models agree that Karu, Keffi, and Kokona LGAs are the most dominated by high groundwater yield zones. They also agree that Nasarawa and Doma LGAs are mostly dominated by moderate groundwater yield, while Toto and Awe LGAs are mostly affected by low groundwater yield. In contrast, the XGBoost model shows an occurrence of a low groundwater yield pattern in Obi and Keana LGAs (Figure 15a), which is absent in the Random Forest result (Figure 15b).

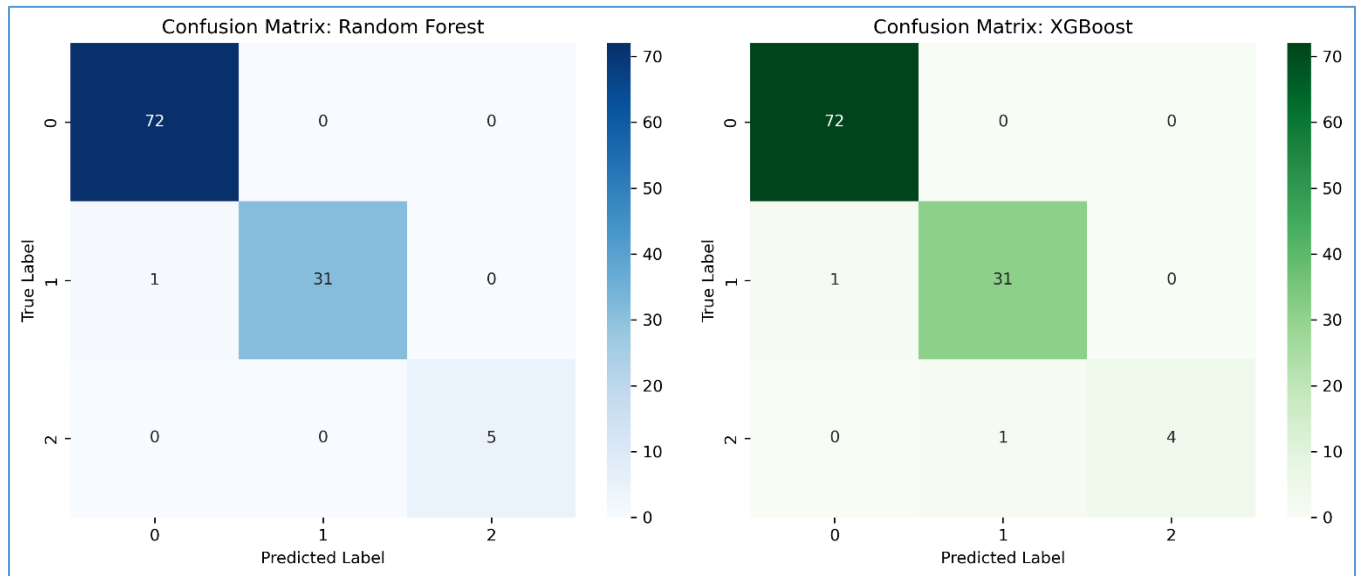


Figure 9: Diagram showing confusion matrices of Random Forest and XGBoost models. Random Forest has a slight edge over XGBoost by correctly predicting all high groundwater yield zones.

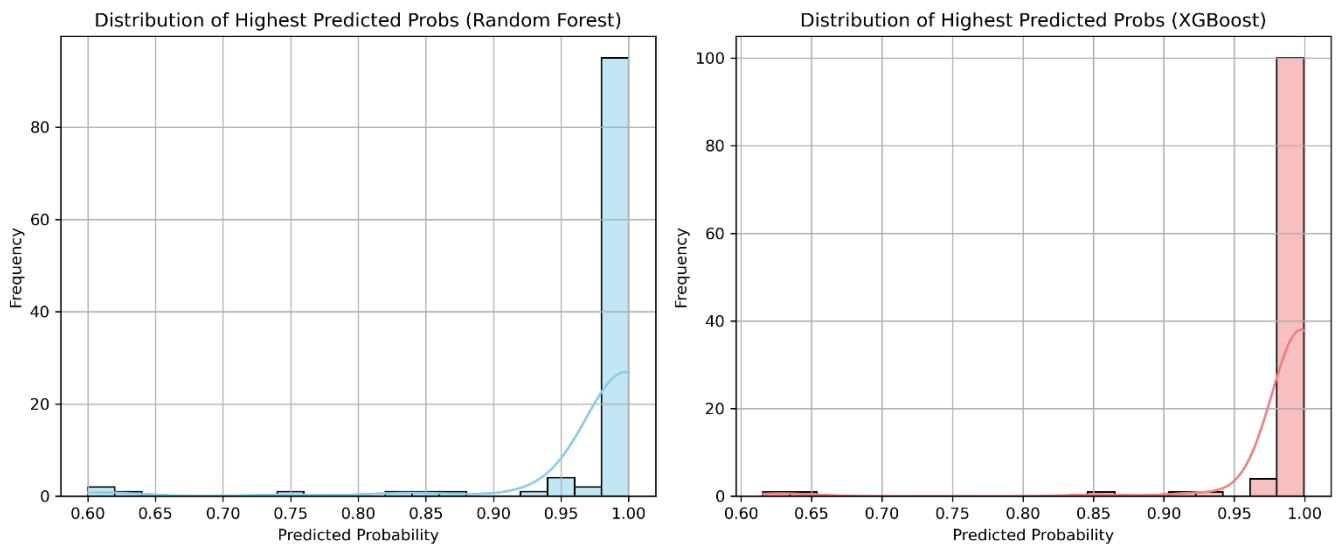
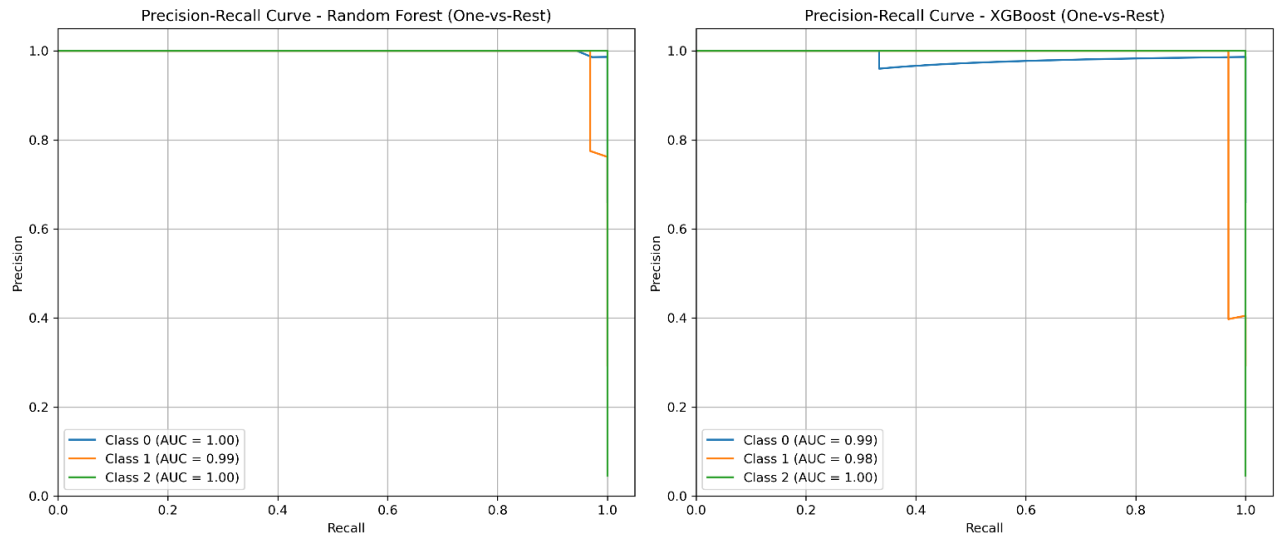


Figure 10: Histogram showing that both Random Forest and XGBoost exhibit a high concentration of predicted probabilities at the maximum confidence (at or close to 100%)



¹⁰**Figure 11:** Precision-Recall graph showing both Random Forest and XGBoost having high precision and recall with little or no false positives and false negatives in their predictions, respectively.

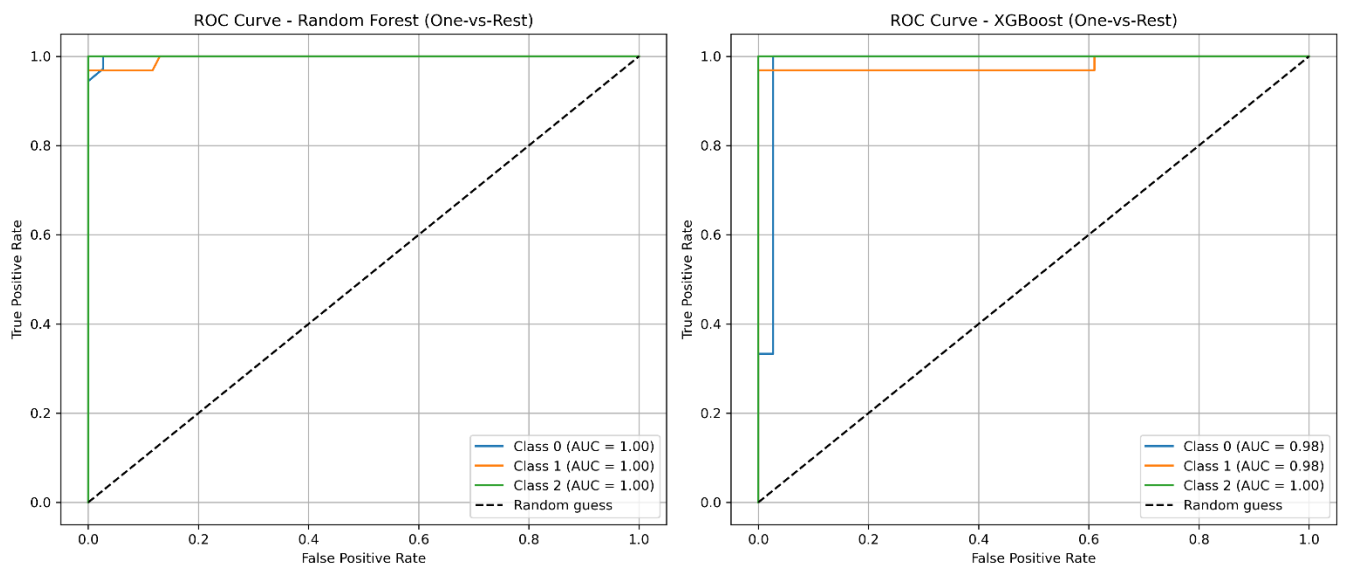


Figure 12: Receiver Operating Characteristic graph showing true positive rate against false positive for both models. The result shows that Random Forest is a better classifier in identifying the different groundwater yield classes

¹⁰ The Class 2 XGBoost curve in Figure 11 appears to have been approximated to 1.00 since it wrongly predicted an instance of high groundwater yield to be moderate yield in the confusion matrix.

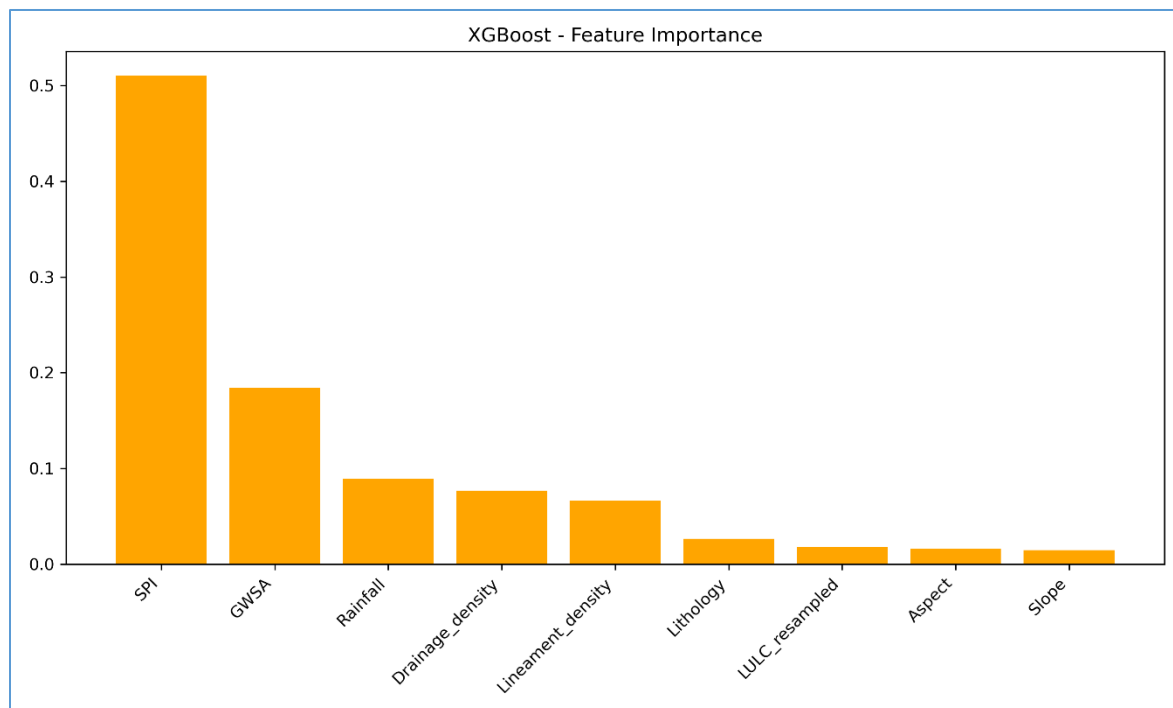


Figure 13: Feature importance from XGBoost modeling indicates SPI to be the most relevant and slope to be the least relevant

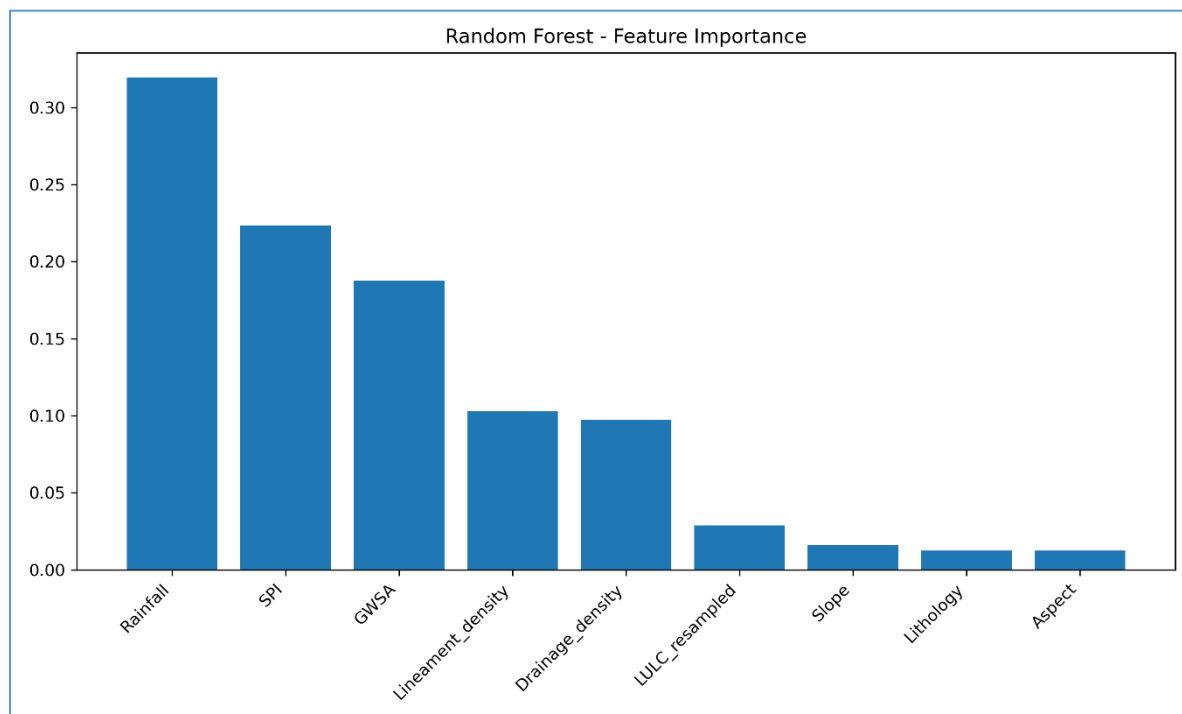


Figure 14: Feature importance from Random Forest modeling indicating Rainfall to be the most relevant and Aspect to be the least relevant

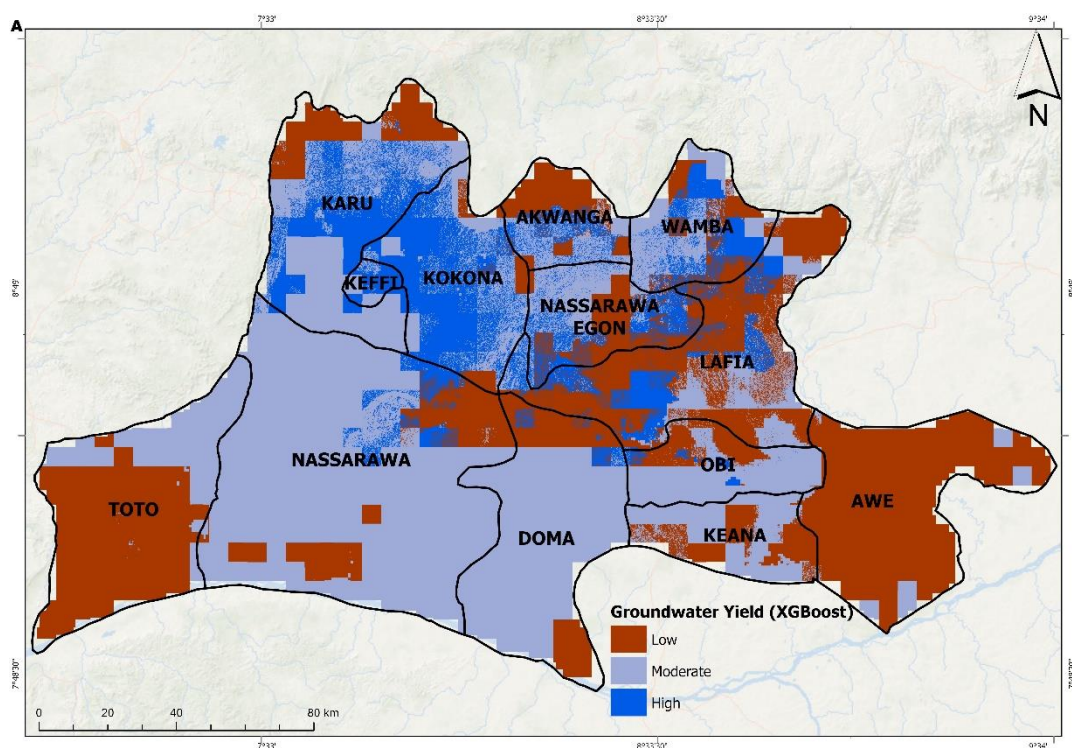


Figure 15: (a/b) Maps from Extreme gradient (XGBoost) and Random Forest models showing low, moderate, and high groundwater yield patterns. There are a few identifiable differences, some of which include the occurrence of a low groundwater yield pattern in Obi and Keana for the XGBoost result, but absent in the Random Forest result.

Conclusion

A comprehensive assessment of groundwater yield in the study area was conducted by integrating various geographic datasets for a hybrid approach using the Analytical Hierarchy Process (AHP) and Artificial Intelligence (AI) modeling. This supports robust decision-making in delineating groundwater yield zones in Nasarawa State, Nigeria. The qualitative AHP method determined feature importance through pairwise comparisons based on our knowledge of groundwater yield. The results show a general pattern of low, moderate, and high groundwater yield across the study area. The northern and some parts of the central regions were classified as zones of high groundwater yield, while the eastern side was identified as low potential.

Conversely, the AI models (Random Forest and XGBoost) provided more detailed, data-driven results, revealing subtle and distinct patterns that the AHP did not detect. Both models achieved high accuracies of 99% and 98%, respectively, indicating their strong predictive capabilities. The PR and ROC curves demonstrate the superior performance of Random Forest over XGBoost. Although XGBoost performed well, it showed a high false positive rate of 61% for moderate groundwater yield zones and failed to identify some high-yield areas that Random Forest detected. The two models identified different primary drivers of groundwater yield in the study area: XGBoost prioritized SPI at 51%, while Random Forest prioritized rainfall at 32%. This suggests that the internal mechanisms of the models (how their decision trees make predictions) prioritize different geospatial factors.

In conclusion, AHP provided a foundational framework for evaluating groundwater yield, while AI enhanced the analysis. AI delivered precise, data-validated performance metrics and uncovered complex spatial variations and relationships among features. The AI models, which supported some findings from AHP, identified Keffi, Kokona, the central and southern parts of Karu, the southern part of Akwanga, and Nasarawa Egon as LGAs with high groundwater yield. Conversely, LGAs with low yield include Toto, Awe, the southeastern part of Nasarawa Egon, north of Karu, north of Akwanga, both north and south of Wamba, and the north of Lafia. Identifying low-yield areas provides clear guidance for targeted interventions and adaptive water management strategies to ensure equitable access and sustainable water resource use across

the state groundwater yield pattern in Obi and Keana for the XGBoost result, but absent in the Random Forest result.

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Flood-Induced Displacement and Social Cohesion in Nigeria: An Analysis of Conflict and Cooperation Dynamics

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Abstract

This study examines the intricate relationship between flood-induced displacement and social cohesion in Nigeria, focusing on the conflict and cooperation dynamics that emerge in the wake of environmental crises. Utilizing qualitative research methods, the paper analyses the experiences of internally displaced persons (IDPs) affected by flooding, highlighting the multifaceted challenges they face, including housing insecurity, livelihood instability, social marginalization, and psychosocial well-being concerns. The findings reveal that while displaced individuals encounter significant adversities, they also demonstrate remarkable resilience through community support mechanisms and collective identity preservation.

The analysis draws on interviews and documentary evidence to illustrate the lived experiences of IDPs and the social dynamics within their communities. The results indicate that effective coping strategies and social networks play a crucial role in mitigating the impacts of displacement, fostering a sense of belonging and solidarity among affected individuals. Additionally, the study emphasizes the importance of addressing the specific needs of displaced populations to promote social cohesion and overall well-being.

The paper recommends policy measures aimed at enhancing housing solutions, improving livelihood opportunities, and providing mental health support to displaced persons. Furthermore, it underscores the necessity of collaborative efforts among government agencies, non-governmental organizations, and local communities to create a comprehensive response to the challenges faced by IDPs. This research contributes to the understanding of the complexities surrounding displacement and social dynamics, offering insights for policymakers and practitioners working to support vulnerable populations in Nigeria and beyond.

Keywords: Flood-induced displacement, natural disasters, human displacement, social vulnerability, post-disaster recovery, and climate change

Background to the Study

The background of a study on flood-induced displacement and social cohesion in Nigeria provides essential context for understanding the complex interplay between natural disasters, human displacement, and social dynamics within affected communities (Nkwunonwo et al., 2015). Nigeria is one of the most flood-prone countries in West Africa, experiencing annual flooding that has increasingly escalated in frequency and intensity due to climate change, urbanization, and inadequate infrastructure (Ndimele et al., 2024). The devastating impact of these floods is not merely physical but extends to the socio-economic fabric of the affected regions. When floods strike, they lead to significant loss of life, displacement of people from their homes, destruction of livelihoods, and a strain on local and national resources (Abubakar et al., 2020).

The resultant displacement often forces individuals and families to seek refuge in makeshift shelters, camps, or with host communities, creating a landscape where social cohesion can be severely tested. In the aftermath of such disasters, the affected populations find themselves navigating a new reality marked by uncertainty and vulnerability (World Bank, 2023). Displaced individuals frequently face challenges in accessing basic necessities such as food, clean water, healthcare, and education, all of which are critical for survival and recovery (Kaiser, 2023). This struggle can lead to heightened tensions between displaced populations and host communities, particularly when resources are scarce, leading to conflicts over land, employment, and social services.

Moreover, the dynamics of social cohesion are influenced by various factors, including pre-existing social relationships, cultural identities, and the historical context of inter-group relations (Liu, 2012). In some cases, displacement can exacerbate existing social divisions, fostering animosities that may have been dormant but

resurface during crises. Conflicts may emerge along ethnic, religious, or socio-economic lines as communities compete for limited resources (Çancı and Odukoya, 2016). This competitive environment can breed resentment and violence, undermining any potential for collaboration among groups that may have previously coexisted peacefully.

Conversely, floods can also catalyze cooperation and solidarity within and between communities (Auliagisni, 2022). In the face of adversity, individuals may come together to provide mutual support, share resources, and engage in collective action to rebuild their lives. Community networks often play a crucial role in facilitating this cooperation, as local leaders and organizations mobilize resources and offer assistance to those in need. The extent to which social cohesion is maintained or rebuilt in the aftermath of flooding can significantly influence the overall resilience of communities, determining their capacity to recover and adapt to future challenges (Abunyewah et al., 2023).

Understanding these dynamics of conflict and cooperation is essential for developing effective policies and interventions aimed at mitigating the adverse impacts of flood-induced displacement (Basheer and Elagib, 2024). Policymakers, humanitarian organizations, and community leaders must recognize the multifaceted nature of social relationships during and after disasters. By fostering an environment that promotes dialogue, understanding, and cooperation, it is possible to mitigate conflict and enhance social cohesion, ultimately contributing to more resilient communities (Adabanya et al., 2023).

In Nigeria, the interplay between flood-induced displacement and social cohesion presents an urgent area of study. With increasing climatic uncertainty and a growing population, the challenges associated with floods and displacement are likely to intensify. As such, it is crucial to explore the nuanced experiences of displaced individuals and communities, examine the factors that foster both conflict and cooperation, and identify best practices for building social cohesion in the wake of such disasters. This understanding will not only inform academic discourse but also guide practical approaches to disaster management and community resilience in Nigeria and similar contexts globally.

Problem Statement

Flood-induced displacement in Nigeria has become a recurring issue, exacerbating socio-economic vulnerabilities and disrupting the fabric of affected communities. The displacement of large populations due to recurring floods has placed immense strain on both the displaced individuals and the host communities that must accommodate them (McAdam, 2016). Competition over scarce resources such as land, water, and employment intensifies, creating an environment ripe for conflict. In many cases, pre-existing ethnic, religious, and social tensions are aggravated, leading to disputes and sometimes violence. Additionally, the lack of adequate government intervention, poor infrastructure, and insufficient disaster preparedness measures further contribute to these conflicts, undermining efforts at recovery and community rebuilding (Smith, et al., 2021).

At the same time, the potential for cooperation and social cohesion amidst such adversity remains underexplored and underutilized. While conflict is often highlighted, there are instances where displaced individuals and host communities have exhibited solidarity, sharing resources and working together to navigate the hardships brought by the floods (Jayakody, et al., 2022). However, this cooperation is frequently overshadowed by the conflicts that arise, and without proper policy frameworks to support and nurture these dynamics, the potential for fostering social cohesion is lost. The need to examine both the conflict and cooperation dynamics arising from flood-induced displacement in Nigeria is pressing, as understanding these elements is critical to crafting more effective disaster response and social integration strategies.

Aims

This study aimed to characterize, analyze, and understand the complex social dynamics surrounding flood-induced displacement in Nigeria, particularly focusing on the conflict and cooperation patterns that emerged among displaced persons and host communities. The research explored both the challenges faced by displaced individuals as a result of the floods and the strategies employed to foster social cohesion in the face of adversity. To achieve this, the study relied on data collected from in-depth interviews, case studies, and documentary evidence.

The key research questions the study aimed to answer were:

- i. What were the main social and economic challenges that flood-displaced individuals in Nigeria encountered?
- ii. How did displaced individuals and host communities navigate and manage conflict over limited resources?
- iii. In what ways did cooperation and social cohesion manifest during and after displacement, and what factors contributed to successful collaboration?

Review of related literature

Challenges Faced by Flood-Displaced Individuals

Flood-displaced individuals in Nigeria encounter a multitude of challenges that significantly impact their lives and well-being. One of the most pressing issues is the loss of livelihoods due to flooding, which often destroys agricultural land, homes, and local businesses. Many displaced persons rely on farming or small-scale trading as their primary sources of income, and when floods inundate their lands or wipe out their assets, they are left without a means to sustain themselves (Echendu, 2020). This economic instability can lead to increased poverty levels and food insecurity, as displaced individuals struggle to meet their basic needs in unfamiliar environments.

Access to essential services, such as healthcare, education, and clean water, also becomes severely compromised for flood-displaced populations. Displacement often forces individuals into overcrowded shelters or camps where basic amenities are either lacking or overstretched. The result is a heightened risk of communicable diseases due to unsanitary living conditions and limited access to healthcare facilities. Children may be particularly affected, as disrupted schooling can hinder their educational development and future opportunities, perpetuating the cycle of poverty and disadvantage (Shokri et al., 2020).

Psychological impacts represent another critical aspect of the challenges faced by flood-displaced individuals. The trauma of losing homes and loved ones, combined with the stress of displacement, can lead to mental health issues such as anxiety, depression, and post-traumatic stress disorder (PTSD) (Stanke, et al., 2012). These psychological effects can hinder individuals' ability to cope with their new circumstances and negatively affect their relationships within both displaced and host communities. The combination of these challenges creates a complex web of vulnerabilities for flood-displaced individuals in Nigeria, necessitating targeted interventions to address both their immediate needs and long-term recovery prospects (Fernandez et al., 2015).

Conflict Dynamics in Resource Management

The conflict dynamics surrounding resource management among flood-displaced individuals in Nigeria have been the subject of various studies, highlighting the complexities of competition over scarce resources in the aftermath of natural disasters. Research conducted by Okereke et al. (2020) revealed that competition for land, water, and other essential resources intensified following floods, particularly in areas where the displaced population was integrated into host communities. Displaced individuals often find themselves at odds with local residents, who perceive them as threats to their limited resources. This perception can escalate tensions and lead to violent confrontations, as both groups vie for access to the already strained resources necessary for survival.

A notable study by Ijere (2019) examined the socio-political ramifications of resource competition in flood-affected regions. The findings indicated that existing social hierarchies and ethnic affiliations often exacerbate conflicts, as displaced individuals may come from different backgrounds than their host communities. This situation can create distrust and misunderstandings, further fueling disputes over resource allocation. The study highlighted several instances where these conflicts led to communal violence, resulting in further displacement and loss of life.

Moreover, qualitative interviews conducted by Nwankwo (2021) with displaced individuals in the Niger Delta region underscored the emotional toll of resource-related conflicts. Participants expressed feelings of frustration and helplessness as they attempted to navigate their new realities in host communities that were already resource-constrained. The findings revealed that many displaced individuals felt marginalized and excluded from local decision-making processes regarding resource distribution, which further compounded their grievances. This disconnect not only fosters animosity but also undermines the potential for

collaborative resource management strategies that could benefit both displaced populations and host communities.

Cooperation and Social Cohesion in Post-Displacement Contexts

The dynamics of cooperation and social cohesion in post-displacement contexts have garnered significant attention in scholarly discourse, particularly in relation to how displaced individuals and host communities navigate their shared environments. Research by Afolabi et al. (2018) emphasizes the importance of social networks in fostering cooperation among displaced populations. Their study in flood-affected regions of Nigeria revealed that individuals who engaged in community-based organizations were more likely to establish supportive relationships with host communities. This engagement not only facilitated access to resources but also promoted trust and mutual understanding, which are essential for social cohesion. The authors argued that such cooperative efforts serve as a buffer against the challenges posed by displacement, allowing communities to work together towards recovery.

Additionally, qualitative interviews conducted by Bello (2020) with flood-displaced persons highlighted the role of shared experiences in building social cohesion. Participants reported that collective hardships, such as loss of property and livelihoods due to flooding, fostered a sense of solidarity among them. One respondent noted, *"We have all lost something, and that pain connects us. We help each other, whether it's sharing food or looking out for one another's children."* This sentiment underscores the idea that adversity can catalyze cooperation, as individuals seek solace and support in their shared circumstances.

Moreover, a study by Yusuf (2021) examined the mechanisms that contribute to successful collaboration between displaced individuals and host communities. The findings indicated that local leaders play a crucial role in facilitating dialogue and cooperation. Through participatory approaches, community leaders were able to mediate conflicts and promote joint initiatives aimed at resource management. Yusuf noted that *"when local leaders actively involve both displaced persons and residents in decision-making, it creates an environment of inclusivity and shared responsibility."* Such initiatives not only enhance resource allocation but also contribute to a sense of belonging among displaced populations, reinforcing social ties that can withstand the strains of displacement.

Methodology

This study employs a descriptive and qualitative approach to investigate the dynamics of flood-induced displacement and social cohesion in Nigeria. The research focuses on individuals affected by flooding in various regions, utilizing data collected through written interviews and documentary analysis. The study targets flood-displaced individuals who experienced displacement within the last five years, ensuring that the participants are current in their experiences and perspectives.

A purposive sampling technique was used to select participants for the written interviews. This approach allowed for the identification of individuals who had been directly impacted by floods and who could provide valuable insights into their experiences. The sample included community leaders, representatives from local non-governmental organizations (NGOs), and displaced individuals themselves. A total of 12 respondents were engaged, with the written interviews conducted in both English and local languages to ensure comprehensive understanding and expression of the participants' experiences. Each written interview consisted of open-ended questions designed to elicit detailed responses about their experiences and lasted approximately 60 minutes.

In addition to written interviews, a documentary analysis was conducted to provide context and corroborate findings from the qualitative data. The documentary sources included reports from humanitarian organizations, government publications, and academic articles addressing the impacts of flooding in Nigeria. As suggested by Bowen (2009), triangulating data from multiple sources enhances the reliability and validity of the findings. This dual methodology enabled the research to capture a broad spectrum of challenges faced by flood-displaced individuals, as well as instances of cooperation and social cohesion that emerged in the aftermath of displacement.

Ethical considerations were paramount throughout the research process. Informed consent was obtained from all participants, ensuring they understood the purpose of the study and their right to withdraw at any time without repercussions. Anonymity was maintained by assigning codes to participants instead of using

their names. The study was approved by the relevant ethical review board, which emphasized the importance of safeguarding the rights and welfare of vulnerable populations.

The analysis of the qualitative data followed a thematic approach, identifying patterns and themes related to the challenges of displacement and the dynamics of social cohesion. Thematic analysis allows for the identification of common threads within participants' narratives, which are crucial for understanding the broader implications of flood-induced displacement. The results of this study contribute to existing literature by providing an in-depth understanding of the interplay between conflict and cooperation in post-displacement contexts in Nigeria.

Results and Analysis

This study aimed to highlight the experiences of flood-displaced individuals in Nigeria, focusing on the challenges they face and the dynamics of social cohesion that emerge in their aftermath. Through qualitative interviews with 12 participants, the research reveals the intricate balance of conflict and cooperation that characterizes the post-displacement environment.

Findings indicate that displaced individuals experience a range of socio-economic challenges, including inadequate access to housing, limited livelihood opportunities, and strained relationships with host communities (Schneiderheinze and Lücke, 2020). Many respondents articulated feelings of marginalization and exclusion, which often led to tensions with local populations. However, the data also highlights instances of cooperation, where displaced individuals and host communities engaged in mutual support mechanisms, such as sharing resources and participating in community activities.

Documentary analysis further corroborated these findings, illustrating how past flood events in Nigeria have shaped community responses to displacement. Reports from humanitarian organizations emphasized the importance of local leadership in facilitating cooperation between displaced individuals and host communities (Fomekong, 2021). This interplay of conflict and cooperation highlights the complexities surrounding displacement, as individuals navigate their new environments while trying to maintain their social networks and identities.

Given these findings, the subsequent sections will delve deeper into the specific challenges faced by flood-displaced individuals, examining how these challenges impact their social cohesion and the strategies employed to foster cooperation in the face of adversity. This exploration will provide a nuanced understanding of the dynamics at play, revealing not only the hardships endured but also the resilience and solidarity that emerge within affected communities.

Discussion

Housing and Shelter Challenges

The findings from this study reveal that housing and shelter challenges are among the most pressing issues faced by flood-displaced individuals in Nigeria. Many respondents reported significant difficulties in securing adequate housing after their displacement, highlighting the precarious living conditions that characterize their new environments. One participant noted, *"After the flood, we lost everything. Now, we live in makeshift tents with no proper walls or roofs. It's not safe for my children."* This sentiment reflects a broader trend identified in previous research, which emphasizes the vulnerability of displaced populations regarding housing stability (Alabbad and Demir, 2022).

The lack of durable shelter compromises the physical safety of displaced individuals and affects their mental well-being. Research by Ager and Strang (2008) indicates that stable housing is a fundamental component of a person's sense of security and identity. For many flood-displaced persons, the experience of living in inadequate shelter can lead to increased stress and anxiety. One participant articulated this struggle: *"Every time it rains, I worry that my tent will collapse, and my family will get wet. We have no place to go."* Such experiences align with findings from the Internal Displacement Monitoring Centre (IDMC), which reported that inadequate shelter increases the risk of further displacement and exacerbates the hardships faced by affected communities (IDMC, 2020).

Moreover, the issue of overcrowding emerged as a significant concern. Many displaced individuals found themselves living in congested conditions where multiple families shared small spaces. This situation not only leads to privacy issues but also strains relationships among residents. One respondent explained, *"We try to help each other, but there isn't enough space. Sometimes, it leads to arguments."* This observation

aligns with the work of Cantor et al. (2021), who noted that overcrowding can contribute to social tensions, especially in situations where resources are limited.

The findings also highlight a gap in support services aimed at addressing housing needs. Many respondents expressed disappointment in the limited assistance received from governmental and non-governmental organizations. A participant mentioned, *"We received some relief materials, but no one has come to help us with proper housing. We need a place to call home."* This observation echoes previous studies that have criticized the inadequacy of responses to displacement crises, emphasizing the need for comprehensive policies that prioritize durable housing solutions (Mastrorillo et al., 2016).

Livelihood Insecurity

Livelihood insecurity emerged as a significant challenge for individuals displaced by flooding in Nigeria. Many respondents indicated that the sudden loss of their homes and community infrastructure severely impacted their ability to secure a stable income. One participant, a 42-year-old male, lamented, *"Before the flood, I had a small farm and sold my produce in the local market. Now, without a home and land, I can't provide for my family."* This sentiment reflects a broader trend identified in research by Ager and Strang (2008), who noted that displacement often disrupts not only housing but also livelihoods, leading to increased vulnerability among displaced populations.

The internal displacement of communities due to flooding often results in a loss of agricultural land, which is crucial for food security and income generation in rural Nigeria (Echendu, 2022). According to the Internal Displacement Monitoring Centre (2020), over 1.8 million individuals were displaced due to flooding in Nigeria, which disrupted traditional farming practices. Many displaced individuals resorted to temporary labor or informal employment, further exacerbating their livelihood insecurity. A 30-year-old woman shared her experience: *"I have taken up odd jobs, but they are not reliable. Some days, I can earn enough to buy food; other days, I go hungry."* Such statements highlight the precarious nature of informal employment for displaced individuals, reinforcing the findings of Nabulsi et al. (2020), who pointed out that the loss of stable livelihoods forces displaced populations into uncertain economic situations.

The research findings also revealed that limited access to financial resources hindered the ability of displaced individuals to start new businesses or invest in skills development. As noted by El-Zoghbi et al. (2017), financial insecurity is a common challenge faced by displaced persons, contributing to prolonged poverty and dependency on humanitarian assistance. A respondent explained, *"We don't have the money to start over. Even if we wanted to open a small shop, there's no capital."* This underscores the need for targeted interventions that address both immediate and long-term livelihood needs of displaced populations.

Additionally, the findings suggest that social networks play a crucial role in mitigating livelihood insecurity. While many displaced individuals struggled independently, those with stronger community ties reported better access to support and resources (Bletscher and Spiers, 2023). One participant noted, *"My neighbors have helped me find small jobs and shared food when I had nothing."* This illustrates the importance of community cohesion in rebuilding livelihoods, a point supported by Zetter et al. (2014), who emphasize the role of social capital in enhancing resilience among displaced individuals. Overall, addressing livelihood insecurity is essential for facilitating the recovery and integration of flood-displaced individuals in Nigeria, highlighting the necessity for comprehensive strategies that encompass economic support and community rebuilding efforts.

Social Marginalization and Exclusion

Social marginalization and exclusion were prominent themes in the experiences of flood-displaced individuals in Nigeria. Displaced persons frequently reported feeling isolated and excluded from their new host communities (Verme and Schuettler, 2021). One respondent, a 38-year-old woman, explained, *"We are not fully accepted here. People don't treat us like we belong, and it makes starting over even harder."* This sentiment is consistent with findings from previous research, which suggests that displaced populations often face social barriers that prevent them from integrating into host communities, leading to further marginalization (Wang et al., 2020).

The disruption caused by displacement can sever important social ties, leading to a sense of alienation and exclusion from former support networks (Ogunmodimu, 2020). Many respondents noted that their displacement fractured the strong community bonds they had in their original locations. As one 45-year-old

male respondent stated, *“Back in my village, everyone knew each other, and we helped each other. Here, we are just strangers.”*

Additionally, displaced persons in Nigeria reported experiencing stigma and discrimination, further complicating their integration into new environments (Ekezie, 2022). Several participants highlighted incidents where they were treated differently or unfairly in their new communities due to their status as displaced persons. For example, a 29-year-old male respondent shared, *“The locals see us as outsiders who are here to take from them. It’s hard to find work or even get help because they don’t trust us.”* This aligns with findings from Crisp (2010), who noted that displaced populations frequently encounter prejudice and mistrust in host communities, which contributes to their marginalization and exclusion from social and economic activities.

Furthermore, the study revealed that institutional structures often exacerbate the exclusion of displaced persons. Several respondents reported difficulties in accessing government services, such as healthcare and education, due to their displacement status. As one participant mentioned, *“We don’t have the proper documents here, so we can’t get the same help others do.”* This mirrors the observations made by Fielden in 2008, who found that displaced individuals often face administrative barriers that limit their access to essential services, further entrenching their exclusion.

Community Resilience and Support Mechanisms

The findings reveal a notable degree of community resilience among the displaced populations, stemming largely from their ability to mobilize existing social networks and support systems. Many interviewees highlighted the crucial role of local organizations and community leaders in facilitating recovery and rebuilding efforts. For instance, one participant remarked, *“Our community leaders have been instrumental in organizing resources and providing support. Without them, many of us would have struggled to cope with the aftermath of the floods.”* This perspective aligns with existing literature that emphasizes the importance of social capital in enhancing community resilience (Aldrich, 2012).

Research indicates that communities often rely on informal networks to navigate crises, drawing on shared resources and collective knowledge (Horak and Suseno, 2023). The displaced individuals interviewed frequently described how these networks fostered cooperation and mutual aid, allowing them to adapt to new living conditions. As one respondent expressed, *“We have always helped each other. Sharing food, providing shelter—these are things we do naturally.”* This sentiment echoes findings from previous studies, which suggest that community solidarity is vital for effective recovery from displacement (Pittore, 2018).

Furthermore, the analysis identifies the role of faith-based organizations as pivotal in providing not only material assistance but also emotional support. Many participants reported receiving aid from religious groups, stating that these organizations often mobilized resources quickly and efficiently. One respondent stated, *“The church was there for us when we lost everything. They provided food, clothing, and even counseling.”* This illustrates the intersection of community resilience and institutional support, which can significantly enhance coping mechanisms during times of crisis (Nawyn, 2017).

However, while community resilience is evident, challenges remain in ensuring that all displaced individuals benefit from available support mechanisms. A common concern expressed by interviewees was the unequal distribution of resources, which often left the most vulnerable members—such as women and children—without adequate assistance (Mendis et al., 2023). As one participant noted, *“Not everyone gets help. It often goes to those who are more vocal or have connections.”* This observation highlights the complexities of community dynamics and the need for inclusive approaches to support that consider the unique vulnerabilities of different groups.

Moreover, the data suggests that community resilience is not solely a function of existing support mechanisms; it is also influenced by the external environment, including governmental policies and interventions. Participants voiced the need for more proactive government involvement in disaster preparedness and response strategies. One individual asserted, *“We need the government to listen to us and help us plan for the future. We can’t always rely on ourselves.”* This calls attention to the critical interplay between local resilience and institutional frameworks in fostering sustainable recovery.

Psychosocial Well-Being and Identity Preservation

Psychosocial well-being and identity preservation emerged as critical dimensions in the experiences of flood-displaced individuals in Nigeria (Oluka et al., 2022). The analysis revealed that many respondents articulated a profound sense of loss, both in terms of their material possessions and their social identities. *One participant remarked, "When we lost our home, we lost who we were. Our community was everything to us, and now we feel like strangers in our own land."* This sentiment echoes the findings of Bourdieu (1986), who posits that social capital, tied to one's community and environment, significantly influences identity formation and self-esteem. The disruption of these connections due to displacement affects individuals' psychological health and their social status within their new contexts.

Many flood-displaced individuals reported experiencing heightened levels of anxiety and depression. A study by Kirmayer et al., (2011) highlights that such mental health issues are common among displaced populations, often exacerbated by the instability of their new living conditions. Participants shared experiences of sleepless nights, nightmares about flooding, and an overarching feeling of hopelessness. One respondent stated, *"Every time it rains, my heart races. I can't sleep, fearing that it might happen again."* Such responses align with the broader literature that emphasizes the psychological trauma associated with displacement and the lingering fear of recurring disasters (Sönmez and Hocaoglu, 2023).

The struggle to maintain a sense of identity amid such displacement was further compounded by social marginalization. Displaced individuals often felt that they were viewed as outsiders in their host communities, undermining their efforts to rebuild their lives. As articulated by one respondent, *"We are here, but we feel invisible. It's hard to connect with people who don't understand our pain."* This feeling of alienation can lead to a decrease in community engagement and support, crucial for psychological recovery (Aldrich, 2012). Studies indicate that when individuals perceive themselves as disconnected from their new community, they are less likely to seek or receive support, ultimately hindering their psychosocial well-being (Horak and Suseno, 2023).

Preserving identity amid such adversities involved tangible actions taken by individuals and communities. Many respondents highlighted the importance of cultural practices and community gatherings in fostering a sense of belonging. One participant reflected, *"We still hold our festivals and ceremonies, even if we are displaced. It's what keeps our spirits alive."* This resilience in maintaining cultural ties supports the notion that collective identity plays a crucial role in healing and recovery (Pittore, 2018).

Conclusion and Recommendations

In conclusion, the interplay between flood-induced displacement and social cohesion in Nigeria reveals complex dynamics marked by challenges and resilience. The findings underscore the multifaceted struggles faced by displaced individuals, including housing insecurity, livelihood instability, social marginalization, and the deterioration of psychosocial well-being. However, amidst these adversities, the capacity for community resilience and support mechanisms has emerged as a significant factor in mitigating the impacts of displacement. By fostering social networks and shared identity, affected communities have demonstrated their ability to cope with and adapt to the disruptions caused by flooding.

To enhance the well-being of displaced populations and promote social cohesion, several recommendations arise from this study. First, it is crucial for policymakers to prioritize the development of comprehensive housing solutions that not only address immediate shelter needs but also consider long-term sustainability and integration into host communities. Additionally, targeted livelihood programs that provide training and resources can empower displaced individuals to regain economic stability, thereby reducing vulnerability to future shocks.

Moreover, initiatives that promote social inclusion and community engagement should be emphasized to counteract marginalization and enhance cohesion. Mental health support services tailored to the unique experiences of displaced individuals are also essential, as they can address psychosocial challenges and foster a sense of identity. Finally, collaboration between government agencies, non-governmental organizations, and local communities is vital to creating a coordinated response that addresses the complex needs of displaced persons while strengthening the social fabric of affected areas. Implementing these recommendations can contribute to building a more resilient and cohesive society in the face of ongoing environmental challenges.

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Geospatial Assessment of Urban Expansion and Land Surface Temperature Using Google Earth Engine in Owo, Ondo State, Nigeria

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Abstract

Urban expansion and rising land surface temperatures (LST) had emerged as critical environmental challenges in rapidly developing areas such as Owo, Ondo State, Nigeria. These changes contributed to the Urban Heat Island (UHI) effect, increased energy consumption, and heightened public health risks. While previous research had primarily focused on major urban centers using ground-based observations and traditional GIS methods with limited spatial and temporal resolution, such approaches often lacked the capacity to capture fine-scale urban growth dynamics and their influence on thermal patterns particularly in mid-sized, fast-growing towns like Owo. This study analyzed the spatio-temporal patterns of urban expansion and LST in Owo between 2000 and 2024 by leveraging Google Earth Engine (GEE) and multi-temporal remote sensing datasets. Landsat imagery was employed to classify land use/land cover (LULC) changes, while LST was estimated from the thermal infrared bands of the Landsat series. The Cellular Automata-Markov (CA-Markov) model was utilized to predict future urban expansion, and a Random Forest regression model was implemented to forecast LST trends up to the year 2040. Furthermore, spatio-temporal trend analyses and correlation techniques were applied to evaluate the relationship between urban expansion and LST variations. Through the integration of cloud-based geospatial processing, predictive modeling, and a localized focus, this study offered a computationally efficient and scalable approach compared to traditional methodologies. The findings quantified the influence of impervious surface expansion on LST, forecasted future urban- climate interactions, and generated evidence-based insights to support urban planning, climate resilience strategies, and sustainable land management policies. The research also established a methodological framework for urban thermal studies in developing regions, bridging the gap between large-scale assessments and local-scale planning needs.

Keywords: Urban expansion, land surface temperature, Google Earth Engine, Spatio- Temporal Analysis, Remote Sensing, Owo

Introduction

Urbanisation is a defining phenomenon of the 21st century, reshaping not only the physical landscapes of cities but also the socio-economic fabric of societies across the globe. According to the United Nations, the urban population is projected to reach 68% of the global total by 2050, a significant increase from the 55% recorded in 2018 (*United Nations, 2018*). This rapid shift towards urban living presents a multitude of challenges, including increased demand for housing, transportation, infrastructure, and services, as well as heightened pressure on natural ecosystems and resources. Among these challenges, the alteration of local climatic conditions, particularly through the phenomenon known as Urban Heat Islands (UHIs), has emerged as a critical issue that requires urgent attention from researchers, urban planners, and policymakers alike.

Urban Heat Islands refer to urban areas that experience significantly higher temperatures than their rural counterparts, primarily due to human activities and changes in land cover (Oke, 1982). The UHI effect is primarily a product of the urbanisation process itself, characterized by the replacement of natural landscapes such as forests, grasslands, and wetlands with impervious surfaces like asphalt, concrete, and buildings. These materials have unique thermal properties that allow them to absorb and retain heat more effectively than natural surfaces, urban areas often have limited vegetation, which plays an essential role in cooling the environment through the processes of shade and evapotranspiration. This combination of factors leads to a marked increase in local temperatures, which can have significant implications for public health, energy consumption, and overall urban livability.

Understanding the relationship between urban expansion and Land Surface Temperature (LST) is crucial for developing effective climate adaptation strategies. As cities continue to grow, the impacts of UHI become increasingly pronounced, resulting in higher energy demands for cooling and increased greenhouse gas emissions, elevated temperatures are linked to adverse health outcomes, such as heat-related illnesses and respiratory conditions exacerbated by poor air quality. Consequently, it becomes imperative to undertake a comprehensive assessment of urban expansion and its impact on LST to inform sustainable urban planning practices.

Urban expansion is a multifaceted process driven by a variety of factors, including population growth, economic development, and migration patterns. As urban areas expand, they often encroach upon surrounding rural landscapes, leading to significant land use changes. Research has demonstrated that urban sprawl can result in an increased extent of impervious surfaces, which in turn contributes to elevated LST and other forms of environmental degradation (Zhang et al., 2016). The conversion of agricultural and forested lands into urban environments not only disrupts local ecosystems but also intensifies issues such as storm water runoff, flooding, and the depletion of natural resources.

The environmental consequences of urban expansion are particularly pronounced in developing countries, where rapid urbanisation often occurs without adequate planning or infrastructure. In these contexts, informal settlements frequently emerge, characterized by inadequate access to essential services such as clean water, sanitation, and health care. These informal settlements can expose residents to significant health risks associated with elevated temperatures and poor living conditions. Moreover, the socio-economic disparities exacerbated by urban growth can lead to inequitable access to resources, thereby disproportionately impacting vulnerable populations, including low-income households and marginalized communities.

Urbanisation also alters the natural hydrological cycle, leading to increased surface runoff and a greater risk of flooding. The loss of vegetation and soil permeable surfaces reduces the land's ability to absorb rainfall, contributing to more severe and frequent flooding events. This not only poses a risk to infrastructure but also threatens the quality of water resources, as pollutants from urban areas are washed into rivers and lakes, degrading aquatic ecosystems. Thus, understanding the dynamics of urban expansion is critical not only for addressing climate-related challenges but also for ensuring the sustainability of urban environments.

Land Surface Temperature serves as a key indicator of climate change and urban heat dynamics, reflecting the energy balance of the Earth's surface. It is influenced by various factors, including solar radiation, land cover, and surface characteristics. Urban areas typically exhibit significantly higher LST compared to their rural counterparts, primarily due to the urban heat island effect. Research has shown that UHI intensity can vary substantially based on factors such as urban morphology, land use patterns, and local climatic conditions (Li et al., 2019).

The implications of elevated LST in urban areas extend beyond mere discomfort; they can have far reaching consequences for public health, energy consumption, and environmental quality. As temperatures rise, the demand for cooling energy increases, leading to higher electricity consumption and greater strain on power grids. This situation is particularly concerning during heat waves, when energy demand peaks and can result in power outages. Understanding the spatial distribution of LST within urban environments is essential for identifying UHI hotspots and developing targeted mitigation strategies. Effective urban planning that incorporates green spaces, reflective materials, and energy-efficient building designs can help alleviate the impacts of UHI and promote a healthier urban climate. Furthermore, monitoring LST trends over time can provide valuable insights into the effectiveness of these interventions, ensuring that urban environments remain livable and resilient in the face of ongoing climate change.

The integration of remote sensing and GIS has also enhanced our ability to conduct change detection analyses, allowing for the identification of critical trends in land use and temperature over time. This information is invaluable for urban planners and policymakers who must make informed decisions about land management, infrastructure development, and climate adaptation strategies. By leveraging these technologies, the proposed research aims to contribute to the existing body of knowledge on urban heat dynamics and provide actionable recommendations for fostering sustainable urban development.

Methods

Study Area

Owo, a prominent town in Ondo State, southwestern Nigeria, was selected as the study area due to its rapid urban transformation and strategic socio-economic importance. Geographically, it lies between latitude 7°12'N and 7°25'N and longitude 5°30'E and 5°45'E, covering an estimated area of 636 square kilometers. As of the most recent estimates by the National Population Commission (2021), Owo is home to over 250,000 inhabitants, making it one of the most densely populated towns in the state.

Owo's location along the Akure to Benin Expressway has accelerated its urbanization through increased accessibility, commercial activities, and rural-to-urban migration. Once a dominantly agrarian settlement, the

town has evolved into a semi-urban center, characterized by expanding residential quarters, commercial establishments, and emerging industrial layouts. This urban growth has resulted in significant changes in land use/land cover (LULC), notably the conversion of vegetated and agricultural lands into impervious surfaces, such as rooftops, roads, and paved areas thereby influencing local climate variables, including Land Surface Temperature (LST).

Climatically, Owo experiences a tropical climate typical of southwestern Nigeria, with a bimodal rainfall pattern. The wet season extends from April to October, bringing substantial precipitation that supports agriculture, while the dry season, from November to March, is marked by high temperatures, low humidity, and increased evapotranspiration. Mean annual temperatures range between 24°C and 33°C, with humidity levels often exceeding 80% during the peak wet months. The natural vegetation of the area originally comprised a mosaic of tropical rainforest and derived savanna, but decades of deforestation, slash-and-burn agriculture, and urban encroachment have led to notable ecological degradation. Much of the forest cover has been lost to urban housing developments, leading to an increase in bare surfaces and a corresponding rise in surface temperature values.

Owo's topography is characterized by gently undulating hills and low-lying plains, which have historically supported cash crop production such as cocoa, cassava, and yam. However, the continued expansion of impervious surfaces, informal settlements, and poorly regulated urban infrastructure has heightened concerns about environmental degradation, stormwater runoff, and urban heat concentration.

In recent years, Owo has exhibited symptoms of the Urban Heat Island (UHI) effect, largely due to the increasing proportion of built-up land and the reduction of vegetative cover. This study area thus provides an ideal case for assessing the interplay between urban expansion, vegetation loss, and LST variability using remote sensing and geospatial analysis.

By focusing on Owo, this study aimed to quantify land use transitions over a 24-year period (2000–2024), analyze spatial trends in surface temperature, and evaluate how anthropogenic changes influence the urban thermal environment. The insights derived are expected to support evidence-based policy recommendations for sustainable urban development, land management, and climate adaptation strategies within Owo and similar fast-growing towns in Nigeria.

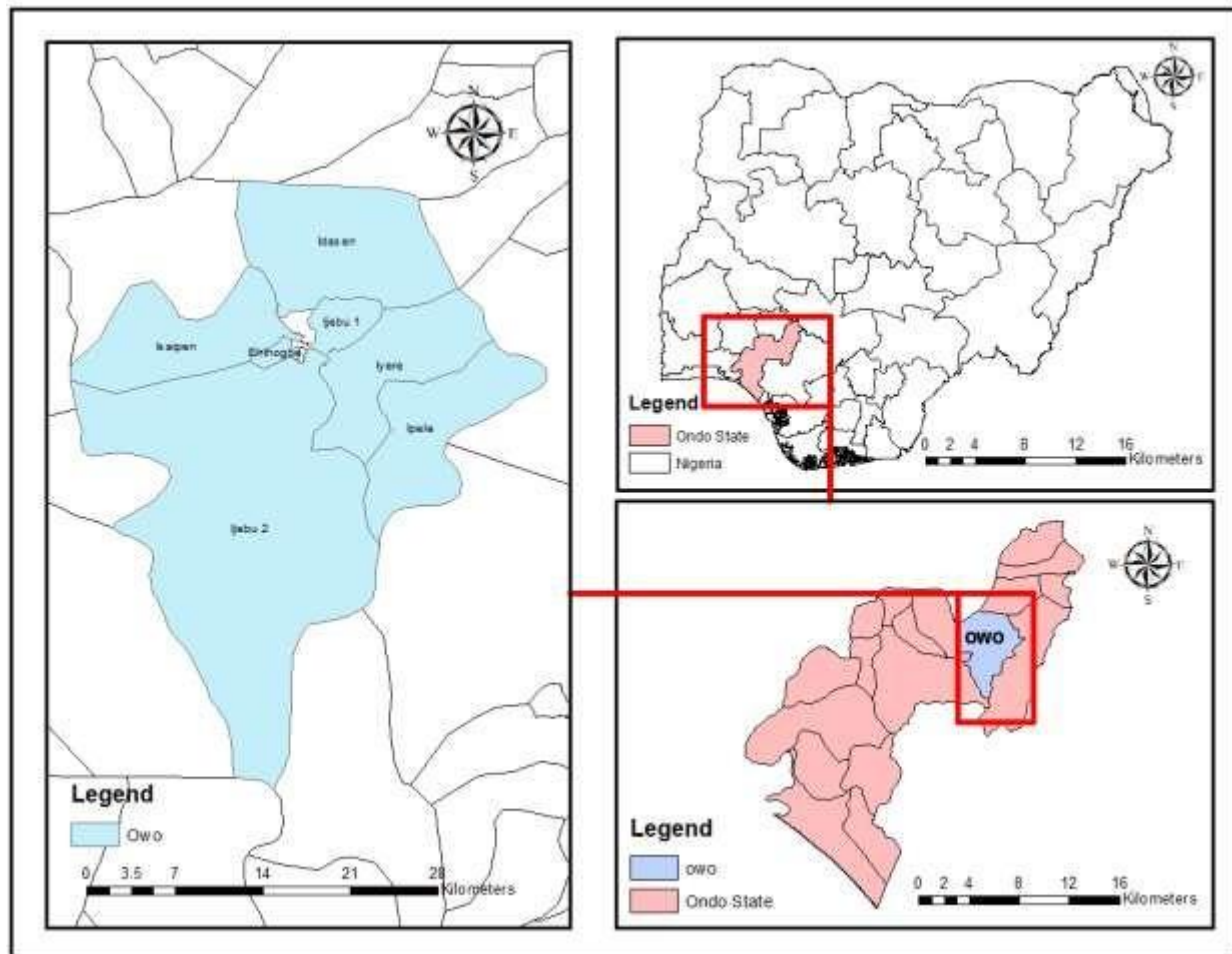


Figure 1: Map showing Ondo State in Nigeria and Owo in Ondo State

Data Sources

This study employed multi-temporal satellite datasets and geospatial tools to assess land use/land cover (LULC) change and its influence on land surface temperature (LST) in Owo, Ondo State, Nigeria. Remotely sensed imagery and derived indices were accessed via the Google Earth Engine (GEE) platform, which enabled cloud-based retrieval, processing, and analysis of large-scale earth observation data.

The primary datasets used include:

Landsat imagery from Landsat 5 TM, Landsat 7 ETM+, and Landsat 8/9 OLI/TIRS for the years 2000, 2008, 2016, and 2024. These images were selected based on low cloud cover and high scene quality during the dry season.

Normalized Difference Vegetation Index (NDVI) and Normalized Difference Built-up Index (NDBI) were computed to assess vegetation health and urban expansion, respectively.

Land Surface Temperature (LST) was derived using the thermal infrared bands of the Landsat sensors, applying the single-channel algorithm with corrections for surface emissivity based on NDVI thresholds. Administrative boundaries for Owo were sourced from national geospatial data repositories for spatial referencing.

Dataset	Source	Resolution	Temporal Coverage	Purpose
Landsat 5 TM / Landsat 7 ETM+	USGS via GEE	30 m	2000, 2008	LULC, NDVI, NDBI, LST computation LULC, NDVI, NDBI, LST computation
Landsat 8/9 OLI/TIRS	USGS via GEE	30 m	2016, 2024	LULC, NDVI, NDBI, LST computation
NDVI & NDBI	Derived from Landsat bands	30 m	2000–2024	Vegetation and built-up analysis
Administrative Boundary for Owo	National Geoportal	Vector (Polygon)	Static	Spatial reference and masking

Tools and Software

The analysis integrated a suite of geospatial and statistical tools:

Google Earth Engine (GEE): For image selection, cloud masking, LST computation, and index derivation.

ArcGIS 10.x and QGIS: Used for spatial visualization, change detection mapping, and preparation of cartographic outputs.

Microsoft Excel: Employed for statistical computations, correlation analyses, and graphical representations. Image Preprocessing.

To ensure data consistency and analytical accuracy, the following preprocessing steps were applied:

Cloud Masking: Implemented using the QA_PIXEL band (Landsat Collection 2) and FMask algorithm to eliminate cloud and shadow contamination.

Radiometric and Atmospheric Correction: Applied using GEE's standard processing for converting digital numbers to surface reflectance and thermal bands to LST in degrees Celsius.

Temporal Harmonization: All images were acquired during the dry season (January to April) to minimize seasonal bias and ensure comparability across years.

Geometric Corrections: All imagery was reprojected to EPSG:4326 (WGS 84) and clipped to the boundary of Owo for localized analysis.

Land Cover Classification and Change Detection

Supervised classification was performed using either the Random Forest (RF) or Support Vector Machine (SVM) algorithm, depending on model performance. Classified maps were validated using confusion matrices and accuracy metrics (overall accuracy, user's accuracy, producer's accuracy, and Kappa coefficient). Land cover transitions were analyzed through post-classification comparison. Urban sprawl intensity was further assessed using the entropy model.

Land Surface Temperature (LST) Extraction and Analysis

Land Surface Temperature (LST) was extracted from thermal infrared bands of Landsat imagery using the single-channel algorithm, following the specifications of each Landsat sensor. Radiometric calibration was applied using sensor-specific multiplicative and additive rescaling factors. LST values in Kelvin were subsequently converted to Celsius by subtracting 273.15.

To enhance accuracy, atmospheric and emissivity corrections were incorporated. Surface emissivity was estimated using the NDVI threshold method, allowing for differentiation between vegetated and non-vegetated surfaces. The derived NDVI values informed pixel-level emissivity adjustments, ensuring more accurate surface temperature calculations.

In order to reduce seasonal variability and ensure temporal comparability across the four time points (2000, 2008, 2016, and 2024), all images were selected from the dry season months (January to April). This

seasonal harmonization minimized atmospheric moisture effects and maintained consistency in land surface conditions during LST extraction.

Temporal dynamics of LST, NDVI and NDBI

To examine the temporal dynamics of Land Surface Temperature (LST), Normalized Difference Vegetation Index (NDVI), and Normalized Difference Built-up Index (NDBI) in Owo between 2000 and 2024, a time series analysis was performed using the Google Earth Engine (GEE) platform. Landsat imagery from multiple sensors (Landsat 5 TM, Landsat 7 ETM+, Landsat 8 OLI/TIRS, and Landsat 9) was accessed and filtered annually based on low cloud cover criteria.

For each year, cloud-free images were composited to generate an annual mean using the mean () reducer. NDVI and NDBI were computed using standard spectral band combinations, with NDVI derived from the near-infrared (NIR) and red bands, and NDBI from the shortwave infrared (SWIR) and NIR bands. LST was extracted from thermal infrared bands using the single-channel algorithm, incorporating a sensor-specific scaling factor and a calibrated emissivity correction.

Each annual composite image was clipped to the Owo boundary and averaged spatially to obtain a representative value per year. These values were visualized using `ui.Chart.image.series`, which plotted the yearly trend of each variable across the 25-year period. While no formal statistical test like the Mann–Kendall was applied, linear trendlines were visually fitted to evaluate the direction and consistency of change over time. The analysis provided insights into how urban expansion, vegetation decline, and rising surface temperatures have evolved in tandem in Owo, reflecting broader patterns of land use transformation and environmental stress.

Statistical and Spatial Analysis

To understand how urban growth and vegetation changes relate to land surface temperature (LST), simple statistical techniques were applied. Pearson correlation was used to examine the relationship between NDBI (built-up index), and LST. This helped to determine whether areas whether built-up areas were hotter.

Forecasting Future Urban Expansion and LST (2032)

Future projections of land use and LST were modeled using the Cellular Automata-Markov Chain (CA-Markov) model and Machine Learning algorithms (Random Forest and XGBoost). Scenario analysis was conducted under business-as-usual and climate-aware assumptions. Model validation was achieved using statistical metrics such as Root Mean Square Error (RMSE), Kappa statistics, and accuracy plots

Results and Discussion

Spatio-Temporal Analysis

Land Use Land Cover (Lulc) Changes in Owo (2000–2024)

A spatio-temporal analysis of land use and land cover (LULC) changes in Owo, Ondo State, was conducted for the years 2000, 2008, 2016, and 2024 using supervised classification of Landsat imagery. The classified maps identified four dominant land cover types: Built-up, Vegetation, Bareland, and Waterbody. Table 5 summarizes the area coverage and percentage composition of each class across the four reference years, while Figure 2 (LULC maps) illustrates the spatial distribution and evolution of these land covers.

In the year 2000, vegetation was the dominant land cover in Owo, covering approximately 65,547.95 hectares, which accounted for 63.08% of the total land area. This reflects the town's largely agrarian nature, with expansive forested and cultivated zones. Bareland occupied 26,790.00 ha (25.78%), likely consisting of open fields and undeveloped lands. Built-up areas covered 8,225.95 ha (7.92%), concentrated around the urban core and major roads, while waterbodies made up 3,346.81 ha (3.22%) of the landscape, including streams, ponds, and wetlands.

By 2008, substantial transformations had occurred. Bareland surged to 54,059.67 ha (52.03%), becoming the most extensive land cover type. This spike suggests widespread land clearance for agriculture, infrastructure, or future development. Vegetation reduced dramatically to 38,593.82 ha (37.14%), reflecting deforestation and land conversion. Built-up areas expanded to 9,557.93 ha (9.20%), driven by increasing population and urban sprawl. Waterbody area declined significantly to 1,699.29 ha (1.64%), potentially due to seasonal variability or encroachment.

In 2016, urban expansion continued, with built-up areas increasing to 10,924.94 ha (10.51%), extending into peri-urban zones. Vegetation recovered to some extent, covering 62,663.13 ha (60.30%), possibly due to reforestation or seasonal regrowth. However, bareland remained prominent at 29,548.12 ha (28.44%), suggesting active construction zones and land degradation. Waterbody coverage reached its lowest point at 774.52 ha (0.75%), indicating hydrological stress or data capture during a dry period.

By 2024, Owo's land cover pattern reflected intensified human influence. Built-up land rose to 14,965.94 ha (14.40%), a clear sign of continued urbanization. Vegetation decreased to 59,266.11 ha (57.04%), marking an overall decline of over 6,000 ha since 2000. Bareland slightly decreased to 26,927.59 ha (25.91%), though still substantial, likely due to ongoing site development. Interestingly, waterbody extent increased to 2,751.07 ha (2.65%), possibly due to artificial reservoirs, improved water management, or seasonal recovery.

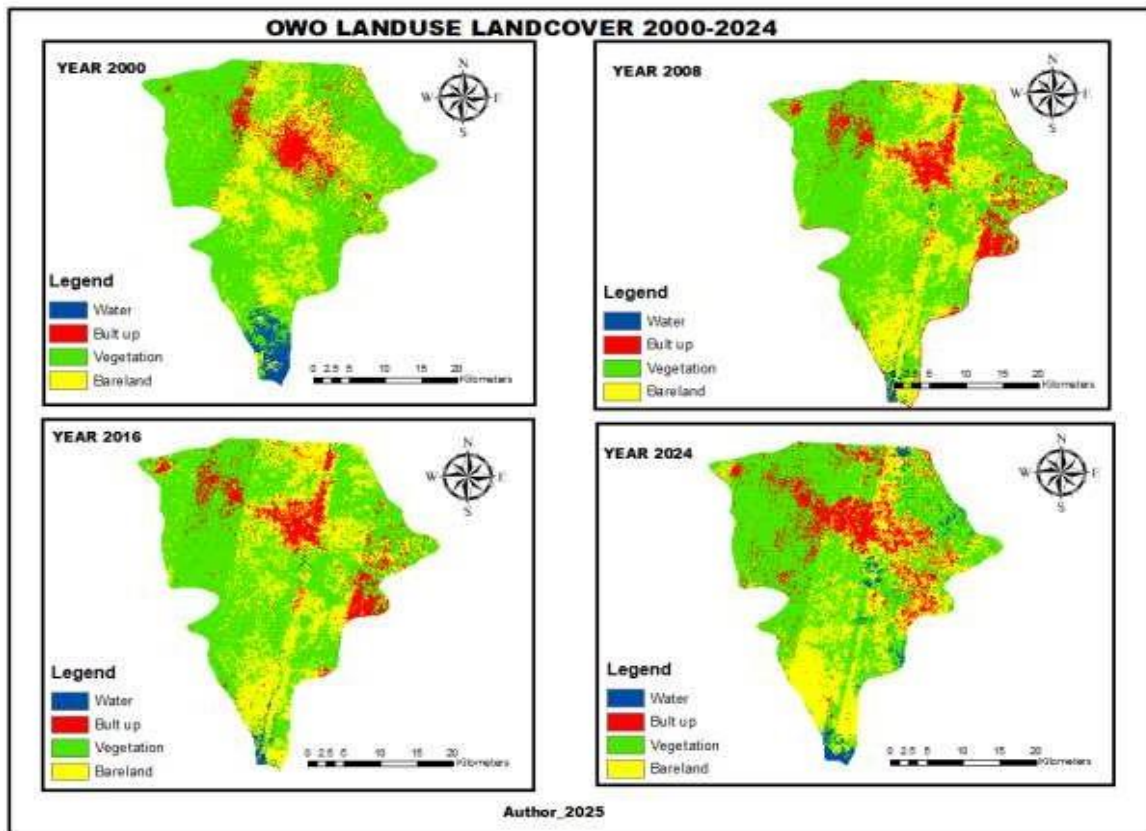


Figure 2 : Map showing the spatial distribution of Owo landuse land cover for 2000, 2008, 2016 and 2024

Accuracy Assessment of Image Classification for Owo (2000)

The 2000 land use/land cover classification was evaluated using a confusion matrix derived from reference data. The classification achieved an overall accuracy of 99.91% and a Kappa coefficient of 0.9991, indicating an almost perfect level of agreement between the classified image and the ground truth.

The confusion matrix reveals highly accurate classification across all land cover types. Water, built-up, and vegetation classes were perfectly classified, while bareland experienced only a single misclassification, where one vegetation pixel was incorrectly labeled as bareland. This minimal confusion had an insignificant impact on the overall accuracy, confirming that the classifier performed exceptionally well for the 2000 LULC map.

Table 1: Accuracy assessment of image classification for owo (2000)

	Predicted Water	Predicted Buitup	Predicted vegetation	Predicted bareland
Water	235	0	0	0
Built-up	0	276	1	0
Vegetation	0	0	296	0
Bareland	0	0	1	297

Accuracy Assessment of Image Classification for Owo (2008)

The classification achieved an overall accuracy of 99.40% and a Kappa coefficient of 0.9939, indicating a very strong agreement between the classified image and the ground truth data.

As reflected in the confusion matrix, most land cover classes were accurately mapped with minimal confusion. The built-up and vegetation classes demonstrated high classification precision, with virtually no misclassifications. A single water pixel was incorrectly classified as bareland, while bareland exhibited minor confusion—two pixels were misclassified as water and three as built-up. Overall, the classification performed exceptionally well across all classes.

Table 2: Accuracy assessment of image classification for owo (2008)

	Predicted Water	Predicted Buitup	Predicted vegetation	Predicted bareland
Water	280	0	0	0
Built-up	0	302	0	1
Vegetation	0	0	280	0
Bareland	2	3	0	289

Accuracy Assessment of Image Classification for Owo (2016)

The 2016 land use/land cover (LULC) classification for Owo was assessed using a confusion matrix generated from reference sample points. The classification achieved an overall accuracy of 99.74% and a Kappa coefficient of 0.9974, reflecting excellent agreement between the classified output and ground truth data...

Table 3: Accuracy assessment of image classification for owo (2016)

	Predicted Water	Predicted Buitup	Predicted vegetation	Predicted bareland
Water	263	0	0	0
Built-up	0	300	0	1
Vegetation	1	2	279	0
Bareland	0	0	1	264

Accuracy Assessment of Image Classification for Owo (2024)

The 2024 land use/land cover (LULC) classification for Owo was assessed using a confusion matrix generated from ground truth reference points. The classification yielded exceptionally high accuracy, with an overall accuracy of 99.90% and a Kappa coefficient of 0.9990, indicating near- perfect agreement between the classified image and validation data.

Table 4: Accuracy assessment of image classification for owo (2024)

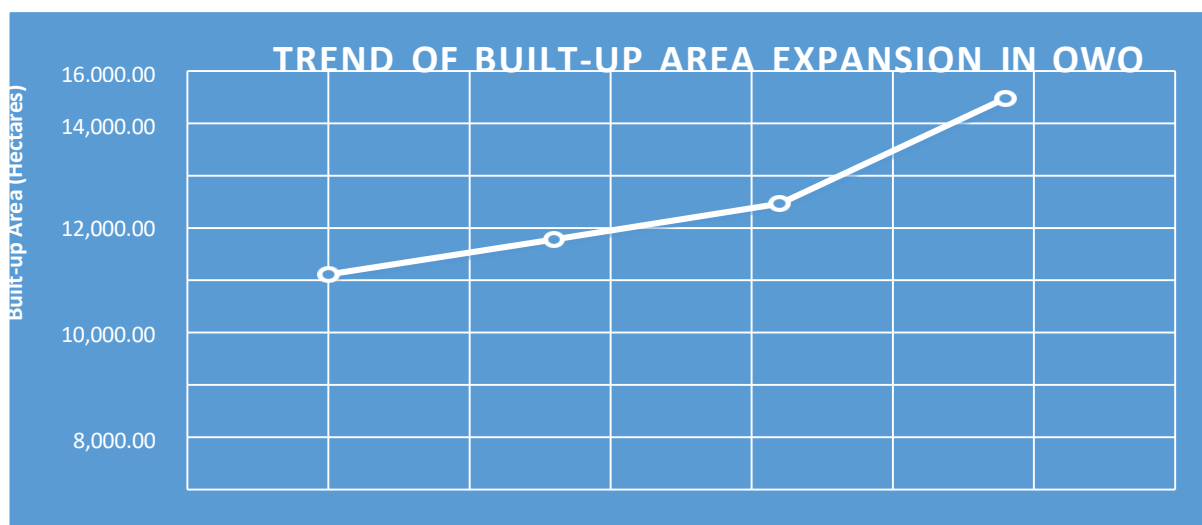
	Predicted Water	Predicted Buitup	Predicted vegetation	Predicted bareland
Water	262	0	0	0
Built-up	0	284	0	0
Vegetation	0	0	261	1
Bareland	0	0	0	235

Quantitative Summary of Changes

The area was computed by multiplying the pixel count by 900 that is, the Landsat pixel size of 30m × 30m (900 m²) and dividing by 10,000 to convert the result to hectares. The area for each class was then divided by the total area and multiplied by 100 to get its percentage:

Table 5: Owo landuse landcover Area coverage in hectares

Land Use	2000 Area (ha)	2000 (%)	2008 Area (ha)	2008 (%)	2016 Area (ha)	2016 (%)	2024 Area (ha)	2024 (%)
Waterbody	3,346.81	3.22%	1,699.29	1.64%	774.52	0.75%	2,751.07	2.65%
Built-up	8,225.95	7.92%	9,557.93	9.20%	10,924.94	10.51%%	14,965.94	14.40%
Vegetation	65,547.95	63.08%	54,059.67	52.03%	62,663.13	60.30%	59,266.11	57.04%
Bareland	26,790.00	25.78%	38,593.82	37.14%	29,548.12	28.44%	26,927.59	25.91%
TOTAL	103910.70	100%	103910.70	100%	103910.70	100%	103910.70	100%

**Figure 3:** Showing the trend line of Built up Areas Expansion in Owo

Normalized Difference Vegetation Index (Ndvi) Dynamics in Owo (2000–2024)

The Normalized Difference Vegetation Index (NDVI) is a well-established remote sensing indicator used to assess the presence and condition of live green vegetation. Derived from the differential reflectance of near-infrared and red wavelengths, NDVI values range between -1 and +1. Values approaching +1 signify dense and healthy vegetation, while lower or negative values typically indicate sparse, degraded, or non-vegetated surfaces such as built-up areas, bare land, or water bodies. This analysis examines the spatial and temporal variation of NDVI in Owo, Nigeria, over a 24-year period (2000–2024), drawing on multi-

temporal Landsat satellite imagery. The study aims to assess vegetation dynamics in relation to land use changes, urban expansion, and environmental transformation.

In 2000, NDVI values indicated a predominantly vegetated landscape, with the highest NDVI class (0.6848–0.787) covering extensive portions of the study area. These high values are consistent with land cover data, which revealed that vegetation accounted for over 63% of the total land area. Lower NDVI values (0.0807–0.374) were confined to central urban areas and select southern patches, suggesting early stages of development pressure. This pattern aligns with Owo's characterization as an agrarian town with minimal urban influence at the turn of the century.

By 2008, early signs of vegetation stress became evident. NDVI values declined significantly in the eastern and southern regions, with much of the area falling within the lower NDVI range (-0.4792 to 0.3189). This reduction points to increased urban encroachment and vegetation fragmentation. The observed changes correspond with LULC analysis, which reported a 17% decrease in vegetated land and a concurrent rise in built-up areas. These developments likely stem from population growth, expansion of road networks, and construction activities, reflecting a transition from predominantly vegetated to mixed-use landscapes.

In 2016, NDVI analysis revealed continued degradation of vegetative cover. The majority of southern and central Owo fell into the lower NDVI classes (0.0549–0.168), indicative of further vegetation loss and ecological stress. High NDVI values were restricted to smaller zones, mostly in the northwestern part of the municipality. These spatial changes align with a notable 137% increase in built-up areas compared to 2000. The proliferation of bare and transitional land cover suggests ongoing land clearing for development, urban sprawl, and infrastructural expansion.

By 2024, NDVI values portray a landscape extensively transformed by urban development. A substantial proportion of the land falls within the very low NDVI range (0.0567–0.2011), particularly in the north-central and southern sectors of Owo. High NDVI zones (0.2975–0.4403) are now limited to fragmented patches, primarily in the northeastern and peripheral regions. The LULC results corroborate this trend, showing a cumulative 186.4% increase in built-up areas and a substantial loss of vegetated land. The spatial contraction of healthy vegetation highlights the environmental cost of rapid urbanization, with implications for biodiversity, carbon sequestration, and urban microclimate regulation.

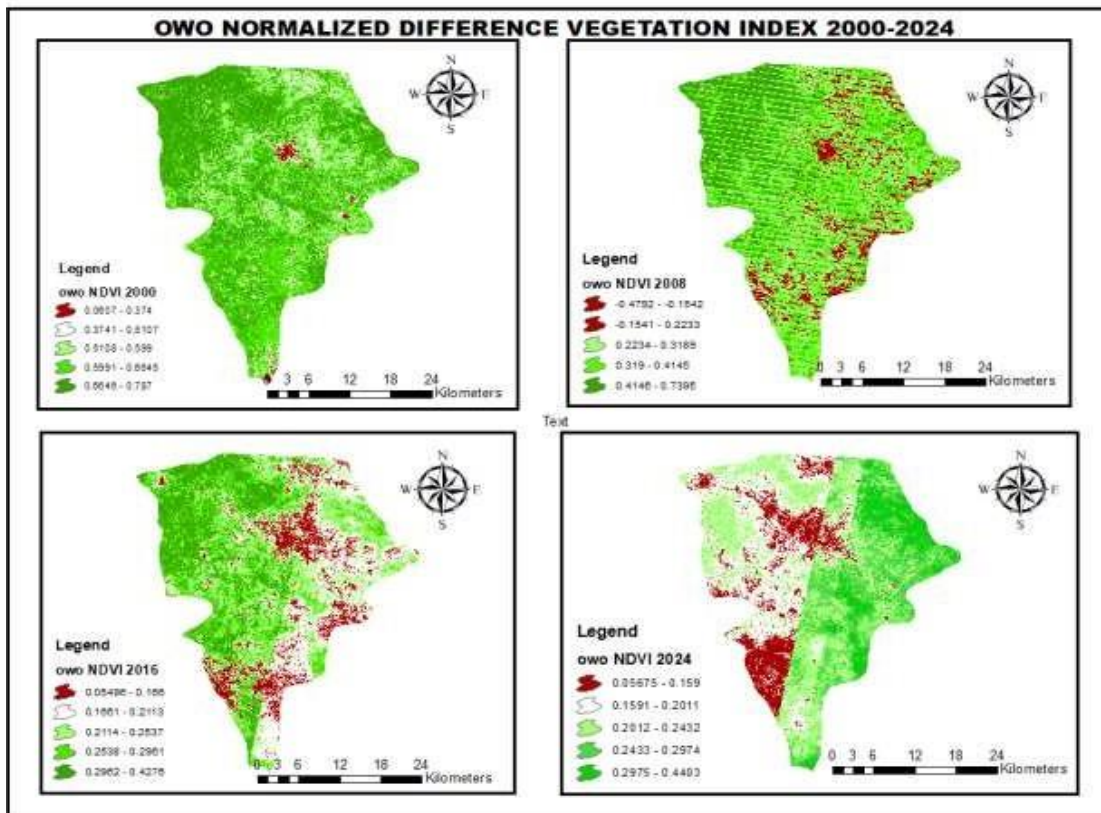


Figure 4: Map showing the spatial distribution of Owo NDVI for 2000, 2008, 2016 and 2024

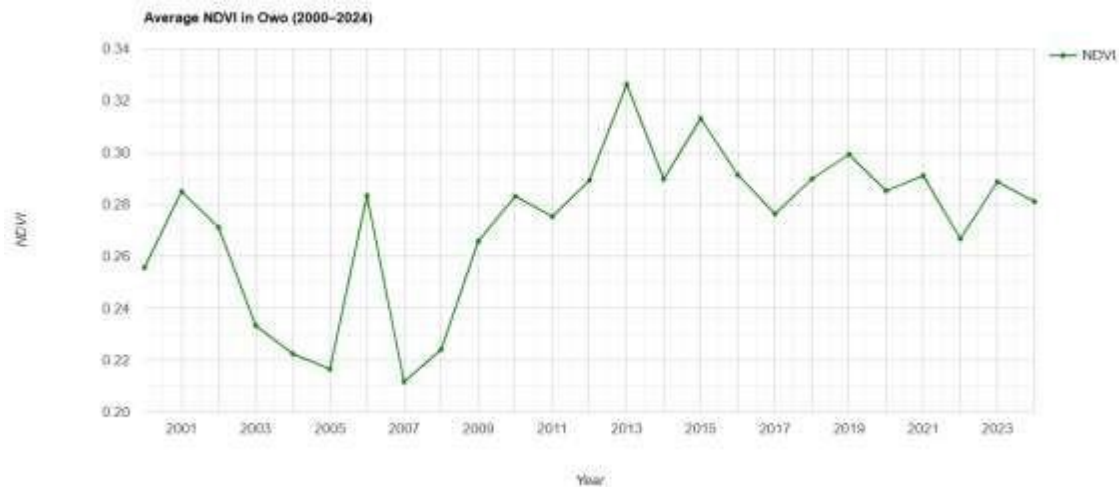


Figure 5: Chart showing Owo NDVI Time series Owo for 2000- 2024

Normalized Difference Built-Up Index (Ndbi) Dynamics In Owo (2000–2024)

The Normalized Difference Built-up Index (NDBI) serves as a valuable remote sensing indicator for assessing urban development by highlighting impervious surfaces such as buildings, roads, and other infrastructural elements. NDBI values range from negative to positive, where higher positive values indicate built-up areas, while lower or negative values typically correspond to natural land covers such as vegetation, bare soil, or water bodies. This study analyzes temporal changes in NDBI across Owo, Nigeria, using multi temporal Landsat imagery from the years 2000, 2008, 2016, and 2024, with the aim of quantifying the pace and spatial extent of urbanization.

In 2000, Owo’s landscape was largely rural and undeveloped. The majority of the study area exhibited NDBI values between -0.3807 and +0.2531, indicative of vegetated or bare surfaces. Blue and cyan tones dominated the central and southern regions, corresponding to extensive natural cover. Built-up areas were minimal and spatially limited to the town center and major transportation corridors, appearing as isolated pockets of red or orange on the map. These observations are consistent with LULC analysis, which indicated that built-up land constituted only 18.16% of the total area at the time.

By 2008, early signs of urban expansion were visible. The NDBI spectrum shifted modestly toward positive values, with a growing presence of yellow and orange zones especially in the northeastern and southeastern quadrants. These areas reflect moderate urban development and infrastructural growth. The spatial patterns align with LULC results showing a 58.4% increase in built-up areas, reflecting increased residential construction, road network expansion, and pressure on peripheral lands. Nevertheless, natural covers still occupied a substantial portion of the landscape.

The 2016 NDBI analysis reveals a more pronounced intensification of urban growth. Built-up surfaces became spatially dominant across the southern, eastern, and central regions. The NDBI range extended up to +0.5126, highlighting an increase in impervious surface materials. Rural and formerly vegetated areas were transformed into construction zones, confirming substantial land conversion. This trend corroborates NDVI data that showed declining vegetation health and supports the LULC findings of a 137% increase in urban land compared to 2000. The spatial concentration of high NDBI values indicates rapid peri-urban expansion and increased surface sealing.

By 2024, the urbanization pattern had matured. High NDBI values became more widespread, particularly in the south, east, and central-north regions of Owo. The 2024 NDBI range (-0.2659 to +0.412) showed less variability, with red and orange tones dominating, and blue regions (natural land covers) reduced to scattered patches mainly in the western and peripheral zones. This shift indicates widespread infrastructure densification and a significant reduction in ecological surfaces.

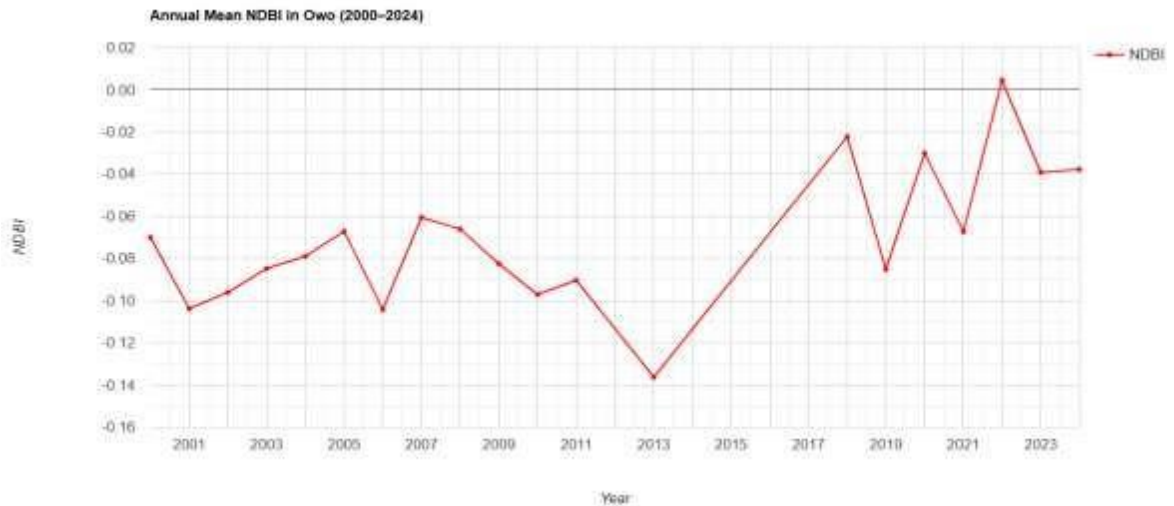


Figure 6: Chart showing Owo NDBI Time series Owo for 2000- 2024

Land Surface Temperature (Lst) Dynamics in Owo (2000–2024)

Land Surface Temperature (LST) serves as a vital indicator of the thermal state of terrestrial surfaces and is closely linked to land cover characteristics. In urban environments, impervious surfaces such as asphalt, concrete, and rooftops tend to absorb and retain more heat than vegetated areas, thereby elevating surface temperatures and contributing to the Urban Heat Island (UHI) effect. This study employed Landsat thermal infrared data to assess temporal trends and spatial patterns of LST in Owo over a 24-year period.

Table 6 summarizes the LST classification across three thermal zones Minimum, Medium, and Maximum for the years 2000, 2008, 2016, and 2024, along with their corresponding mean temperatures. In 2000, the mean LST was 32.60°C, with temperatures ranging from 24.31°C to 52.43°C. The majority of the study area was distributed across the minimum (37.45%) and medium (38.08%) thermal zones, while the highest temperature zone accounted for 24.47%, indicating a moderate urban thermal footprint at the time.

By 2008, the thermal environment improved, with the mean LST declining significantly to 28.06°C. Notably, 88.89% of the area fell within the minimum LST zone (14.99°C – 25.49°C), suggesting cooler surface conditions likely influenced by reduced surface heating and possibly seasonal image acquisition. This cooling phase corresponds with a slight increase in vegetation cover recorded in the same year, reinforcing the vegetation–temperature inverse relationship.

However, a notable thermal shift was observed in 2016. The mean LST increased to 32.19°C, and the proportion of the area classified under the maximum LST zone (36.96°C – 49.79°C) expanded dramatically to 52.91%. This upsurge reflects intensified urbanization, land clearing, and the replacement of vegetated surfaces with impervious materials, especially in the southern and eastern portions of the study area.

In 2024, the thermal landscape remained relatively elevated, with a mean LST of 32.86°C. The medium LST zone (32.35°C – 35.03°C) emerged as the dominant class, covering 46.97% of the area, while 36.11% remained under the maximum LST zone. The persistence of high LST zones, particularly in urban centers and along transportation corridors, highlights the lasting thermal impact of land cover transformation

Table 6: LST Classification and Temperature Ranges in Owo (2000–2024)

Year	Min Range (°C)	Medium Range (°C)	Max Range (°C)	Mean LST (°C)
2000	24.31 – 31.14	31.14 – 34.23	34.23 – 52.43	32.60
2008	14.99 – 25.49	25.49 – 29.20	29.20 – 41.25	28.06
2016	28.13 – 33.57	33.57 – 36.96	36.96 – 49.79	32.19
2024	27.30 – 32.35	32.35 – 35.03	35.03 – 47.42	32.86

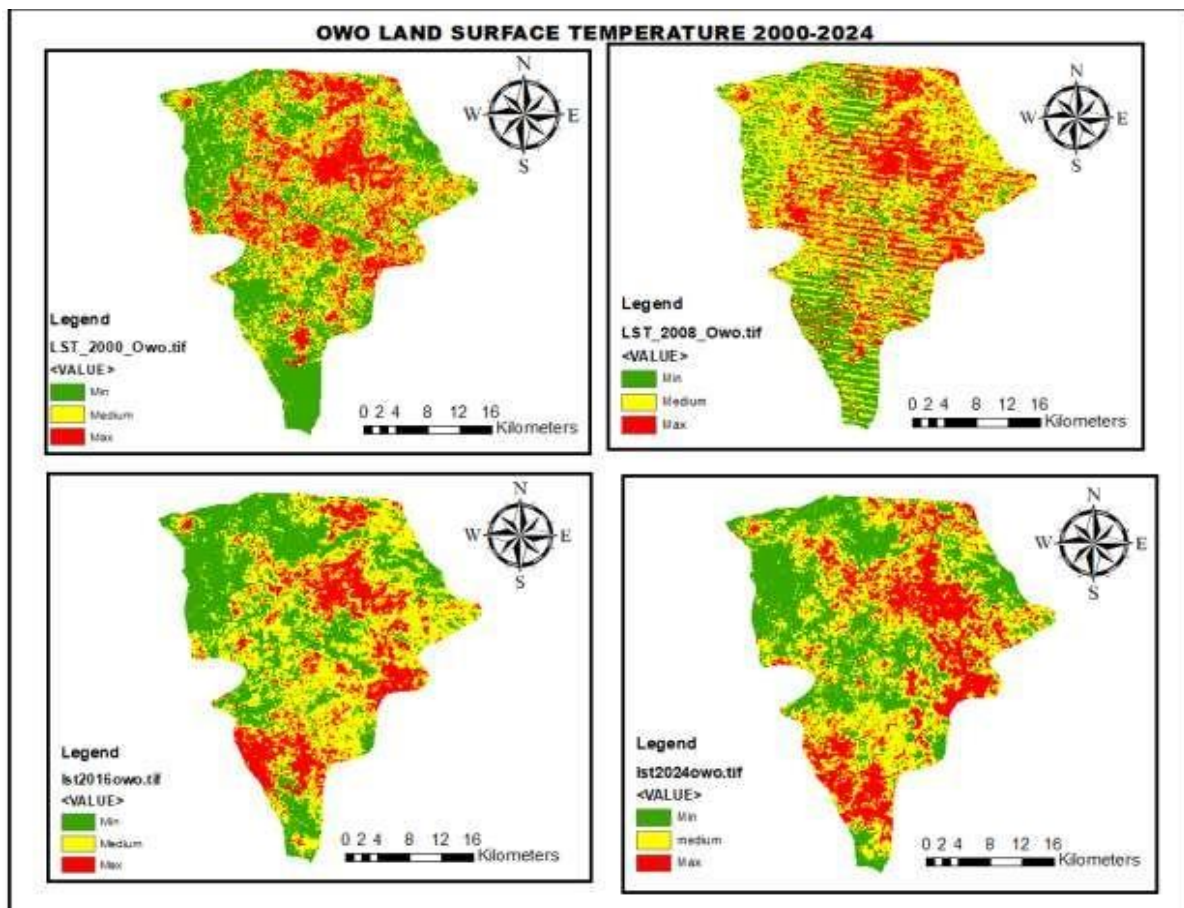


Figure 7: Maps Showing Owo land Surface Temperature(LST) for 2000, 2008, 2016 and 2024

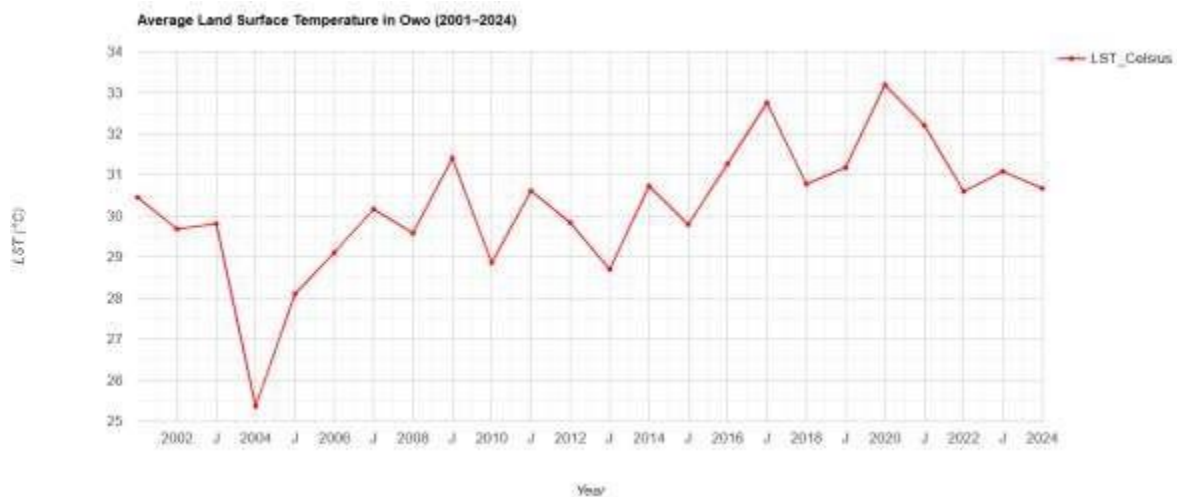


Figure 8: Chart showing Owo Land Surface Temperature(LST) Time series in Owo for 2000- 2024

Table 7: LST Zones and Area Coverage (2000)

LST Class	Area (ha)	Percentage (%)
Minimum (24.31–31.14 °C)	38,911.83	37.45%
Medium (31.14–34.23 °C)	39,569.67	38.08%
Maximum (34.23–52.43 °C)	25,429.21	24.47%
Total	103,910.71	100.00%

Table 8: LST Zones and Area Coverage (2008)

LST Class	Area (ha)	Percentage (%)
Minimum (14.99–25.49 °C)	92,364.72	88.89%
Medium (25.49–29.20 °C)	10,139.79	9.76%
Maximum (29.20–41.25 °C)	1,406.20	1.35%
Total	103,910.71	100.00%

Table 9: LST Zones and Area Coverage (2016)

LST Class	Area (ha)	Percentage (%)
Minimum (28.13 – 33.57 °C)	8,591.58	8.27%
Medium (33.57 – 36.96°C)	40,341.86	38.82%
Maximum (36.96 – 49.79 °C)	54,977.27	52.91%
Total	103,910.71	100.00%

Table10: LST Zones and Area Coverage (2024)

LST Class	Area (ha)	Percentage (%)
Minimum (27.30 – 32.35 °C)	17,579.89	16.92%
Medium (32.35 – 35.03 °C)	48,805.13	46.97%
Maximum (35.03 – 47.42 °C)	37,525.69	36.11%
Total	103,910.71	100.00%

Correlation between Land Surface Temperature (LST) and Normalized Difference Built-Up Index (NDBI)

To examine the influence of urbanization on thermal conditions in Owo, a Pearson correlation analysis was conducted between Land Surface Temperature (LST) and the Normalized Difference Built-up Index (NDBI) derived from Landsat imagery. The result yielded a correlation coefficient ($r = 0.234$), indicating a weak positive relationship between built-up intensity and surface temperature.

This positive correlation suggests that areas with higher concentrations of built-up land tend to exhibit slightly elevated LST values. Although the association is modest, it supports the general understanding that urbanization contributes to surface warming through the introduction of impervious materials, reduction of evapotranspiration, and alteration of local albedo.

However, the relatively low strength of the correlation highlights that urban development is not the sole driver of surface temperature variation in the study area. Other factors such as vegetation cover, soil moisture, topography, and surface emissivity may also play significant roles in modulating land surface heat dynamics.

These findings underscore the complexity of urban thermal environments and the necessity for integrated land management strategies that consider both the extent of built-up land and the preservation of vegetative buffers to mitigate the Urban Heat Island (UHI) effect.

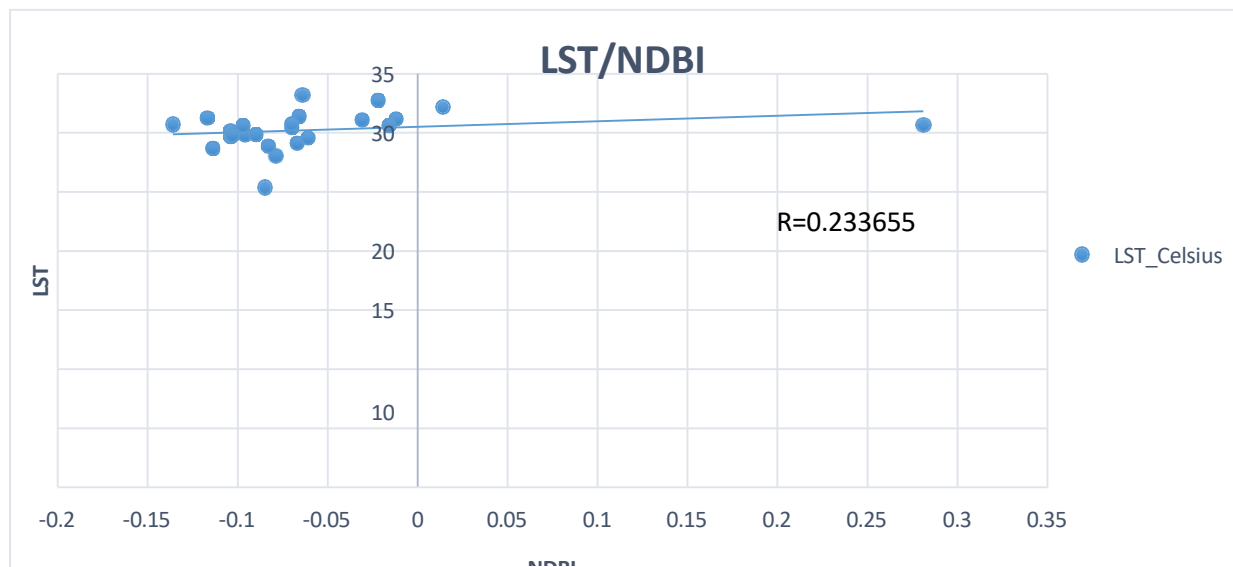


Figure 9: chart Showing the correlation Between Land surface Temperture and Normalized Difference Built Index in Owo

Forecast Future Urban Expansion

Results and Discussion: Transition Potential Modelling

In the transition potential modelling phase, a total of 8000 random samples were used to train the Artificial Neural Network (ANN) using the Multi-layer Perceptron (MLP) algorithm. This large sample size ensured comprehensive coverage of the study area, enhancing the model's capacity to detect spatial relationships and learn patterns of land use transition within Owo. The model utilized four explanatory variables: Digital Elevation Model (DEM), slope, distance to river, and distance to road, all of which are widely recognized as significant factors influencing land use dynamics in peri-urban environments.

The training process was configured with a learning rate of 0.001, a maximum of 1000 iterations, 10 hidden layers, a momentum value of 0.051, and a neighbourhood size of 1 pixel. These settings were chosen to support the model in effectively adapting to the complexity of spatial patterns in the data. The learning curve indicated a relatively stable training process. Although the validation error exhibited some fluctuations throughout the training iterations, both the training and validation errors remained low overall, suggesting satisfactory convergence and a balanced learning process. The model achieved a minimum validation overall error of 0.11171 and a validation Kappa coefficient of 0.54857. According to Landis and Koch (1977), a Kappa value between 0.41 and 0.60 indicates moderate agreement. This suggests that the ANN model performed reliably and produced predictions that were meaningfully better than random chance.

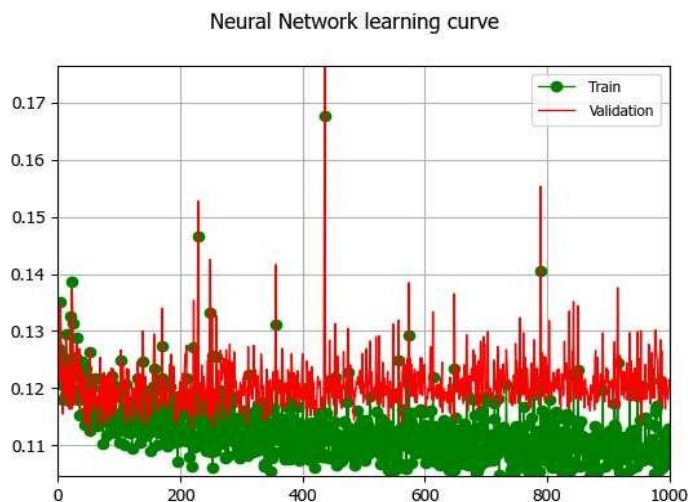


Figure 10: Artificial Neural Network (ANN) transition potential curve

Prediction Result Discussion

By the year 2032, Owo is projected to experience further land use transformation driven by urban expansion and changing land demands. Vegetation remains the dominant land cover type, occupying approximately 58,115.50 hectares, which accounts for 56.71% of the total area. This suggests a modest decline compared to 2024, indicating ongoing pressures from land development and deforestation. Built-up areas are expected to continue their upward trend, reaching 16,626.26 hectares or 16.22%, underscoring the town's rapid urbanization and infrastructural growth. Bareland is projected to slightly decrease to 25,666.76 hectares (25.04%), potentially reflecting land conversion into more permanent uses such as construction or vegetation recovery. Waterbodies are anticipated to shrink further to 2,078.59 hectares, comprising just 2.02% of the total area, which may be due to encroachment or declining water retention features. These changes reflect a persistent shift toward urban land uses at the expense of natural and undeveloped areas.

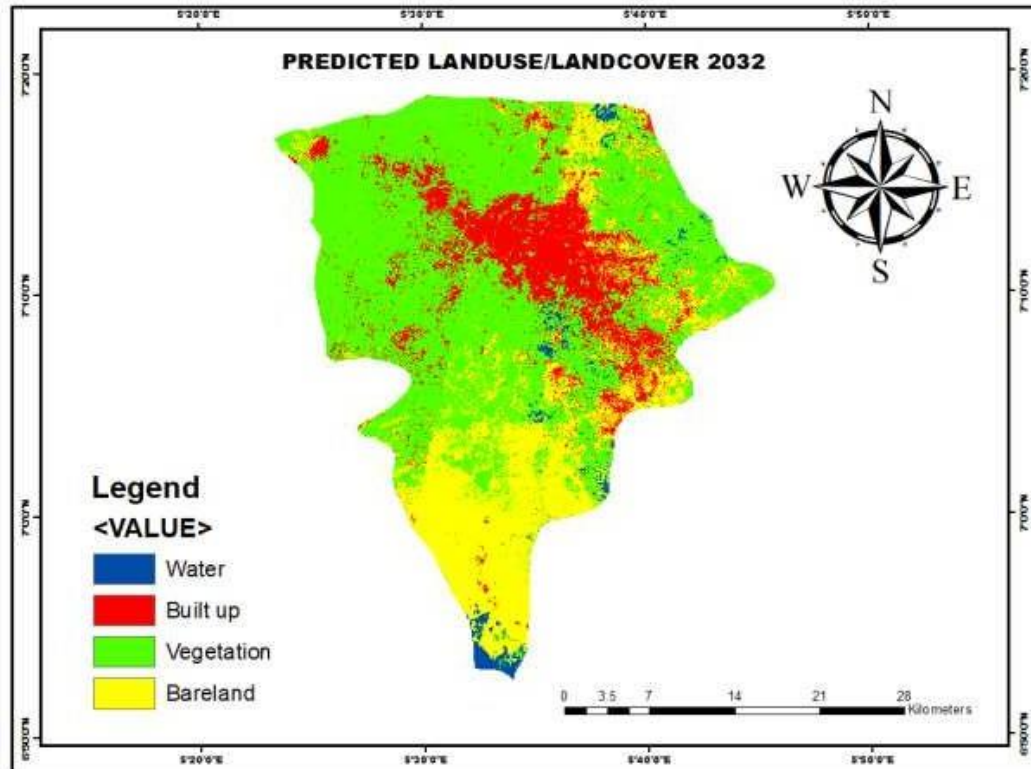


Figure 11: Map showing Owo landuse landcover 2032 prediction

Table 11: Predicted Land Use/Land Cover Distribution in Owo By 2032

Land Cover Type	Area (ha)	Percentage (%)
Vegetation	58,115.50	56.71
Built-up	16,626.26	16.22
Bareland	25,666.76	25.04
Waterbody	2,078.59	2.02

Model Validation

The accuracy of the simulated 2032 land use/land cover (LULC) map was assessed using a multi-resolution validation approach. This involved a comparative analysis between the simulated map and the reference 2024 map, with several Kappa statistics computed to evaluate predictive performance in terms of spatial accuracy and class quantity representation.

The simulation achieved an overall Kappa coefficient of 0.69478, which falls within the range interpreted as substantial agreement (0.61–0.80) according to the classification by Landis and Koch (1977). This suggests that the model's prediction is significantly better than random classification and

reflects a high level of reliability. The percentage of correctly predicted cells was 82.06%, indicating strong agreement between the simulated and reference maps.

Furthermore, the Kappa for location was 0.71702, indicating a strong spatial match between predicted and actual land cover classes. The Kappa for histogram, which measures agreement in the quantity of each class regardless of spatial location, was particularly high at 0.96899, suggesting that the model accurately captured the proportions of land cover types, even if some spatial shifts occurred.

Summary of Findings

This study examined Land Use and Land Cover (LULC) dynamics in Owo, Ondo State, Nigeria, from 2000 to 2024 using multi-temporal Landsat imagery. Four major land cover classes—vegetation, built-up areas, bareland, and waterbodies—were analyzed. The findings revealed significant land transformations primarily driven by urban expansion. Vegetation, which covered 63.08% in 2000, declined steadily due to increasing anthropogenic pressure, while built-up areas expanded from 7.92% in 2000 to 14.40% in 2024. Notably, bareland peaked in 2008 at 52.03%, followed by gradual reduction. Waterbodies fluctuated, decreasing in 2008 and 2016, but increasing in 2024 possibly due to improved environmental practices.

The classification accuracy was exceptionally high across all years, with overall accuracy exceeding 99% and Kappa coefficients above 0.99. NDVI analysis revealed progressive vegetation degradation and fragmentation, especially in urban zones. Conversely, NDBI showed consistent growth in built-up areas, particularly in southern and central Owo. LST analysis indicated rising surface temperatures correlated with increased impervious surfaces, affirming the Urban Heat Island (UHI) effect. Furthermore, Artificial Neural Network (ANN) modeling projected future urban expansion, with proximity to roads, elevation, and slope identified as key determinants. The model achieved a validation Kappa coefficient of 0.54857, indicating reliable predictive capacity.

Contribution to Knowledge

This research provides a comprehensive geospatial assessment of LULC changes and their environmental implications in a rapidly urbanizing mid-sized Nigerian town. By integrating NDVI, NDBI, and LST analyses, it offers a nuanced understanding of how urban growth has altered the physical and ecological landscape of Owo. The study introduces predictive modeling using ANN to estimate future urban expansion, contributing valuable insights for urban planning and sustainable land management. It demonstrates the efficacy of Google Earth Engine and machine learning in environmental monitoring and policy support at the sub-national level.

Recommendation

To address the environmental challenges identified in this study, urban planning in Owo should integrate green infrastructure and enforce zoning laws to preserve vegetation and mitigate rising land surface temperatures. Sustainable land management practices like agroforestry and reforestation are essential for restoring degraded land and maintaining ecological balance. Improved water resource protection and pollution control are needed to safeguard aquatic ecosystems. Climate adaptation strategies, including energy-efficient infrastructure and resilient drainage systems, should be incorporated into development plans. Continuous monitoring using remote sensing and GIS will support evidence-based policymaking, while stronger institutional frameworks and community engagement are vital for implementing sustainable land use policies.

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Flood Susceptibility Analysis of Asaba, Delta State, Nigeria using Machine Learning Techniques

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Abstract

Flooding remains one of the most destructive and recurrent natural hazards globally, causing widespread loss of life, displacement of communities, and damage to infrastructure and ecosystems. The rising frequency and intensity of flood events are largely attributed to rapid urbanisation, climate change, and poor land use practices, particularly in low-lying, data-scarce regions of the developing world. These challenges underscore the growing need for accurate, scalable flood susceptibility models. Conventional approaches like the Analytical Hierarchy Process (AHP), though widely used, are constrained by subjectivity and limited predictive precision. In contrast, machine learning (ML) models provide objective, data-driven, and efficient alternatives for flood risk assessment. This study employed two supervised ML algorithms (Random Forest (RF) and eXtreme Gradient Boosting (XGB)) to predict flood susceptibility in Asaba, Delta State, Nigeria. Thirteen predictor variables were derived from remote sensing and geospatial datasets, including elevation, slope, aspect, topographic wetness index (TWI), stream power index (SPI), curvature, drainage density, land use and land cover (LULC), rainfall, soil type, distance from river, distance from road, and historical flood events. A 70/30 train-test data split was implemented, and model training was conducted using Python within the Google Colab cloud computing environment. Variable importance analysis revealed rainfall as the most influential factor in the RF model (16%), while the XGB model identified LULC as the dominant driver (78%). Model performance, evaluated using the Area Under the Receiver Operating Characteristic Curve (AUC), showed superior accuracy for RF (AUC = 0.97) compared to XGB (AUC = 0.91). The flood susceptibility map generated from the best-performing model classified the basin into zones of very high (17.84 km²), high (35.78 km²), moderate (42.65 km²), low (38.61 km²), and very low (20.29 km²) flood risk. This study highlights the potential of GIS-integrated ML models in supporting proactive flood management and sustainable urban development in vulnerable tropical regions.

Keywords: Climate hazard, Disaster risk reduction, Geospatial analysis, Spatial prediction, Urban flood risk

Introduction

Flooding is a natural disaster that occurs when water overflows normally dry lands (Doocy et al., 2013). Floods makeup 43% of the world's natural disasters, with an economic loss of \$40 billion yearly and over 2.8 billion people displaced from 1980 to 2013 (Doocy et al., 2013). Flood is the most frequent natural hazard in Africa in the last decade, with Nigerians subjected to three significant flood events in 2012, 2018 and 2022 (Okonta and Odior, 2024). Urban Flood is one of the most devastating natural hazards in Nigeria and specifically on the major river systems.

The flooding suffered by Asaba in Delta State is primarily of flash flood type caused by intense rainfall overloading urban drainage system and sometimes overflow of water from the River Niger (Egbuna and Odumodu, 2024). Due to its geographical location as a low lying floodplain, Asaba has become more vulnerable to flooding (Atie and Sibiri, 2024). The historic floods of 2012 which hit several places in Nigeria, had Asaba flooded like never before. This event resulted in large numbers of fatalities, heavy displacement of thousands of residents, and serious damage to essential infrastructure.

GIS based multi criteria analysis is widely used in geospatial techniques to study flood vulnerability assessments that parameterize factors like drainage density and land use (Chan et al., 2022). For instance, inductor based methodologies consisting of 42 variables was used recently in Asaba to quantify exposure (Egbuna and Odumodu, 2024). However, there are still gaps in modelling predictive models. To resolve this, high dimensional geospatial dataset, such as Sentinel 1 SAR, CHIRPS precipitation data and historically flood inventories are incorporated into machine learning algorithm like Random Forest (RF) and eXtreme Gradient Boosting (XGBoost) (Chan et al., 2022). This study will be the first machine learning driven flood vulnerability framework for Delta State. Bootstrap aggregation is performed through random forest approach that reduces overfitting. Gradient-boosted trees learn to achieve high prediction accuracy using parallel processing, which is specially important for scaling disaster preparedness in data scarce environment.

Literature Review

Analysis of flood susceptibility needs a framework based on physical, environmental and social dimensions to examine vulnerability (Tabasi et al., 2024). In line with this, this framework should facilitate delineating the linkages between vulnerability, exposure, susceptibility, hazard, and resilience for a comprehensive and integrated flood risk assessment (FRA).

The Risk Conceptual Framework

The Intergovernmental Panel on Climate Change (2012) postulated the Risk Conceptual Framework which is used to understand and analyse risk, especially flood related risks. It explains key concepts like hazard, exposure, vulnerability and adaptive capacity. Turner et al. (2003), emphasized that this risk analysis framework is interwoven around social and environmental systems.

The first component is hazard, which is the physical event such as river overflow, storm surge, or a heavy rainfall induced flood. Parameters such as flood depth, duration, velocity, return period and frequency are used to measure it. Map of flood hazards and prediction of the impact of flood are made using hydrological models, GIS and remote sensing.

The elements at risk constitute exposure. They are people, infrastructure, businesses and natural environments. However, high exposure is common in the vicinity of urban populations and critical assets in floodplains. The land use/land cover (LULC), population distribution and economic activities are used to determine the risk areas, thereby aiding policymakers on what areas to prioritize.

Vulnerability is the susceptibility of elements which are exposed to flood damage. The location is influenced by building materials, elevation, drainage systems, socioeconomic status and preparedness. These include physical, social, economic and institutional aspects of vulnerability that have an impact on a community's ability to cope with the flood.

Risk is defined as a function of hazard, exposure and vulnerability, and is often written as:

$\text{Risk} = \text{Hazard} * \text{Exposure} * \text{Vulnerability}$

This formula puts these components in a tight relationship: Reducing exposure, reducing vulnerability yields a very great reduction of flood risk.

Adaptive capacity and resilience, on the other hand, relate to an individual, community, or institutions' capacity to foresee, react to, and recover from flood events. Adaptive capacity includes effective governance, early warning systems as well as flood policies, emergency response strategies and resilient infrastructure. The factors listed above may be strengthened in order to minimize the impacts of flood, and contribute towards long term sustainability.

Data-Driven Machine Learning Framework for Flood Susceptibility Mapping

One of the most commonly used method for flood susceptibility mapping is the Data Driven Machine Learning Framework (Hitouri et al., 2024), because it provides a reliable and objective means to map out areas in higher risk from floods. The framework rests on the capacity of machine learning algorithms to detect relationships between flood conditioning factors and actual occurrence of floods. These models use historical data and a variety of environmental variables to make flood susceptibility with good accuracy (Madhuri et al., 2021).

This framework begins with the acquisition and preparation of relevant data. It involves the collection of the topographic, hydrological, meteorological and environmental data, which are specially related to the study area (Madhuri et al., 2021). Data inputs of the models include factors like elevation, slope, rainfall pattern, land use, soil type, drainage density, proximity to water bodies, roads. This data is very important because the quality and comprehensiveness of this data directly effects the reliability of the resultant flood susceptibility maps.

Furthermore, feature selection is the crucial task of finding the most important conditioning factors from the dataset. Like component analysis, expert knowledge, and feature importance ranking through machine learning, redundant or irrelevant variables are excluded (Nguyen et al, 2023). Such a process further simplifies the model and improves its ability to predict by selecting the most important factors.

Selecting and training the right machine learning model is a mandatory requirement of the framework. Algorithms like Random Forest (RF), Support Vector Machines (SVM), and Extreme Gradient Boosting (XGBoost) work well with complex datasets as well as non-linear relationships (Hitouri et al., 2024). The selection of the algorithm is based on the study area specific characteristics and availability of data (Madhuri et al., 2021). The historical flood data and some selected conditioning factors are fed into the model for training, so that they can learn the patterns and relationships among them.

Accurate and reliable flood susceptibility maps are then developed, model validation and evaluation are also very important to assure the mapping's reliability (Hitouri et al., 2024). To validate the trained models, independent datasets are used and metrics are calculated such as accuracy, precision, recall, F1 score, ROC AUC (Madhuri et al., 2021). The metrics give a quantitative measurement of how accurate the model is in predicting areas that are prone to flooding.

In summary, the final output from the framework is a flood susceptibility map that visually shows the spatial distribution of the risk (Hitouri et al., 2024). It divides areas into various degrees of susceptibility based on which stakeholders and decision makers can locate higher risk areas and have a sense of which areas to focus mitigation efforts on. This data driven framework also helps reduce subjectivity in understanding of the flood susceptibility and provides quantitative, spatially explicit understanding of flood risk (Nguyen et al., 2023). Moreover, the capacity of the framework to work with big datasets and complex relationships between variables suits well to the tasks of flood risk governance and land use planning.

Statement of the Problem

Conventional approaches like the Analytical Hierarchy Process (AHP), though widely used, are constrained by subjectivity and limited predictive precision because they depend on expert judgement in assigning weight to variables. In contrast, machine learning (ML) models provide objective, data-driven, and efficient alternatives for flood risk assessment. Adedeji et al. (2020) observed that the current strategy used in flood management of Nigerian cities relies on outdated data and less complicated modeling procedures, making decisions regarding flood mitigation less effective.

There is a paucity of comprehensive flood risk analysis on the study area done using machine learning and geospatial techniques. This has adversely affected the accuracy of flood prediction models of the region. Sophisticated predictive models that harness environmental and anthropogenic factors are very key in any reliable flood risk analysis. According to Oloruntoba et al (2023), the methodologies used to predict flood are significantly lacking in that they are unable to address rapid urbanization and changes in climate.

Objectives

The primary objectives of this study are:

1. Identify areas prone to flooding in Asaba.
2. Identify factors influencing flood susceptibility in Asaba.
3. Evaluate the most important factors influencing flood susceptibility in Asaba.
4. Compare the accuracy of Random Forest (RF) model to Extreme Gradient Boost (XGB) in flood predicting.

Materials And Methods

Study Area

Asaba is located in between latitude 6°11'N and 6°14'N and longitude 6°43'E and 6°49'E and is the capital city of Delta State. The city lies on the eastern bank of the River Niger and links Western and Eastern Nigeria through the Niger Bridge. Ejemeyovwi (2015) reported that the city has an approximate land area of 200 square kilometers and has rapidly urbanized in the recent past.

It has tropical savanna climate with dry and wet seasons. The annual precipitation varies from 1500mm to 2000mm, with its peaks within July to September. Elevation of the topography is generally flat to gently undulating, at an elevation of 45–240 meters above sea level.

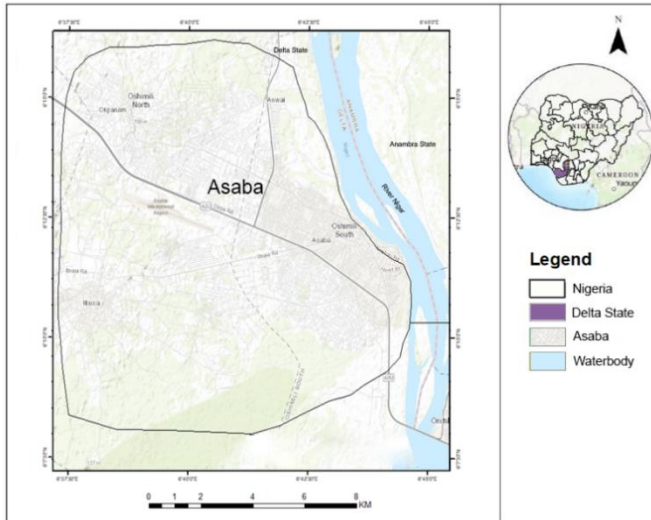


Fig. 1.: Study Area Map of Asaba

Methodological Flowchart of the Study

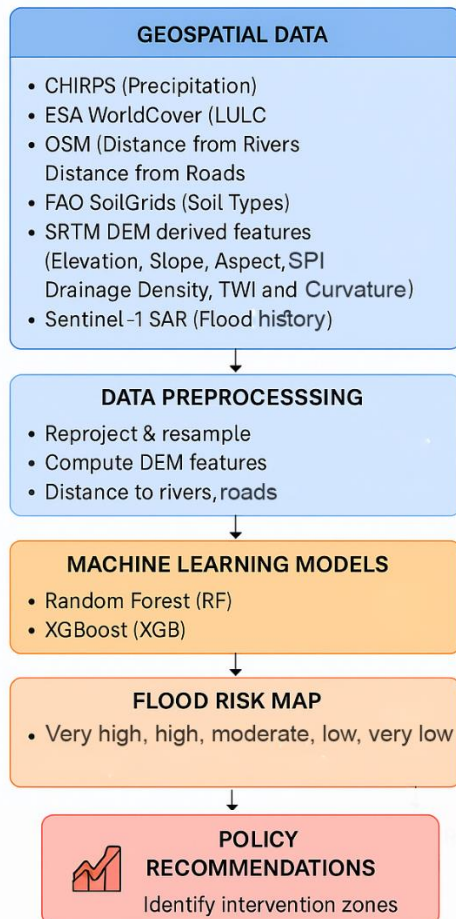


Fig. 2: Methodological FlowChart of the Study

Data Required

The Digital Elevation Model (DEM) came from the Shuttle Radar Topography Mission, from where elevation, aspect, slope, TWI, SPI, curvature, drainage density was derived. These indices evaluate water flow patterns and terrain induced flood risk (Tarboton, 1997). Sentinel-1 SAR satellite imagery with the period 2014 to 2024 was used to derive flood history (in binary; 1 for flooded areas, 0 for non-flooded areas). LULC was derived from ESA WorldCover. Rainfall data was derived from Climate Hazards Group InfraRed Precipitation with Station (CHIRPS). Precipitation is critical for the generation of floods; so, CHIRPS data is helpful for understanding rainfall intensity and its relation to a flood event (Funk et al., 2015). FAO SoilGrids is the source of soil and geological information. The use of soil moisture data helps to understand pre-flood conditions: high antecedent moisture results in higher flood likelihood (Brocca et al., 2017). Distance from river and road network was derived from Openstreetmap (OSM). This is significant as rivers increase flood risk while roads can function as barriers or conduits to floodwaters (Jarihani et al., 2015).

Model Development

Google Colab with Jupyter Notebook for Python Programming was used for building the models. This cloud computing platform allows for a seamless incorporation of datasets through the google drive. While coding progress are saved real time in the google drive to avoid interruptions or data loss. An accurate flood susceptibility model development involves a systematic approach to fuse the geospatial datasets into machine learning algorithms for predicting flood prone areas. The first step of this process is the definition of the input features which describe the environmental, hydrological, and topographic factors exerting influence on flooding. These data includes precipitation data from CHIRPS, land use/land cover (LULC), distance from rivers, distance from roads, soil types, DEM derived features (elevation, slope, aspect, curvature, drainage density TWI and SPI). These variables taken together represent flood driving factors allowing for identifying patterns between past floods and terrain attributes (Tehrany et al., 2019). These variables make up the independent variable (x- variable) for the machine learning models.

Historical flood data (labeled data) make up the dependent variable (y-variable). Historical flood records was extracted from Sentinel- 1 SAR, where flooded areas are labeled 1 and non-flooded areas labelled 0. This works as a supervised learning approach, led by past flood extents so the model could predict better (Zhang et. al., 2018). After that, the labeled dataset was segmented into training and testing subsets, 70% of which was reserved for training and the rest set aside for testing. This split of the data guarantees good performance on unseen data and does not result in overfitting (Rodriguez-Galiano et al., 2012).

The Random Forest and Extreme Gradient Boosting (XGBoost) algorithms are used for predictive modeling because of their extreme versatility and robustness in dealing with nonlinear relationships and high dimensional datasets. Both models was built using 100 decision trees and 42 random states. Random Forest, an ensemble learning algorithm, generates many decision trees and then take their prediction average to improve the prediction accuracy. Since it is able to capture complex patterns in geospatial data without overfitting, it is widely used in flood susceptibility mapping (Breiman, 2001). XGBoost, on the other hand, prides in its efficiency and superior predictive performance. Starting with every leaf in the set of leaf nodes, it builds trees and improves them sequentially to increase the model accuracy (Chen & Guestrin, 2016).

Model Validation

Multiple performance metrics will be used on the trained models namely accuracy, precision, recall, and the Receiver Operating Characteristic - Area Under Curve (ROC-AUC). Accuracy indicates how correct the model is in its whole, while precision and recall indicate how well the model classified the region that is prone to flood. ROC-AUC offers comprehensive models classification ability assessment for a wide range of threshold values, where a balanced tradeoff between sensitivity and specificity is ensured (Hosmer et al., 2013). The best performing model based on ROC-AUC values, will be used to generate a flood risk map of the study area. The generated flood susceptibility map delineates areas into very high risk, high risk, moderate risk, low risk and very low risk zones (5 zones) based on the flood risk models. This map acts as a critical decision support tool for flood mitigation planning and for formulating flood related policy (Rahmati et al., 2019).

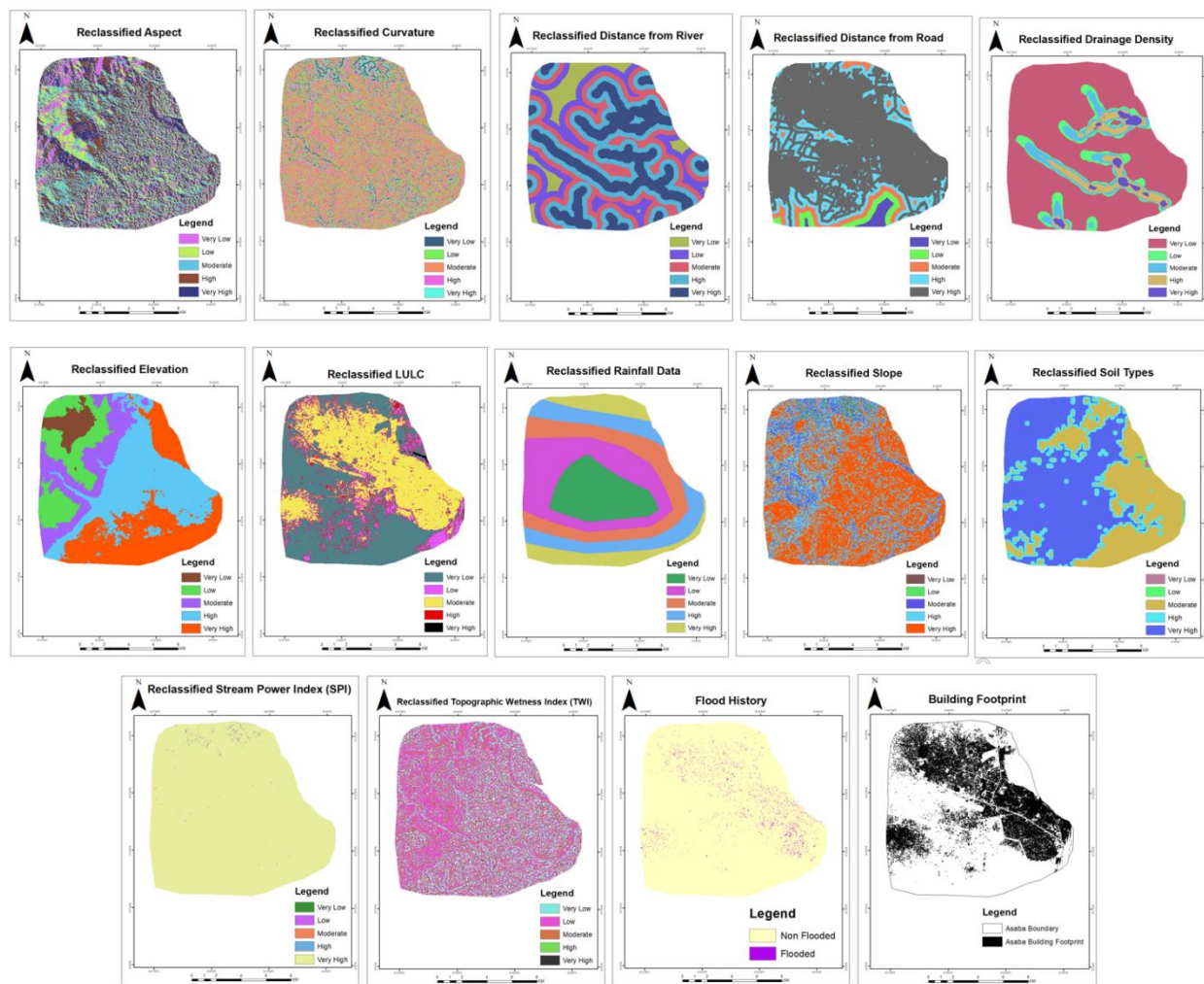


Fig. 3: Datasets used for the study

Results and Discussions

Areas Prone to Flooding

The flood susceptibility mapping displayed different zones of flood risk all over Asaba. The entire study area was classified into zones of very high (17.84 km²), high (35.78 km²), moderate (42.65 km²), low (38.61 km²), and very low (20.29 km²) flood risk. According to this grouping, about 62.9% of Asaba is classified as moderate to very high flood-prone areas. High-risk areas are mainly seen in coastal and low-lying areas, confirmed by the analysis of the map. The presence of many high-risk areas in economically important places creates serious difficulties for urban planning and methods to control disasters.

Table 1: Area Coverage of Flood Risk Zones

Risk Level	Area Coverage (sq km)	Percentage (%)	Identified Communities
Very High	17.84	11.5	Oko, Umuonaje, Marine, Ogbeofu
High	35.78	23.1	Parts of Okwe, Oduke, GRA and Cable Point
Moderate	42.65	27.5	Parts of Okwe, Ezenei, Bonsaac, Powerline, Koka-Conoil and Umuaji
Low	38.61	23.6	Parts of Okpanam and Ibusa
Very Low	20.29	13.3	Parts of Okpanam and Ibusa
Total	155.17	100	

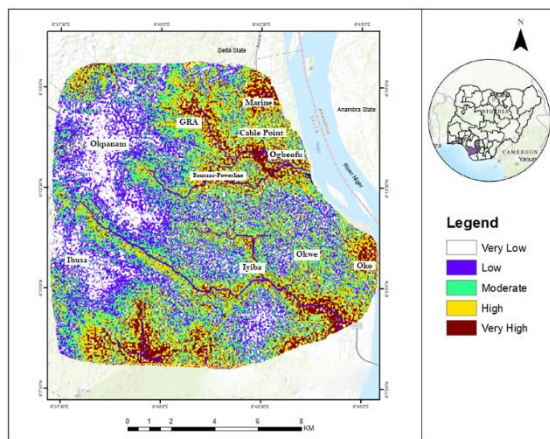


Figure 4: Asaba Flood Risk Map

The very high risk zones (11.5% of land area) are located mostly on the riverine areas of Oko, Umuonaje, Marine, Ogbeofu. These locations are less than 3 meters above sea level. In these places, there are very flat regions, high levels of groundwater, and much industrial development that has changed the way water flows. 23.1% of the land is categorized as a high-risk zone, and it is located inland from the River Niger and includes part of Okwe, Oduke and Cable Point. Generally, these areas are at heights of 3-15 meters above sea level and do not have effective drainage systems. Moderate risk areas (27.5%) are found in part of Okwe, Ezenei, Bonsaac, Powerline, Koka-Conoil and Umuaji. Though protected by moderate elevation (10-25 meters), poor drainage and rapid urbanization seem to expose these places to flooding.

Most of the low to very low susceptibility areas (36.9%) are discovered in the northwestern and western parts of Asaba. They benefit from higher elevations (usually above 20 meters), steeper slopes that allow water to drain easily, and better urban planning. Predominantly, the low-risk zones are covered by vegetation and have areas used for farming, which allows water to soak into the land and avoids surface runoff. Places here include Okpanam and Ibusa.

Factors Affecting Flood Susceptibility

Random Forest Feature Importance

Random Forest feature importance did show that each of the twelve parameters impacts Asaba's susceptibility to flooding in different ways. Rainfall emerged as the most dominant flood hazard with 15.6%. This result shows that when there is intense rainfall, there is a greater chance of flooding in Asaba.

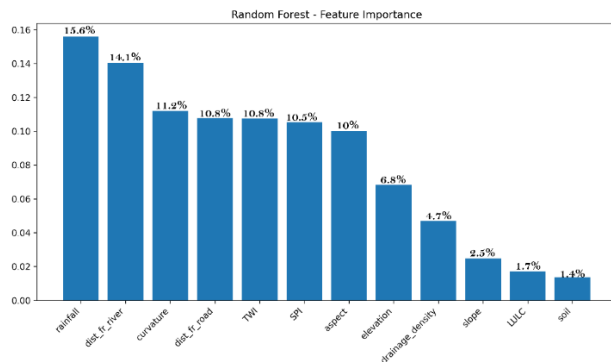


Figure 5: Random Forest feature importance

Distance from rivers is the second biggest factor (representing 14.1%) in determining possible flooding in the city, proving how important proximity to waterbodies are to flood mapping. Surrounding areas around Iyi-Agu Stream, Umuonaje Stream, Ibusa River, Okotomi Stream and Ogbe-Ofu Stream were mostly influenced by floods.

Curvature (11.2%) takes the third place in flood causative factors. Flood likelihood was more influenced by the profile curvature than by plan curvature. Areas with negative profile curvature (concave) revealed a 3.2 increased flood hazard in comparison to convex areas. Water in concave regions is easily collected, which makes these spots good points for surface runoff.

Distance from roads makes up 10.8%, demonstrating the relationship between easy access and higher chances of flooding in cities. Streets that were 120 meters from large roads had 31% higher chances of flooding because of the high proportion of paved surfaces and poor drainage combined. Such regions reported an increase of 42% in the chance of floods compared to places where roads and drainage systems are built hand-in-hand.

TWI contributes 10.8% to flooding, since the landscape is suitable for water retention. The thresholds for flood risk when applied to TWI revealed that: for very high risk (16 and above), high risk (13-16), moderate risk (10-13), low-moderate risk (7-10), and low-risk (below 7). Areas with a high TWI are normally affected by water accumulation because of how land converge at these points.

SPI comes sixth in the feature importance ranking (with a score of 10.5%), owing to how easily it moves water and decreases floods. In places where the stream power index (SPI) is less than 0.4, it is easier for floods to occur as there is not enough power to move water out of the area. Alternatively, regions with SPI values bigger than 2.5 are less likely to flood due to the speed and rapidity of water movement led by the high stream power.

Aspect impacts the model's performance by 10.0% and affects flood susceptibility as it relates to evapotranspiration, moisture storage, and solar energy. The chance of flooding is found to be 22% higher for north- and northeast-facing slopes due to getting less sunlight, less evaporation, and more water retention. Theoretically, intermediate vulnerability is more on slopes facing west, but the slopes facing southeast are least at risk.

Even though elevation is an essential part of flood processes, its impact is only 6.9%, maybe because related factors such as TWI and curvature also influence the results. Most places with heights below 8

meters have an 84% risk of experiencing high or very high flood levels, but heights above 30 meters have much less risk of about 9%.

The adequacy of natural and artificial drainage networks in managing surface water is reflected by 4.8% contribution to model performance by drainage density. Under areas with drainage density less than 0.7 km/km², more than two thirds (i.e., 67%) were classified as high to very high flood susceptibility. The optimal drainage densities (over 1.8 km/km²) were linked to significantly lower flood susceptibility, which affected only 14% of such drainage densities with high flood risk. Urban areas consistently had lower effective drainage densities than natural areas and many areas with high density residential had drainage densities less than 0.5 km/km² due to blocked or inadequate infrastructure. Massive amounts of unavailable or dysfunctional drainage systems contribute largely to increase in urban flood vulnerability.

Slope contributes 2.5% to urban flooding in Asaba. High and very high flood susceptibility was found in 81% of the areas with slope less than 1.5%. Low risk areas occurred only on slopes exceeding 8 percent. Majority of Asaba landscape have flat topography that is greatly limiting the natural flow of drainage.

LULC contributed 1.8%, suggesting that it may receive a relatively lower ranking because built up areas tend to dominate the study area. The highest flood susceptibility was in the built up areas which demonstrated 76% high to very high risk, agricultural areas (41% moderate to high risk), whereas the forest/vegetation areas had the least flood susceptibility (15% high risk). The analysis also showed that urbanization causes about 45% increase in surface runoff when compared to natural conditions.

Feature importance of soil (1.4 %) is the lowest relative to other variables, thus, other factors are found to play more visible role in determining flood susceptibility in Asaba urban environment. Although overall soil analysis was not very important, some patterns proved meaningful. Soils with clay domination than with rates less than 2.0mm/hr are more susceptible to be flooded than those with sand domination and rates higher than 12 mm/hr. Coastal sandy soils however were prone to high flood risk because of high groundwater tables and tidal influences. Urban areas are so highly compacted that natural infiltration capacity had been significantly reduced in urban areas and the urban compacted soils were 55% more susceptible to flooding than the natural soil conditions.

Extreme Gradient Boost Feature Importance

XGBoost model's feature importance shows that there is a highly concentrated importance distribution of the input features, where Land Use Land Cover (LULC) is the biggest predictor variable.

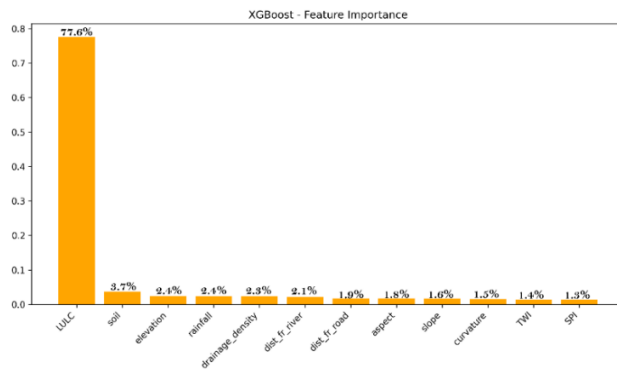


Figure 6: eXtreme Gradient Boost feature importance

Results show that LULC contributes as much as 77.6% of the total features importance index and prove to be the most influential factor that helps the model make its decision. Considering this dominance, one can conclude that the land use patterns are major determinants for the target variable, which by the same

token confirm the fundamental position of anthropogenic activity and the natural land cover type in the study area.

The values of the soil characteristics importance rank second at 3.7 % followed by the remaining features which have considerably lower importance values. Climatic factors, represented by rainfall (2.4% predictive power), followed by topographic variables like elevation (2.4% predictive power) and slope (1.6% predictive power) are the most powerful ones in terms of their influence on the performance of the model. The features related to hydrology, drainage density (2.3%) and distance from river (2.1%) are together responsible for about 4.4% importance.

The predictive capability is marginally affected by the infrastructure related variables especially distance from roads (1.9%). In addition, one extra variable; topographic aspect (1.8%) curvature (1.5%), the Topographic Wetness Index (TWI; 1.4%), and the Stream Power Index (SPI; 1.3%) make up the remaining predictive power.

LULC is remarkably of importance in accordance with theoretical expectations, as land use patterns are the fundamental determinant in the formulation of different environmental and socioeconomic processes. Hence, such concentration of significance in one feature gives concern about the model's interpretability and overfitting.

Analysis of Key Elements Contributing to Flood Susceptibility in Asaba

Three major groups of factors are recognized in the analysis to greatly contribute to flood susceptibility in Asaba: hydro-climatic variables, topographic characteristics, and anthropogenic modifications. Rainfall and distance from river can be said to be the main controlling factors among the hydro-climatic factors as Asaba falls within the humid tropical climatic zone and also due to its strategic location along the major water bodies. The effect of the Niger River sprawls far beyond its direct floodplain, and the analysis shows that there is distance-decay relation in susceptibility to flooding. This tendency represents both the direct flooding associated with the overflow of the river at the peak discharges stage and the effect of the groundwater table in areas close to the river. Due to the seasonal variation in river levels, particularly the wet season months of May to October, the flood risk condition is temporally varied over the study area.

Topographic controls indicate strong spatial variation in their effect on susceptibility to floods. The topography of the coastal plain of Asaba is relatively flat and appears to be the key factors in determining the risk of flooding. Topographic convergence points defined by curvature analysis and TWI calculations are areas of natural concentration of surface runoff, generating local high-risk areas even when the study site is far from large water bodies.

The Asaba natural drainage processes have been totally disrupted by human alterations of the landscape. The land use pattern, and in particular the urban development pattern, has the strongest effect on susceptibility to flooding. Replacement of natural vegetation by built-up areas has made the surface more impervious and altered infiltration capacity and the natural drainage patterns. The development of infrastructure especially the road network has a complicated two-way effect on flood susceptibility. Although roads may provide drainage when they are designed correctly with proper culverts and drainage systems, the analysis has shown that the risk of flooding has increased in many areas because of poor integration of transportation infrastructure and drainage needs. Formation of impermeable surfaces without an improved drainage system has formed many localized flooding hot spots across the urban region.

Model Assessment

The machine learning algorithms performance assessment shows that they have some unique features in predicting the study area. Random Forest and XGBoost are two ensemble models that were evaluated on standard classification evaluation metrics to establish their suitability in predicting flooding across Asaba.

Table 2: Validation Metrics

Metric	Random Forest		eXtreme Gradient Boost	
Precision	0.0	0.99	0.0	0.98
	1.0	0.90	1.0	0.77
Recall	0.0	1.00	0.0	1.00
	1.0	0.14	1.0	0.02
F1 score	0.0	0.99	0.0	0.99
	1.0	0.24	1.0	0.03
Accuracy		0.99		0.98
ROC-AUC score		0.97		0.91

Random Forest Performance

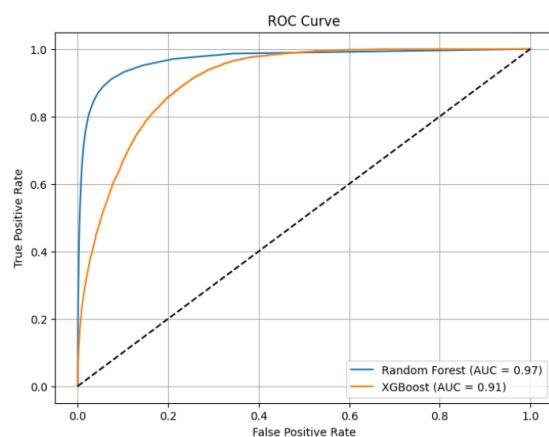
Random Forest classifier has shown outstanding results on all the evaluation metrics. The model had an overall accuracy of 99% which signifies strong predictive power. According to the confusion matrix, there were 467,149 true negatives and 115 true positives in class 0 and 6,715 true negatives and 1,069 true positives in class 1.

The performance analysis by classes reveals that class 0 has been classified with perfect precision (0.99), recall (1.00), and therefore, has an F1-score of 0.99 but with a large number of instances (467,264) supporting it. In contrast, class 1 had high precision (0.90) and much lower recall (0.14) and produced an F1-score of 0.24 with only a little support (7,784 instances). Macro average scores comprise a precision of 0.94, recall of 0.57, and an F1-score of 0.62, whereby the weighted averages demonstrate steady high results of 0.98 in all measures. The value of Area Under the ROC Curve (AUC-ROC) 0.97 supports the presence of excellent discriminative ability.

XGBOOST Performance

XGBoost model performed slightly better with an accuracy of 98%. The confusion matrix indicates that there are 467,225 true negatives and 39 true positives in class 0, 7,654 true negatives and 130 true positives in class 1.

Analysis by classes shows that class 0 had a high precision (0.98) and perfect recall (1.00) and had an F1-score of 0.99. Class 1 had a higher precision (0.77) than Random Forest however a much lower recall (0.02) which gives it a lower F1-score of 0.03. Macro averages show an accuracy of 0.88, recall of 0.51, and an F1-score of 0.51, whilst weighted averages show accuracy of 0.98, recall of 0.98, and an F1-score of 0.98. The AUC-ROC value of 0.91 indicates the good discriminative performance, but inferior to Random Forest.

**Figure 7: ROC Curve****Conclusion and Recommendations**

This study has been able to apply machine learning algorithm to determine flood susceptibility in Asaba, which has revealed important information on the spatial occurrence and controlling factors of flood hazard in this fast urbanizing city. The study establishes the suitability of ensemble techniques, especially Random Forest and XGBoost, to attain great predictive accuracy (97% and 91% respectively) in flood susceptibility mapping.

The overall result of the analysis indicates that the flood susceptibility in Asaba is governed by the complex of the natural and anthropogenic factors, and the importance of these factors varies significantly. Random Forest model revealed rainfall (15.6%), distance to rivers (14.1) and terrain curvature (11.2%) as the main controlling factors. On the other hand, XGBoost model reveals the dominating role of land use land cover (77.6%), implying that anthropogenic landscape transformations have established themselves as the major controls over the flood susceptibility patterns.

Findings from this study suggests that flood-risk-informed urban planning should be implemented as soon as possible. The areas that should be subjected to limited development are those that are classified as very high susceptibility to flooding, especially those locations that are less than 150 meters close to the Niger River as well as locations that are less than 5 meters above sea level.

The large effect that distance to roads and drainage density have on the flood susceptibility indicate the importance of integrated infrastructure planning as an urgent issue. A design of a drainage system should be mandatory in all new road construction projects considering the local topographic conditions especially where the TWI value is high, and the terrain curvature is concave.

This close connection between rainfall and flood susceptibility gives validity to the proposal to have a well-developed flood early warning system. To help in giving localized warnings on floods, real time rainfall monitoring stations ought to be erected in various elevation zones as well as land use types.

The value of natural vegetation cover is revealed by the relatively low flood vulnerability in the forested land (15 percent high vulnerability) versus the built-up land (76 percent high vulnerability). High-risk areas that are subjected to urban reforestation programs should focus on areas along river corridors and those with high topographic wetness indices.

There is a need to develop a holistic flood risk management policy framework that will include the spatial susceptibility maps as statutory planning instruments. The building codes must be revised according to the local flood risk level and made mandatory on new structures in moderate and high-risk zones.

Although the present study has offered meaningful information on the flood susceptibility patterns, there are a number of aspects that require future research. Temporal analysis at high resolution considering climate change scenarios would increase the knowledge on the evolution of flood risk in the future.

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GEOSPATIAL APPLICATIONS FOR SOCIAL RESEARCH AND NATIONAL DEVELOPMENT

Geospatial Analysis of Legal Land Dispute in Ibadan Metropolis from 1972 – 2018

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Abstract

As cases are decided in the law courts to Supreme Court, on regular basis, a bulk of law reports are created. Land matters rank high in Ibadan Metropolis. The capability of GIS in the legal institution is demonstrated in this study by the analyses, and visualization of land conflicts in Ibadan Metropolis. Court locations obtained by hand-held GPS, published law reports from 1972 – 2018 obtained from the Law Pavilion website, and OSM data were used for this study. Nearest Neighbour and standard deviational ellipses tools were used for spatial pattern of land conflicts. Space Time Pattern Mining tool was used for temporal pattern and ELK stack was used for queries with interactive maps. This study shows that spatial pattern of land conflict locations in Ibadan is clustered. This indicates that land conflicts occurred in few areas more. Geospatial technique will significantly improve Quality Justice service delivery.

Keywords: Legal land dispute, law pavilion, ELK stack, Hot Spot Analysis, GIS

Introduction

The enablement of the public to have easy access to decisions made and judgment given in courts helps clarify irregular situations in legal cases, conflicts of interest and cases of corruption. For this to happen, Justice must therefore, be transparent and predictable so that the affairs of men are ordered according to the dictates of the law. To achieve this transparency in legal sector, the record management systems needs to facilitate easy access to and retrieval of legal cases' documents for public information.

Land issue is one of the leading cause of conflict in Nigeria because it is a commodity used daily for various purposes and it influences the lives of people in the country socially, economically and politically. In Ibadan, it ranks among the most prominent conflict occurrences. This is due to the administrative and commercial importance of the city which sees many people from various parts of Nigeria migrate in to Ibadan. Land in Ibadan is seen as an asset, a status symbol and a key investment, as a result, there is competition for land to which false and fraudulent landowners have taken advantage to dupe land buyers. Cases of land conflicts eventually get to the formal courts whenever they are not resolved at the root level by the traditional authorities. Some cases eventually end up in the Federal Courts (the highest courts in the country) as a result of appeals and counter-motions filed by the parties, and as such upon resolution, the case is filed and then published as law reports for judicial precedents and future references. Due to the frequency of such cases in the formal court and a bulk load of such law report being created on regular basis, it is then very important that there is a good management of such law report. This is for the sake of judicial precedents and also for transparency to the public to show that cases in the formal courts are handled with the utmost integrity and high legal accuracy. Good management and good storage, prompt access and easy retrieval of such law report.

One major way for organizing the information in the Case files and giving access to the public lies in law reporting. While there is no official Council for law Reporting in Nigeria, a plethora of law reports have emerged over the years to serve the ever growing demands of legal practitioners in Nigeria, so law reports are being published and made available even online on legal websites, such that anyone can easily view and download the judgments of the federal courts for little or no cost.

However, little attention has been given in the literature on application of geospatial technique to give a rapid and visual interactive access to these law reports through geographical analysis and visualization, queried searching and retrieving of desired law reports. The application of GIS for legal management of land disputes and other matters is therefore necessary in this regard.

This study focuses on the use of Elasticsearch, Logstash and Kibana- three softwares that work in union as a stack and popularly known as ELK stack, as mapping tool to analyze and the land case reports

information to be visualized as maps. The tool also provides the location of the land conflict and the courts of judgment, and analyzed by filtering the courts' decisions through different terms and concepts.

Record Management Models and existing literature

Two well-known models in the field of Record Management include: *The Record Life Cycle* concept and *Records continuum model*. On the one hand, the record life cycle concept focuses on creation of record firstly, use it for as long as it is valuable and relevant and, finally dispose it by transfer to the archival institution or destroy it completely. It is therefore, based on creation, maintenance and then disposal of records. This concept is only effective with hard-copy records and would not be applicable in same fashion in the digital environment.

Records continuum model on the other hand, deals mainly with electronic records. It comprises the whole extent of a record's existence. In an electronic environment, records are dynamic and recursive in nature and may exist in more than one stage of life cycle simultaneously (Barry, 1994), hence nature of electronic records does not make it subject to follow a serial path from creation to disposal and this is also aided by the recent developments in management systems. For instance, at the stage of record disposal, upon reappraisal, the electronic environment gives the enablement for a record to be return to an earlier stage. Cox (1997), therefore says that the developments of electronic management systems, there is a necessity for change in core concept, hence the need to replace the record life cycle with the continuum.

Land has been described in many ways by different fields base on perception and landuse. Vink (1975) from a Geographical viewpoint says that a tract of land is a specific area of the earth's surface whose characteristics embrace all reasonably stable or predictably cyclic attributes of the biosphere vertically above and below this area including those of the atmosphere, the soil and underlying rocks, the topography, the water, the plant and animal populations. Land is central to all human activities because, it is the source of all material wealth.

Wehrmann (2005) observed that, land conflict can be understood as a misuse, restriction or dispute over property rights to land. This viewed land is an object of competition. Nigeria is a country rife with conflict, and disputes over land issues constitute a significant number of conflict events and the violent deaths that result from them. Land conflicts that lasts for long could result into a legacy of conflict that may be very difficult to resolve (Eniye, 2016). Landed property being a key investment in Ibadan, an asset and as well as a status symbol, even for non-indigenes is always up for competition to which dubious landowners and fraudsters have capitalized on and have exploited or duped land buyer. According to Albert et al. (1994) in Ibadan, there is an hierarchical option for conflict resolution which starts with disputants trying to solve the problems themselves and through a third party, if it fails, then they proceeds to involving traditional and informal conflict resolution bodies, if it also fails, then they employ the service of the customary court, and the last hierarchy is to appeal the case to the formal legal institution. (It should be noted that Customary Courts do not have the jurisdiction to hear land matters).

Land Conflict Issues

Land conflict as re-defined by Eniye (2016) is a social fact involving two or more parties having different interest over the property right to land, that is, the right to use and manage the land, generate income from it, exclude others from the land and as at when deem fit be able to transfer it to another for a compensation. Wehrmann (2005), in summary says a land conflict can be understood as a misuse, restriction or dispute over property rights to land. This shows that Land is an object of competition as USAID (2005) puts it, it serves as an economic asset, a connection with identity groups that could be on the basis of ethnicity, religion, class, gender, or generation. Land therefore could either be the cause of conflict or other factors could contribute to its conflict. Land conflict may occur between single parties such as boundary conflict between neighbours or family members over the use of a piece of land, it may occur between several parties with the most violent between two different ethnic group and it includes evictions of entire settlement, group invasion of a settlement, land conflict may also occur as a result of corrupt land administration and bad state management of land.

Stone Conroy, (2014) explains that land conflict according to the Malthusian and Neo-Malthusian conception is a result of population growth and increasing scarcity, but from the perspective of political ecology, conflicts over resources and lands are often due to distribution, management, and control, rather than scarcity, and yet still another school of thought with regard to natural resources and conflict argues conflict over resources may arise not as a result of scarcity but from the relative abundance of such resource, this is known as the “resource curse” and it is championed by scholars such as Mehlum And Ross. In Nigeria, this can be readily seen for instance as Gausset et al.. (2005) points out that the Abundance of resources in the Adamawa Region of north-western Cameroon And south-eastern Nigeria “has Never prevented the existence of agro-pastoral conflicts, just as it has never prevented tenure conflict among agriculturalists or among pastoralists”

Generally, Nigeria is a country rife with conflict, and disputes over land issues constitute a significant number of conflict events and the violent deaths that result from them (Eniye, 2016), more so because access to land is important to poverty reduction as well as economic growth. Land conflicts that lasts for long could result into a legacy of conflict that may be very difficult to resolve (Eniye, 2016)

Right from pre-colonial Nigerian societies, land already had economic importance and in addition, it also served various purposes such as payment of dowries, reparation for serious crimes, as collateral, as medium of exchange, and overall it is seen has been a symbol of wealth and social standing so right from there and then, there had been occasional outbreak of conflicts, also, the acquisition of land by European trading companies, colonial government, and missionaries, for the establishment of churches, schools, administrative infrastructure, and residential quarters brewed inter- communal conflicts in most communities (Nwachukwu, 2016), and there were cases of grants and counter-grants, sales and counter-sales to the Europeans.

Land Conflict in Ibadan

Ibadan being the economic nerve center of the Yoruba land and having various opportunities experiences massive emigration from other states in Nigeria to add to its already bulging population.. Landed property being a key investment in Ibadan, an asset and as well as a status symbol, even for non-indigenes is always up for competition to which dubious landowners and fraudsters have capitalized on and have exploited or duped land buyers. Some reasons for land conflict may also stem from the sale of properly acquired land to more than one buyer, especially if the one buys land and delays development on it, other cases of land conflicts may arise from people encroaching on another person’s land deliberately or accidentally (Albert et al. 1994).

The magnitude of land disputes in the city can be gauged from the number of cases brought by members of the public to such informal arbitration television programmes as ‘So Da Bee’ of the Broadcasting Corporation of Oyo State (BCOS) and Agborandun of Nigerian Television Authority (NTA). Almost every week, people appear on these programmes to seek conflict resolution to land disputes. When reconciliatory efforts fail at the traditional reconciliation level, people either stubbornly remain on the land or eventually resort to the formal court to argue their case. This may even end up in the Supreme Court (the highest court in the country) as a result of appeals and counter-motions filed by the parties (Albert et al. 1994).

It can therefore be said that, not all land conflict resulting from violations of law in Ibadan get to the formal court. Conflicts tend to be firstly addressed using the informal and traditional methods (Albert et al. 1994). This is because of the perceived complex nature of formal courts, ranging from the extremely formal setting to strict dress codes and use of highly technical legal vocabulary among the lawyers, the judges and the court personnel, unpredictability of judgments to the ordinary man, and ignorance on when and how to appeal to higher courts in a case of lack of satisfaction with judgments in lower courts. Other reasons include numerous courts, mismanagement of case files, deny justice, high cost of legal proceedings, and perceive case of corruption through the lawyers and the judges. The Customary courts which is regarded as a bridge between the formal and informal court system in Nigeria are the most readily acceptable formal legal system because of their simplicity, less formality and their incorporation

of religious and ritual beliefs and practices in determining legal responsibility. Hence, in Ibadan, there is an hierarchical option for conflict resolution which starts with disputants trying to solve the problems themselves and through a third party, if it fails, then they proceed to involving traditional and informal conflict resolution bodies, if it also fails, then they employ the service of the customary court, and the last hierarchy is to appeal the case to the formal legal institution.

Structure and Procedure in the Legal Institution in Nigeria and Ibadan

The Nigerian legal system can be described as essentially a composition of the English law gotten from the British legal system, Nigeria Common law which includes domestic legislation, Customary law derived from traditional norms and practices and the Sharia/ Islamic law used only in Northern Nigeria. The system works by means of a constitution which was enacted on 29th May 1999 through which all courts in Nigerian federation derive their jurisdiction or competence from.

According to the constitution, a court is either a Federal court, State court, an Election Tribunal or other Tribunals.

Federal Courts -Federal court in Nigeria is in three categories: Tier 1, Tier 2, and Tier 3. The Supreme Court is a Tier 1 regarded as the highest court as well as the court of last resort. The Court of Appeal, The Federal High Court, The High Court of Federal Capital Territory, Abuja, The Sharia Court of Appeal of the Federal Capital Territory, Abuja, The Customary Court of Appeal of Federal Capital Territory, Abuja.

State Courts - The High Court of the State, The Sharia Court of Appeal, The Customary Court of Appeal, Magistrate Courts, Customary Courts

The Election Tribunals - The National Assembly Election Tribunals, The Governorship and Legislative Houses Election Tribunals (Section 6(5) of the 1999 Constitution (as amended)).

Other Tribunals - Tax Appeal Tribunal etc. come after

Abubakar (2014) pointed that the continuous production of legal records has become a major problem confronting judicial institutions in Nigeria and there is always the problem of organizing, retrieval, accessing and utilization of information in these records. Susan et al, (2011) states that while current records are being managed fairly well by the legal departments, not so can be stated as per semi-current and non-current records and according to Abioye et al., (1998), these records in paper format are in bad, deplorable and very chaotic state and managed by non-professional record managers with no record management policy, also, there is a lack of ICT facilities to aid the course and the storage spaces were inadequate. What ensues as a result is that files and records go misfiled, misplaced, hidden, mutilated or even stolen, which leads to continuous adjournment of cases since the case files are not produced on time or not produced at all, this means that accused persons will remain incarcerated without trial, criminal cases are discontinued, dangerous criminals are set free, innocent people are jailed and denied justice (Kerrigan et al., 2010). With all these, the public soon lose trust in the judiciary to be a source of justice for them, occasioned by the non-maintenance of reliable records (Miller, 1999).

ICT provides the platform for which GIS is able to work such as the technological infrastructure, digital and wireless networks, database management systems, Internet, and various peripherals that allow information to be collected, integrated, managed, transmitted, and used. GIS is a computer based tool for mapping and analyzing geographic phenomenon and events that occur on Earth. What distinguishes GIS from other information system is its ability to integrate common database operations such as query and statistical analysis with the unique visualization and geographic benefits offered by maps. This makes GIS valuable to a range of private and public enterprises for explaining events, predicting outcomes and planning strategies. According to French et al., (1990) and Masser et al., (1993), from the late 1980s, the availability of user-friendly and affordable geospatial technologies, including geographic information systems (GIS), remote sensing (RS), and global positioning systems (GPS) has prompted their intensified adoption by both public and private organizations at all levels, and local governments in particular.

Gurpreet (2019) points out that in ELK, maps can be used to locate geographic locations based on geographic coordinates supplied in data as “geo_point” with inputs of latitude and longitude. The visualization displays the data points captured in the form of circles or as shaded geohash grids displayed as rectangular cells. The size is decided by the precision chosen, and color signifies the actual value computed. The mapping function of ELK therefore allows data to be visualized in different layers. Hence for the court judgments, information is accessed easily by geographical visualization in map format in which one can easily find the location of the conflict or any other places mentioned in the courts’ decision, which will then aid easy retrieval of the law report

Materials and Methods

Study Area

The city of Ibadan, the capital of Oyo State is located in the southwestern part of Nigeria. It lies between Longitudes 3°5’ to 4°36’ East of the Greenwich, and between Latitudes 7°23’ to 7°55’ North of the Equator. Ibadan Metropolis covers the area extent of about 250 km² of the total Ibadan area extent of about 30,080 km². The population in 2016 is estimated to be 3.16 million (CIA World Fact, 2016). Ibadan metropolis consists of five urban Local Governments Areas- Ibadan North, Ibadan South, Ibadan Northwest, Ibadan Southwest and Ibadan Northeast local governments while the semi-urban local government are Akinyele, Oluyole, Egbeda, Ido, Lagelu and Ono-Ara Local Government Areas. According to Ayeni (1994) residential land use is the most predominant among all land uses in the built up areas of Ibadan. Other landuse is dominated by moderate to low residential, industrial, recreational, and agricultural land uses.

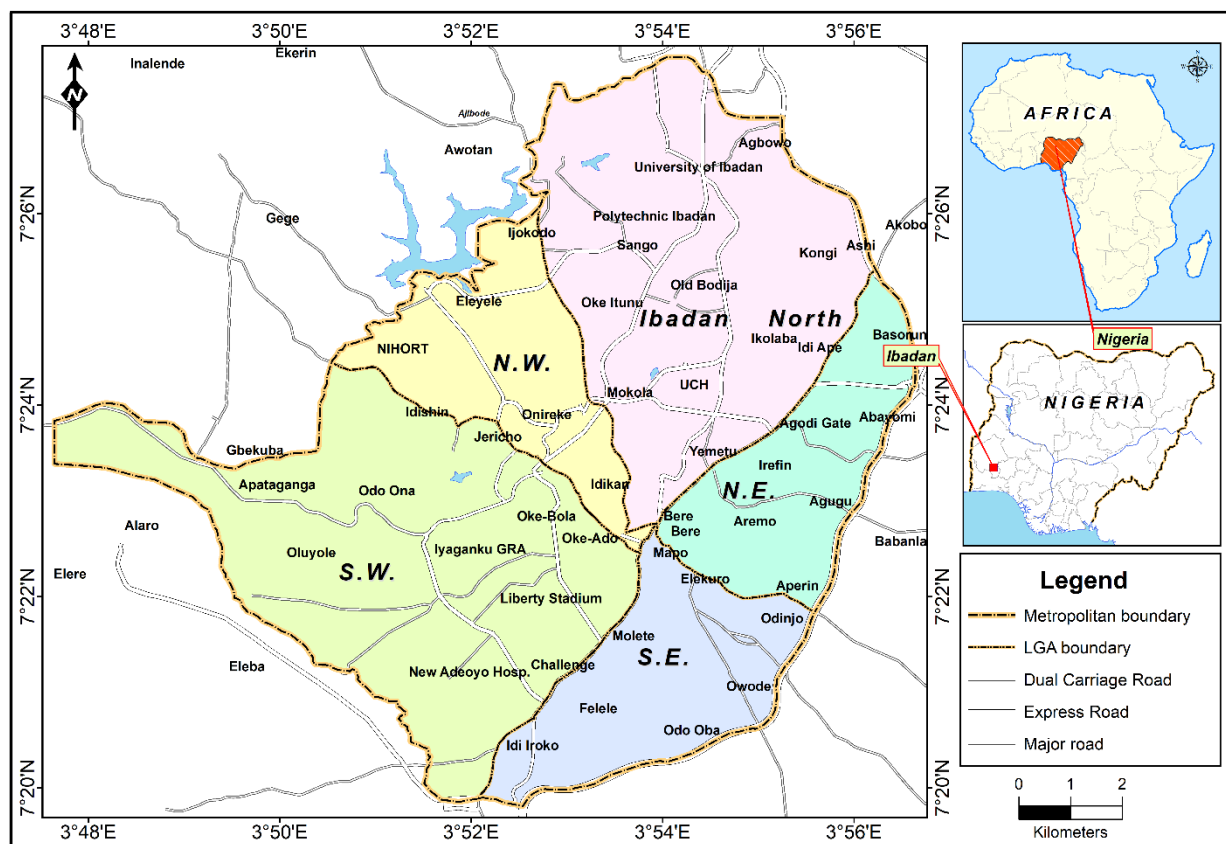


Figure 1: The Study Area

Source: Oyo State Ministry of urban development and authors’ analysis, 2019

Data Types and sources

Geographical coordinates of court locations was obtained using hand-held GPS. Further still, Published law reports for the year range of 1972 – 2018 were downloaded from the Law Pavilion website - <http://www.lawpavilion.com/>. Vector dataset of Ibadan localities obtained from openstreetmap provided information on streets and address location. The law reports were in PDF format containing: the name of the applicant, date and place of conviction, the offence, sentence, type of appeal, status of cases-whether it lead to appeal and legal aid was granted, and the outcome of the judgment. Relevant information from the report were extracted and linked with the coordinates obtained into a database. The database was saved in CSV (comma delimited) and TXT (text) format for spatial join and analysis in ArcGIS and imported into ELK using Kibana's interface (modern ELK versions allow bypassing Logstash). Data included court locations (gathered via GPS) and law report information (extracted from Law Pavilion and OpenStreetMap). Although Logstash is traditionally used to parse and ship data into Elasticsearch, Kibana can now directly import structured datasets (e.g., CSV/JSON), which are then indexed in Elasticsearch, the stack's central data repository.

All reported land conflict locations were established by Geocoding land addresses extracted from the Law Reports with their spatial location to create Geo-database as shapefile in GIS environment. The downloaded law report had 124 locations in all, out of which only 60 could be successfully Geocoded.

Data Analysis

The spatial pattern of land conflicts in the study area from 1972-2018 was analyzed using the average nearest neighbour tool and the standard deviational ellipses tool. The average nearest neighbour tool calculates the nearest neighbor index for the data based on the average distance from each feature to its nearest neighboring feature, it derives the values for the Observed Mean Distance, Expected Mean Distance, Nearest Neighbor Index, z-score, and p-value. The Standard deviational ellipses tool is used to create a standard deviational ellipse to summarize the spatial characteristics of the geographic features that is, central tendency, dispersion, and directional trends.

The temporal pattern of land conflicts in the study area for the selected years was analyzed using the Emerging Hot Spot Analysis using Space Time Pattern Mining tool in ArcMap software. The Emerging Hot Spot Analysis tool identifies trends in the clustering of point densities in the data. It uses the Neighborhood Time Step and Neighborhood Distance parameter values provided, to calculate the Getis-Ord G_i^* statistic (Hot Spot Analysis) for each potential point value. The potential point value have associated z-scores, p-values, and hot spot classification such as new, consecutive, intensifying, persistent, diminishing, sporadic, oscillating, historical hot and cold spots were added to it, and further evaluated using the Mann-Kendall trend test. The outputs of the analysis are visualized in map with the corresponding hotspot categories and summary of the analysis.

Data Visualization and Query in ELK stack and Standard Deviational Ellipse (SDE)

The database created was ingested into ELK stack through the Kibana (K) interface (Newer versions of the ELK stack) which allows data to be imported directly from the Kibana (K) software rather than through the Logstash (L). The data was thereafter transferred to the Elasticsearch (E) which stores the data and makes it ready for viewing and query in the Kibana (K) application.

The Standard Deviational Ellipses (SDE) was used for measuring the trend of the land conflict location by calculating the standard distance separately in x and y directions (the two measures that define the axes of an ellipse encompassing the distribution of land conflict points). SDE was calculated using the locations of the land conflict points influenced by selected attribute value associated with the features known as the *weighted standard deviational ellipse*. The Distributional Trend creates a new feature class containing an elliptical polygon centered on the mean center for all cases (with case field provided). The attribute values for the output ellipse polygons include two standard distances -long and short axes, the orientation of the ellipse, and the case field.

Results and Discursions

Spatial Pattern Analysis of the Land Conflict

The index of Nearest Neighbour Ratio (Rn) for the land conflicts in the study area is 0.733293, indicating a cluster pattern. The result of the Rn value also indicates a low degree of clustering with 0.733293 tending more toward 1 than 0. (Figure. 2). The statistical significance of the results is stated in the obtained z-score of -3.95222029788, indicating that there is a less than 1% likelihood that this clustered pattern could be the result of random chance. This implies that the locations of land conflicts in Ibadan Metropolis are fairly concentrated around the same geographical enclaves, but tends more towards randomness (Figure 3).

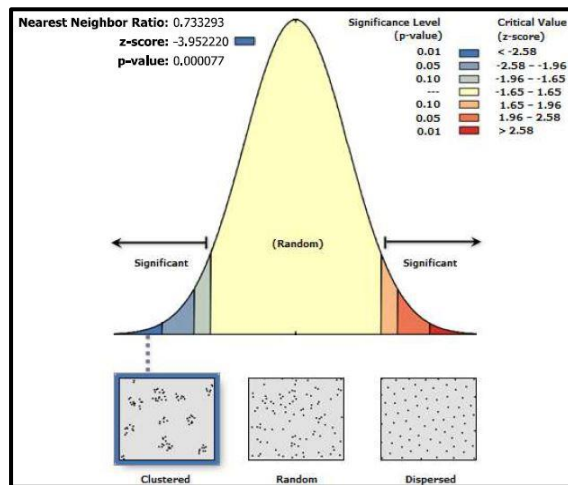


Fig. 2: Result of Nearest Neighbour analysis

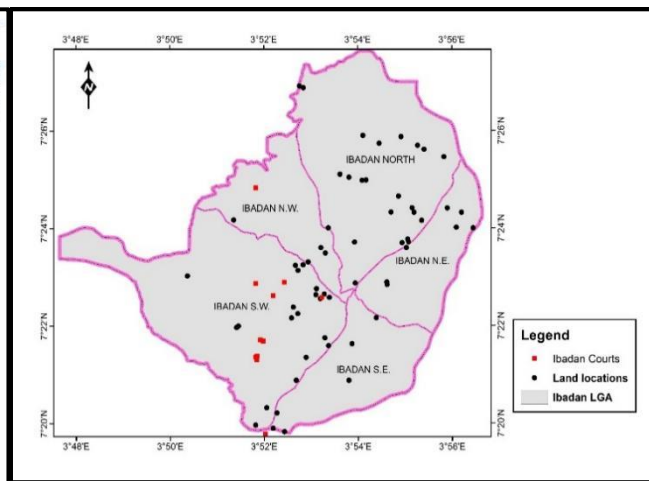


Figure 3: spatial location of the land conflict
Source: Authors' analysis, 2019

Distributional trend of Land conflict using Standard Deviation Ellipses

Figure 4 shows that the general distributional trend of land conflict in Ibadan Metropolis, is oriented in a diagonal way- North-East to the South West, with most the occurrences centered mostly in the following areas: *Ibadan North West*- Gbagi, Adamasingba, and Inalende; *Ibadan South West*-Foko Asaka, Oke Ado, Agbokojo, and Seventh Day; *Ibadan North*- Yemetu Igosun, Oke Are, and Oniyanrin; *Ibadan North East*- Oke Adu, and Aremo; *Ibadan South East*- Elekuro.

Figure 5 shows that the distributional trend of land conflicts that was settled in Court of Appeal to land conflicts settled in supreme court. The ellipse of the land conflicts settled in Court of Appeal stretches longer and narrower than that of the ellipse of the land conflicts settled in Supreme Court. It therefore, stretches from the far end of Ibadan SouthWest LGA to the far end of Ibadan North-West LGA. This shows that majority of land conflict cases in these regions get resolved at the Court of Appeal.

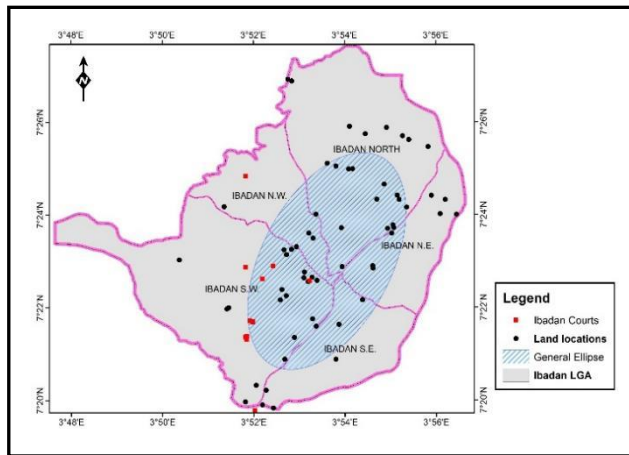


Figure 4: General trend of land conflict in Ibadan Metropolis

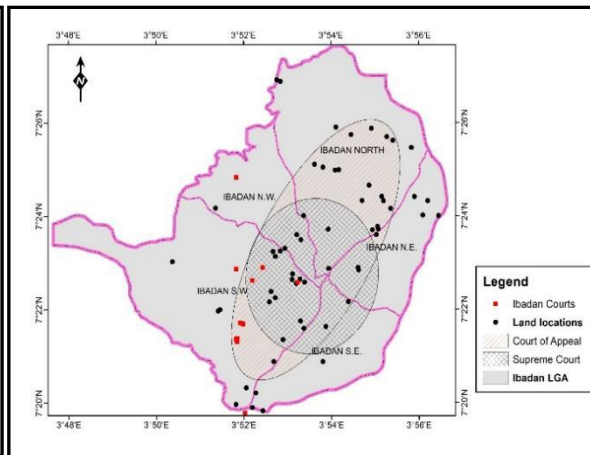


Figure 5: Trend of land conflict that was finally settled in the Court of Appeal and the Supreme Court in Ibadan Metropolis

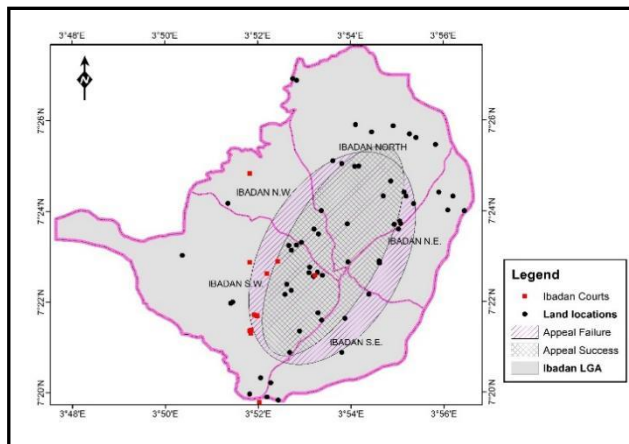


Figure 6: Trend of land conflict whose appeal ended in failure versus whose appeal ended successfully

The ellipse of the land conflict cases (figure 5) settled in the Supreme Court is rounded and centrally positioned around land conflict cases just at the center of all 5 local government. Specific locations in these areas includes: Gbagi, Adamasingba, Inalende, Foko Asaka, Oke Ado, Agbokojo, Seventh Day, Yemetu Igosun to mention a few. Land conflict in these areas are usually very intense to the extent that they got to the Supreme court before they are finally resolved.

Figure 6 also shows that the distributional trend of land conflict cases appealed that ended in failure and success. The ellipse of both land conflict appeal outcome span through the entire LGA and both have similar trend. However, the ellipse of the success is more narrower, which mean that there are fewer judgements at the appeal court that were successful than appeal that failed throughout the five LGAs in Ibadan metropolis. This indicates that most of the time, the judgment of the lower courts are fair and accurate but when litigants proceeds further in appealing their cases to the Federal Courts, the appeal ends in failure in most cases.

Temporal Pattern Analysis of the Land Conflict

Emerging Hot Spot Analysis of land conflicts using Space Time Pattern Mining Tool

In this study, the land conflict locations were analyzed over space and time (1982-2018) to reveal interesting trends of the events of land conflict in Ibadan Metropolis.

Clustering patterns of point densities or summary fields across the study area were analyzed.

The result was symbolized with seventeen different categories describing the statistical significance of hot or cold spots and the locational trend over time. Three prominent categories were observed namely: consecutive hotspot, sporadic hotspot, and New Hotspot (figure 3.6).

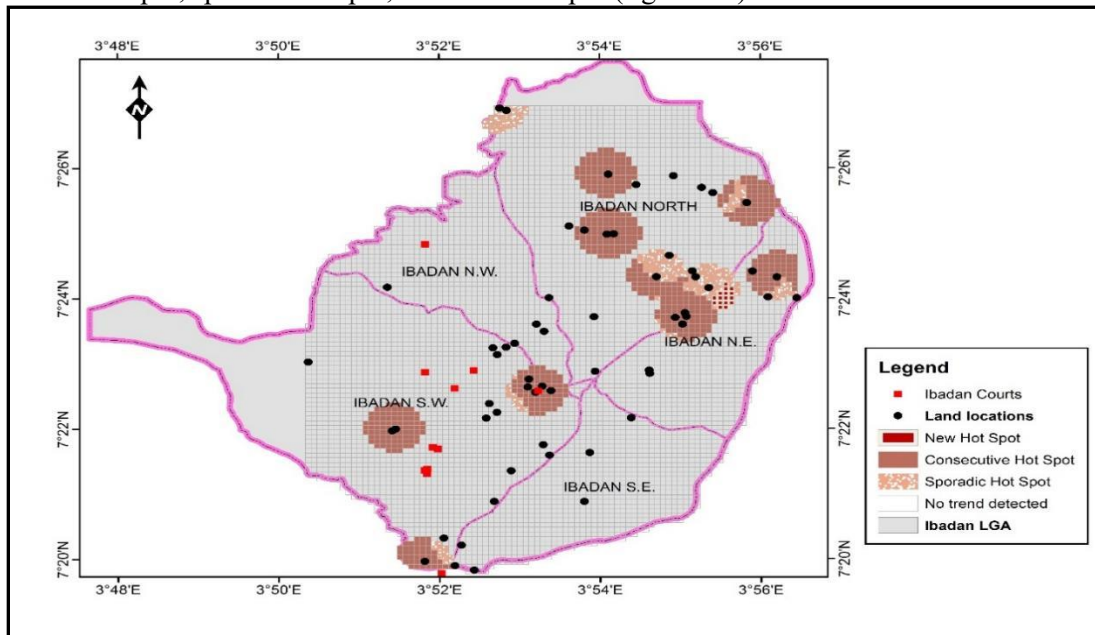


Figure 7: Emerging hotspot analysis of the land conflict locations.

Source: Authors' analysis, 2019

Consecutive Hotspot

The area of *Consecutive Hotspot* shows areas where there is consistent land conflict per year from 1972 to 2018 based on the cases that were appealed to the Supreme Court or the Court of Appeal (figure 7). These are mostly dominant in the following localities within five LGAs: *Ibadan North*- Ashi, Oluwo Nla, Agodi GRA, Yemetu Igosun, UCH, Secretariat, Old Bodija, Emmanuel College, and Samonda; *Ibadan North East*- Basorun, and Oke Adu; *Ibadan South West*- Oke Irefin, Planning Authority, Ile Oba, Isale Osi, Foko Asaka, Orita Ikereku, Ring Road, Agbokojo, and D-Rovans. Fewer consecutive hotspots were observed in Ibadan North West specifically in Agbeni and Ayeye, while Ibadan South East have no consecutive hotspot at all.

Sporadic Hotspot

Sporadic Hotspot shows where there are few land conflicts and occurrences are far between land conflict events (figure 7). These areas experienced a wide gap before another conflict happened. This is dominant in the following localities of the five LGAs: *Ibadan North* - University of Ibadan, Ashi, Oluwo Nla, Ikolaba, Agodi GRA, Yemetu Igosun, and Secretariat; *Ibadan North East*- Basorun, Abayomi, and Oke Adu; *Ibadan South West*- Foko Asaka, Anfanu Layout, Orita Ikereku, Oke Ado, Oke Bola, and Agbokojo. Ibadan South East and Ibadan North West no sporadic hotspot at all.

New Hotspot

The area of *New Hotspot* shows where land conflict are only recent but have been continuous (figure 7). The 'New Hotspot' was only found in Abayomi and Holy Trinity area in Ibadan North East LGA. This is due to increase in land conflict cases in that area which could be as a result of growth in economic value of such area. No other LGA in Ibadan Metropolis has a New Hotspot

Geo-Visualization of judgment of Legal Land dispute status and spatial queries on Elk Stack

The mapping function of ELK was used in this study to visualize the location of land conflict as well as location of Ibadan courts in map format (figure 8). Geospatial technique will aid finding locations of land dispute mentioned in the courts' decision. This will aid easy retrieval of the specific law report. Hovering the mouse pointer above any locational point will bring up a tool-tip of predetermined information of land conflict locations by court pronouncements in Ibadan courts.

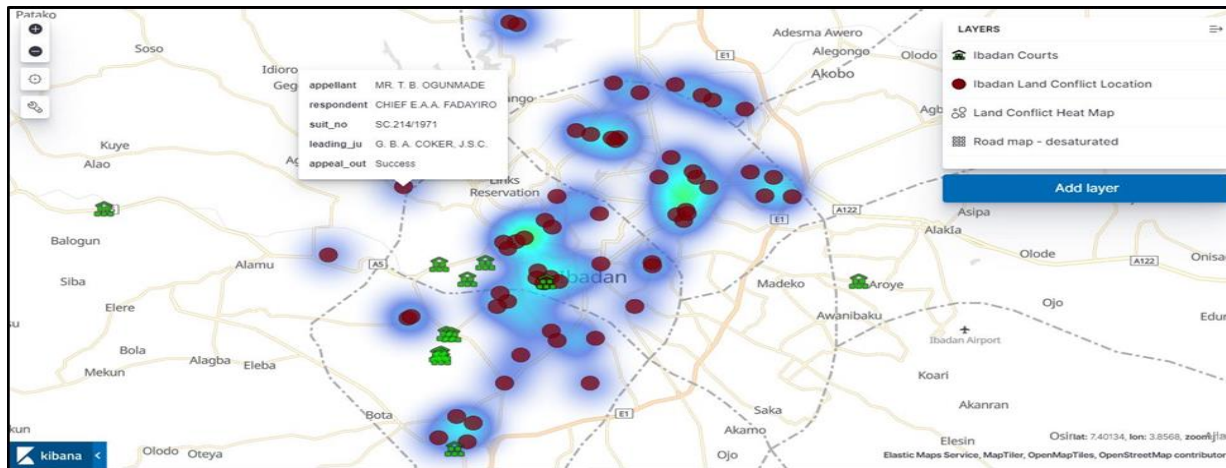


Figure 8. Kibana showing the Land Conflict Locations surrounded by Ibadan Courts

Source: Authors' Analysis, 2019

The query was carried out on land conflict locations using the ELK stack. Based on the result of the queries and in conjunction with the previously produced map, the status of judgments on land dispute matters was determined. Table 1 shows selected queries and frequency data of the results:

Table 1: Result of selected spatial queries

Selected Query	Frequency	Percentage
Query showing where Appellants or Respondents greater than 5	5	8.3
Query showing where total years of resolution greater or equal to 10years	28	46.7
Query showing where Appeal outcome is success	22	36.7
Query showing where Appeal outcome is failure	38	63.3
Query showing where final court is Court of Appeal	40	66.7
Query showing where final court is Supreme Court	20	33.3

Source: Authors' Analysis, 2019.

Land dispute locations where Appellants or Respondents is greater than five (5)

The result of the query in Figure 9 shows that there are only 5 cases where the Appellant or Respondent is more than 5 persons at a time. Five (8.3%) out of the total of 60 cases was observed in this regard. The cases were found in the following Localities in two LGAs alone out of the five LGAs of Ibadan metropolis: *Ibadan North West*- Gbagi, Adamasingba, and Jericho GRA; *Ibadan North*- Old Bodija, and Emmanuel College.

This query shows that most of the land conflict that occur in Ibadan Metropolis is mostly between individuals and occurred between group of people in Ibadan North-West and Ibadan North LGAs only.

Land dispute locations where total years of resolution is greater or equal to 10 years

Figure 10 shows the result of the query showing where total years of resolution greater or equal to 10 years. The result of the query shows that there are 28 cases (46.7%) of the total of 60 cases where the total years of resolution is greater or equal to 10 years. The location of such land dispute cases were found in the following Localities within the five LGAs of Ibadan metropolis: *Ibadan North East*-Basorun, Abayomi, Aremo; *Ibadan North* - University of Ibadan, Ikolaba, Agodi GRA, Old Bodija, Emmanuel College, New Bodija, Samonda; *Ibadan North West*- Gbagi, Adamasingba; *Ibadan South West*- UMC, Ososami, Anfani Layout, Orita Ikereku, Oke Ado, Agbokojo, Moor Plantation, Seventh Day; *Ibadan South East* - Elekuro, Kudeti, Odo Oba.

This query shows that most land conflict cases has been accurately judged by the lower courts and the litigants that are adamant in appealing to the federal courts had their appeal end in failure

Land dispute locations where cases' outcomes at the Appeal court was successful

The result of the query in Figure 11 shows that there are 22 cases (36.7%) of the total of 60 cases where the appeal ends in success. These cases were found in the following Localities within four LGAs out of the five LGAs of Ibadan metropolis: *Ibadan North*- Oluwo Nla, Agodi GRA, Yemetu Igosun, Oniyanrin, Old Bodija, and New Bodija; *Ibadan North East* - Oke Adu; *Ibadan North West*- Gbagi, Adamasingba, and Jericho GRA; *Ibadan South West*- Oke Ado, and Agbokojo.

This query shows that these cases were not accurately and fairly judged by the lesser courts, and in appealing against the ruling of the lesser court to the Federal Courts, their appeal was successful.

Land dispute locations where Appeal court's outcome Failed

Result of the query showing where the appeal outcome failed is visualized in figure 12.

The result of the query shows that there are 38 (63.3%) cases of the total of 60 cases where the appeal ends in failure. This indicates that more than half of such cases failed at the appeal court level. These cases were found in the following Localities within the five LGAs of Ibadan metropolis: *Ibadan North-East*- Basorun, Abayomi, and Aremo; *Ibadan North* - University of Ibadan, Ikolaba, Agodi GRA, Old Bodija, Emmanuel College, New Bodija, and Samonda; *Ibadan North West*- Gbagi, Adamasingba, Basorun, Abayomi, and Aremo; *Ibadan South West*- UMC, Ososami, Anfani Layout, Orita Ikereku, Oke Ado, Agbokojo, Moor Plantation, Planning Authority, and Seventh Day; *Ibadan South East* -Elekuro, Kudeti, and Odo Oba.

This query shows that most land conflict cases has been accurately judged by the lower courts and the litigants that are adamant in appealing to the federal courts had their appeal end in failure.

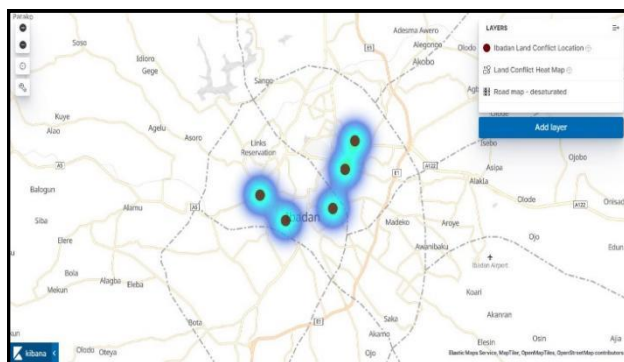


Figure 9: Spatial distribution showing where

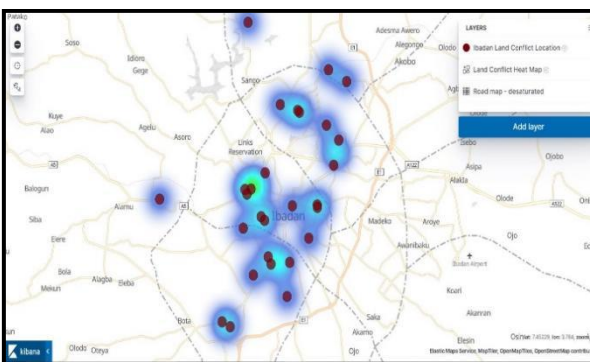


Figure 10: Spatial distribution showing where total

Appellants or Respondents greater than 5

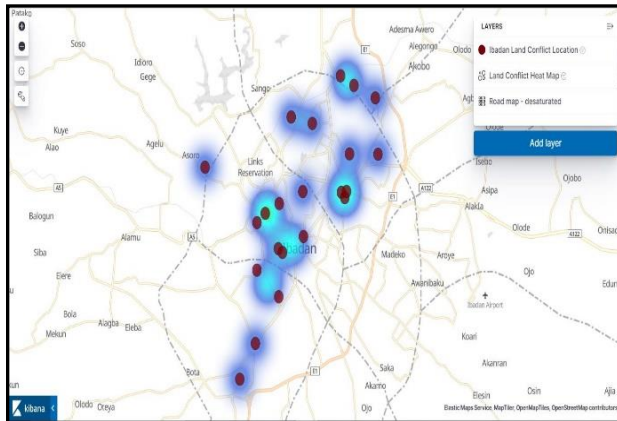


Figure 11: Spatial distribution showing where Appeal outcome is successful

years of resolution greater or equal to 10years..

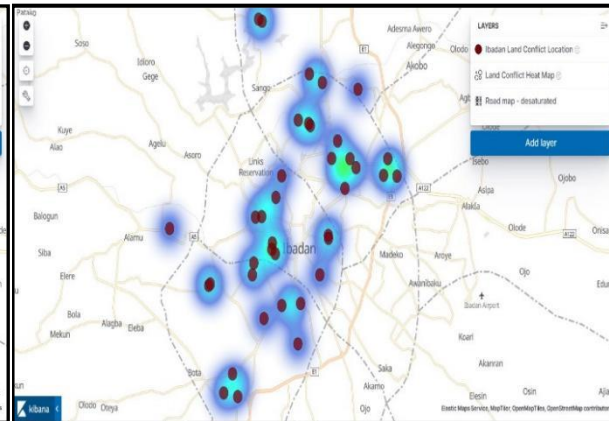


Figure12: Spatial distribution showing where Appeal outcome is failed

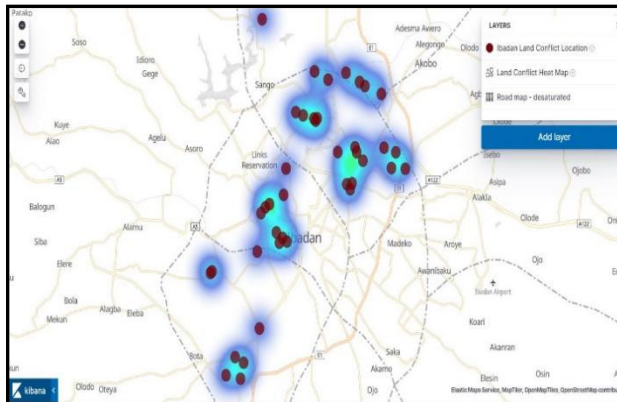


Figure 13: Spatial distribution showing where final court is court of appeal.

Source: Authors' analysis, 2019

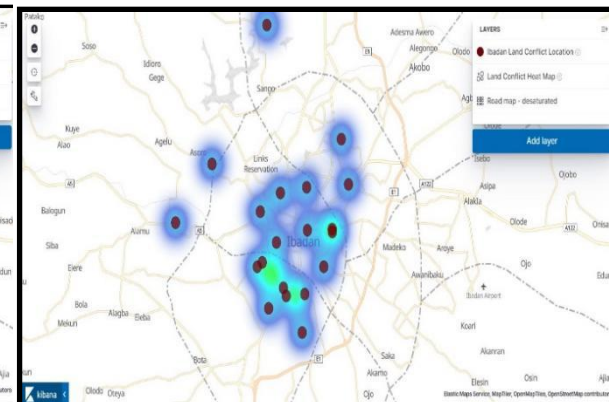


Figure 14: Spatial distribution showing where final court is Supreme Court.

Source: Authors' analysis, 2019

Land dispute locations where final cases were decided at court of appeal

Figure 13 shows the result of the query where final court of dispute resolution is court of appeal. The result of the query shows that there are 40 cases (66.7%) of the total of 60 cases where the final court of dispute resolution is the Court of Appeal. These cases were found in the following Localities within the five LGAs of Ibadan metropolis: *Ibadan North East* - Basorun, Abayomi, Oke Adu; *Ibadan North*- University of Ibadan, Agodi GRA, Old Bodija, Emmanuel College, New Bodija, Samonda, Oluwo Nla, Yemetu Igosun, Oremeji, Samonda; *Ibadan North West* - Gbagi, Adamasingba, and Inalende; *Ibadan South West* - Anfani Layout, Orita Ikereku, Oke Ado, Agbokojo, Planning Authority, Seventh Day, Foko Asaka, and Elewura.

This query shows that majority of land conflict cases terminated at the level of Court of Appeal in Ibadan Metropolis.

Land dispute locations where final cases were decided at Supreme Court

Figure 14 is the result of the query where final court of dispute resolution is Supreme Court. The result of the query shows that there are 20 cases (33.3%) of the total of 60 cases where the final court of dispute resolution is the Supreme Court. The location of land dispute cases were found in the following Localities within the five LGAs of Ibadan metropolis: *Ibadan North East* – Aremo; *Ibadan North*- at University of Ibadan, Ikolaba, Agodi GRA, Oke Are, and Oniyanrin; *North West* - Adamasingba, and

Jericho; *Ibadan South West* - UMC, Ososami, Oke Ado, Agbokojo, and Moor Plantation; *Ibadan South East* - Elekuro, Kudeti, and Odo Oba.

This query shows that there are fewer land conflict cases where the Supreme Court is the final court at which the resolution of land dispute was done.

Conclusion

This study shows that the pattern of land conflict locations is clustered. This indicates that some areas in Ibadan Metropolis are more prone to land disputes than others.

Also, The ELK Stack offers a flexible and scalable approach for integrating legal data and geospatial intelligence. By combining Elasticsearch's powerful indexing, Logstash or Kibana ingestion, and Kibana's mapping capabilities, the ELK Stack enables meaningful legal data storytelling—especially when complemented by traditional GIS tools. The Ibadan case demonstrates ELK's real-world application in justice system analysis and record management.

The study suggests the need to include more accurate and reliable information related to the location of the conflicts in law reports. For instance, in most of the cases, while there is a description of the location of the conflict, most often, they are too broad and incomplete and none of them has no geographic coordinate reference to locations. Amendment of various laws and courts' rules to accommodate the use of GIS and electronic method in managing legal records will enhance data storage and visualization.

Limitation and future research

The address system of law reports for the land conflicts were documented in a way that it was not easy for the location of the land to be easily linked. In other words, no coordinates for the locations at all. Where the locations are being described, some addresses were too broad such that only the approximate location for the land could be established, this made geocoding almost impossible. Also, the records available for the 46years period was too few, indicating that not all land conflict were documented or available on law pavilion. This study thus was limited to the data that were properly documented and formatted.

Further study can also look into the disaggregation of various law judgments for various categories of cases at various levels of court in developed and developing countries of the world using artificial intelligence tool (law pavilion AI). Comprehensive Geo-databases for geospatial legal analysis will be another research focus. This will largely improve the operation of judiciary system in different parts of the world.

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Pattern of Air Pollutants and Land Surface Temperature in Nigeria Using Space-Time Pattern Mining Techniques

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Abstract

In Nigeria, environmental challenges such as air pollution and rising Land Surface Temperature (LST) have been intensified due to increasing urbanisation and industrialisation. Previous studies have examined the impact of these challenges on the environment and public health using the traditional method and datasets from ground-based monitoring systems with limited spatio-temporal resolutions required in defining pollutant and LST extent in Nigeria. This study aimed to examine the spatio-temporal dynamics of major atmospheric pollutants (NO₂, SO₂, CO, and O₃) and LST across Nigeria from 2019 to 2024 using advanced geospatial and statistical techniques. The objectives were to: (1) analyze trends and clusters of pollutants and LST; (2) identify emerging hotspots; and (3) forecast LST for 2025 using multiple models. Air pollutants from Sentinel-5P (European Space Agency (ESA)) and LST from MODIS (National Aeronautics and Space Administration (NASA)) were employed to construct a Space-Time Cube used for Mann Kendal trend analysis, emerging hotspot detection and time series forecasting while forecasting models such as Curve Fit Forecast, Smoothed Exponential and Forest-Based Forecast were adopted to predict future LST variations for 2025. SO₂ showed a significant increasing trend in 60% of states, while O₃ increased in 32%. NO₂ and CO had no statistically significant trends but showed strong seasonal cycles. LST decreased in 33% of states, mainly in the southern zone. EHSA revealed persistent hot spots for LST in 24% of states and CO in southern industrial regions. Forest-Based Forecast models outperformed others in 65% of states, achieving a national mean RMSE of 1.22°C. Forecasted LST for 2025 showed a north–south thermal gradient with peaks above 38°C in northern states during March–May. These results offer valuable insights for environmental monitoring, climate adaptation, and public health planning. The study contributes methodologically by integrating geospatial and statistical tools for high-resolution environmental analysis in resource-constrained settings. It underscores the need for adaptive, data-driven policies to mitigate pollution and heat stress in vulnerable regions of Nigeria.

Keywords: Air pollution, land surface temperature, space-time pattern mining, remote sensing, Nigeria

Introduction

In recent years, environmental problems in developing countries have been heightened by rapid urbanisation, industrialisation, and increasing populations. Nigeria, the most populous country in Africa, is not exempted. Major cities, like Lagos, Abuja, Port Harcourt and Kano, have experienced uncontrolled growth and there has been a steady increase in emissions from vehicular movements, energy production, manufacturing, and oil exploration industries. These activities have resulted to increase of major air pollutants like nitrogen dioxide, (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), and ozone (O₃) and high land surface temperature (LST), which have implications for urban sustainability, climate change and public health (Lelieveld et al., 2015; Kolawole and Olatunji, 2023).

LST and air pollutants are climatic related variables. NO₂ and CO are greenhouse gases which contributes significantly to local warming by influencing the atmospheric radiation and energy balance, whereas O₃ is generated via complex photochemical reactions mediated through sunlight, NO_x and the volatile organic compounds (VOCs) (WHO, 2018; EPA, 2021). Ozone is particularly a problem at a global scale, given its secondary nature and exceeding standard level across the developing world (UNEP/WMO, 2011). Several investigations have shown that aerosols and trace gases can modify surface energy budget inducing changes in LST and enhancing the urban heat island (UHI) effect (Cao et al., 2016; Islam et al., 2022). In Nigeria, this interplay is further complicated by several regional factors including biomass burning in the North, oil and gas flaring in the Niger Delta, and diverse land use and land cover across different ecological zones (Ogaji et al., 2022).

Although there is increasing consciousness about these problems but previous studies in Nigeria have mostly examined single pollutants patterns or trends within restricted localities. Studies focusing on the

nationwide spatio-temporal patterns of multiple pollutants and LST are scarce. In spite of their accuracy, conventional ground-based monitoring stations however are not suitable for national assessments, since their coverage is limited but they are economical (Shaddick et al., 2018). This incomplete picture reveals the urgency of satellite-based, and statistically rigorous methods to be adopted to monitor environmental change in time and space.

Advance geospatial methodologies, especially space-time pattern mining tool(s) in GIS software (such as ArcGIS Pro) provide a promising alternative to solve this problem. The Space-Time Cube (STC) is used to aggregate and analyse multivariate data while adequately handling both the space and time dimension concurrently. These methodologies such as Trend analysis, Emerging Hot Spot Analysis, Time Series Clustering and Time Series Forecast can detect trends, patterns and forecast into the future respectively, which cannot be easily detected by the conventional method (Purwanto et al., 2021).

Hence, the study utilized a stark of space-time analytical approaches to examine the patterns and trends of air pollutants and land surface temperatures (LST) in Nigeria over the period 2019–2024. This aim was achieved with the following objectives: a) examined spatio-temporal trends and patterns of air pollutants and land surface temperature using trend analysis and time series clustering; b) assessed spatial distribution and characteristics of hot spots and cold spots of air pollutants and land surface temperature using emerging hotspot analysis; and c) predicted future trend of land surface temperature and evaluated for the best model.

Applying MODIS (LST) and Sentinel-5P TROPOMI (air pollutants) satellite-derived datasets, the study demonstrated persistence, and emergence and spatial clustering of high- and low-value zones as well as forecasting which are crucial in understanding the dynamics of environmental change. By focusing on this methodological framework and the integration of multiple variables, as it was echoed in the study of Rahaman et al. (2024) whose work adopted same approach to explore the spatio-temporal relationship of air pollutants and LST at national level of Bangladesh with the use of cloud-based spatial-temporal remote sensing data and space-time pattern mining techniques, This study generated actionable insights for environmental monitoring intervention and evidence-based policy-making to mitigate the challenges of atmospheric pollutant and land surface temperature which are crucial to lessen the climate induced threat to public health.

Study Area

Nigeria, the most populated country to the western part of Africa has an estimated population of approximately 219 million people (Mahmud et al., 2023). The country covers a land area of about 923,768 square kilometres and lies between latitudes 3° and 15°N and longitudes 3° and 15°E. It shares borders with Benin to the west, Niger to the north, Chad to the northeast, and Cameroon to the east, with its southern boundary facing the Atlantic Ocean (Onah, 2020).

The country exhibits diverse ecological and climatic zones ranging from humid tropical rainforests in the south to arid and semi-arid Sahel regions in the north (Onafeso, 2023). Nigeria experiences a distinct seasonal pattern, with a wet season occurring from April to October and a dry season from November to March (Ibebuchi and Abu, 2023). According to Mean annual temperatures range from 22°C in the highland and southern regions to 34°C in the northern lowlands (Eresanya et al., 2018).

This diverse ecological and climatic environment plays an important role in the regional differences of the air pollution and land surface temperature (Guo et al., 2022). The southern region of Nigeria, specifically the Niger Delta, as well as major coast stretches like Lagos and Port Harcourt submit to the most industrial activities and petroleum oil production in the country, with high urbanisation, indicating high levels of pollutants like SO₂ and NO₂ (Amoatey et al., 2019). In comparison, the northern-central region, which is generally less industrialised, is more increasingly impacted by urban expansion, vehicular emissions, and seasonal biomass burning, thereby influencing levels of O₃ and LST.

The administrative divisions of Nigeria consist of 36 states and the Federal Capital Territory (FCT), offering an appropriate scale for spatially disaggregated environmental investigation. This research takes

advantage of this administrative boundary to conduct a comprehensive, state-level spatio-temporal assessment of air pollutants and LST from 2019 to 2024. Figure 1 illustrates a detailed map of the area.

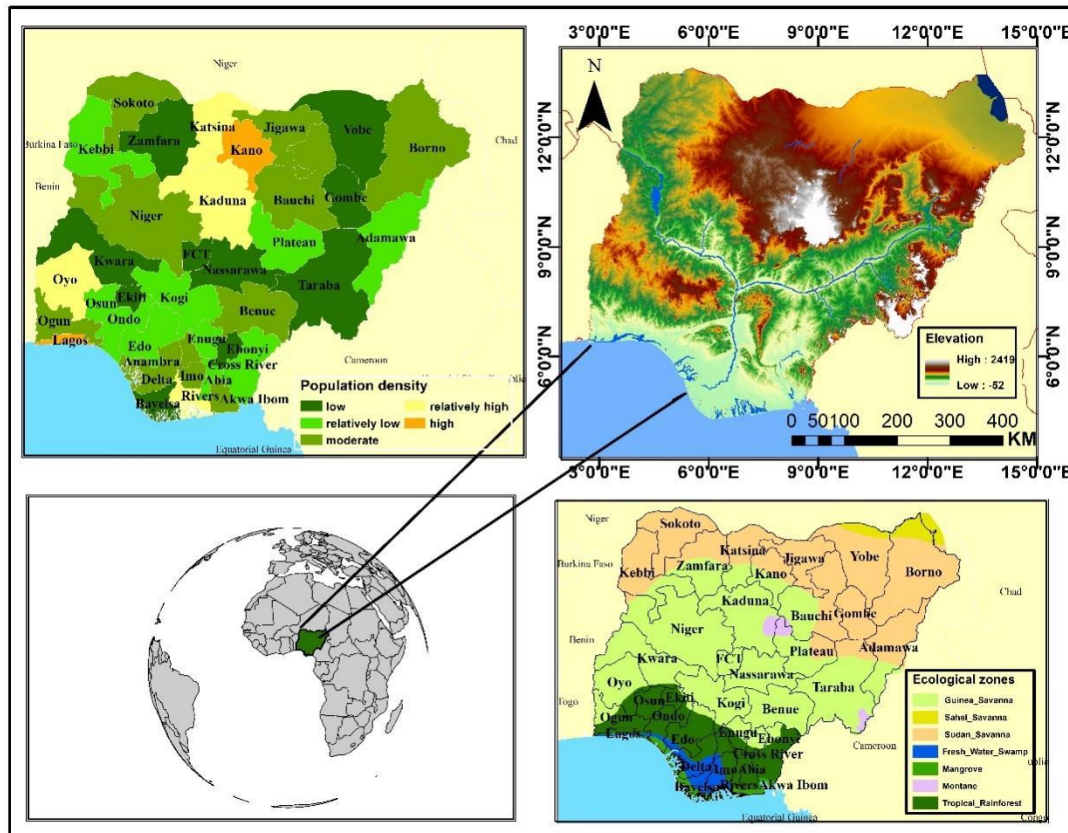


Figure 2: Detailed map of the Study Area (Nigeria) with its administrative boundaries, Population Density, Elevation and Ecological Zones

Materials and Methods

Data Collection

This study primarily utilized secondary remote sensing datasets extracted through the Google Earth Engine (GEE) platform. GEE provided access to a wide array of globally available, preprocessed satellite imagery, enabling efficient analysis of long-term environmental changes at national and regional scales (Rahaman & Shermin, 2022). Data covering the period from January 2019 to December 2024 were collected to investigate the spatio-temporal dynamics of air pollutants and land surface temperature (LST) across Nigeria.

Two main satellite missions served as the sources of this data. The Moderate Resolution Imaging Spectroradiometer (MODIS) instrument aboard NASA's Terra satellite supplied the MOD11A1.061 product offered daily LST and emissivity data at a 1 km spatial resolution. Due to its stability and reliability, this global dataset has been extensively used to monitor land surface temperature (Wan et al., 2021).

Concentrations of atmospheric pollutants were sourced from the Sentinel-5 Precursor (Sentinel-5P) satellite, operated by the European Space Agency (ESA). The TROPospheric Monitoring Instrument (TROPOMI) on the satellite collects detailed observations of vital air pollutants such as nitrogen dioxide (NO₂), sulphur dioxide (SO₂), ozone (O₃) and carbon monoxide (CO). These datasets provided near-daily global coverage and were instrumental in assessing air quality variations across time and space (Ayoobi

et al., 2022). Each dataset was extracted using a GEE-based preprocessing algorithm (Appendix A), clipped to the national boundary of Nigeria, and prepared for analysis in ArcGIS Pro. Table 1 summarizes the datasets used, including their sources, spatial resolutions, and temporal properties.

Table 2: List of Dataset

Data	Content	Resolution	Units	Source
Land Surface Temperature	Day land surface temperature	1000m	Kelvin	Moderate-resolution Imaging Spectroradiometer (MODIS)
Carbon monoxide	Tropospheric NO ₂ column number density	1113.2m	mol/m ²	Sentinel-5P Tropospheric Monitoring Instrument
Sulphur dioxide	Tropospheric SO ₂ column number density			
Nitrogen dioxide	Tropospheric NO ₂ column number density			
Ozone	Tropospheric O ₃ column number density			

Extraction of Monthly Zonal Statistics

To analyse spatial variations in pollutant concentrations and land surface temperature (LST) across Nigeria, monthly zonal statistics were performed using a combination of monthly average of concentration raster and zonal statistics tools In ArcGIS Pro. The state administrative boundaries served as the zonal units for aggregating pixel-level data into state-level summaries. After reprojecting and clipping the raster datasets to Nigeria’s boundary, the “Zonal Statistics as Table” tool in ArcGIS Pro was used to compute the mean values of each variable (NO₂, SO₂, O₃, CO, and LST) for each state on a monthly basis from January 2019 to December 2024. This method enabled the conversion of raster-based measurements into structured tabular data, with each record representing a state’s average pollutant or LST for a specific month. The process was repeated for each month and for all variables. .

The resulting tables were named according to the variable and the corresponding time step. These tables were merged into a single dataset per variable using Arcpy in ArcGIS Pro to create a continuous monthly time series. Merged table included the state identifier, date, and corresponding mean value for all variables. This approach ensured consistency in spatial aggregation across variables and allowed for seamless integration with the state feature class used in the subsequent creation of the space-time cube.

Creation of Spacetime Cube

Following the extraction and merging of monthly zonal statistics, a Space-Time Cube (STC) was created in ArcGIS Pro to enable advanced spatio-temporal analysis of air pollutants and land surface temperature (LST) across Nigeria (Mo et al., 2020). The “Create Space Time Cube by Defined Locations” geoprocessing tool in ArcGIS Pro was used to achieve a netCDF file, a 3D data structure containing multiple time steps for each location, capturing the evolution of environmental variables over time. The space-time cube approach offered a robust framework for managing the complexity of spatio-temporal data, ensuring consistency in analytical procedures and enhancing interpretability of environmental patterns (Mo et al., 2020; Rahaman et al., 2024).

Data Analysis

Trend Analysis and Time Series Clustering

Trend analysis and time series clustering were performed to examine the temporal behaviour and spatial distribution of air pollutants and land surface temperature (LST) across Nigeria in ArcGIS Pro 3.4.0, following the creation of the Space-Time Cube.

To assess the trends over time for every spatial unit, the trend analysis employs the Mann–Kendall trend test, a non-parametric rank correlation technique. It assessed the presence of a statistically significant upward or decreasing trend in pollutant concentrations or land surface temperature values during the study's period (Kendall & Gibbons, 1990; ESRI, 2021).

Time series clustering was used in addition to trend analysis to group areas that showed comparable temporal characteristics in surface temperature and pollutant concentration. This clustering method facilitated the identification of areas exhibiting similar temporal trends that may require improved environmental monitoring or specific policy measures.

In addition to trend analysis, time series clustering was performed to group locations that exhibited similar temporal behaviors in pollutant concentration and surface temperature. This clustering approach allowed the identification of regions experiencing common temporal patterns that may warrant closer environmental monitoring or targeted policy interventions.

Emerging Hotspot Analysis

To investigate the temporal evolution of spatial clusters in air pollutant concentrations and land surface temperature (LST) across Nigeria, the Emerging Hot Spot Analysis (EHSA) tool in ArcGIS Pro was utilized. This technique enables the detection of statistically significant hot spots (clusters of high values) and cold spots (clusters of low values) that persist, intensify, diminish, or emerge over a defined temporal period (Esri, 2021).

EHSA operates by applying the Getis-Ord G_i^* statistic to each spatiotemporal bin in the space-time cube, which was previously constructed from monthly state-level data. The G_i^* statistic evaluates the degree to which each observation is surrounded by similar high or low values, generating two critical outputs: z-score, indicating the strength and direction of clustering, p-value, assessing the statistical significance of the observed clustering pattern (Getis & Ord, 1992).

In addition to spatial clustering, EHSA assesses temporal patterns through the Mann–Kendall trend test, a non-parametric statistical test widely used for detecting monotonic trends in time series data (Kendall & Gibbons, 1990). When applied to the time series of G_i^* z-scores for each location, the test allows the classification of each spatial unit into one of 17 distinct temporal trend categories (Purwanto et al., 2021).

Time Series Forecasting

To forecast monthly Land Surface Temperature (LST) for Nigeria's 37 states from January to December 2025, a comparative multi-model strategy was implemented using ArcGIS Pro. The models used included the ***Curve Fit Forecast***, ***Exponential Smoothing Forecast***, and the ***Forest-Based Forecast***. Each model was trained using monthly mean LST from 2019 to 2023, derived from MODIS satellite data, and validated using the final 12 months of observations in the training period. To ensure robustness and account for regional variability, model performance was validated using a hold-out test set and evaluated with the Root Mean Square Error (RMSE) metric. To identify the most appropriate forecasting technique for each location and variable, the Evaluate Forecasts by Location tool was applied. This tool compared the performance of all three models based on validation RMSE and provided a recommendation on the best-fitting yielding the lowest validation RMSE was selected to generate the final LST forecasts for each state.

Forecast results were visualized as spatial layers indicating predicted values, confidence level, and dominant model types. The integration of multiple forecasting methods allowed for both accuracy and adaptability, offering a comprehensive view of expected environmental trends and highlighting regions at potential risk of worsening temperature conditions. Figure 2 below presents the methodological flowchart used for this study.

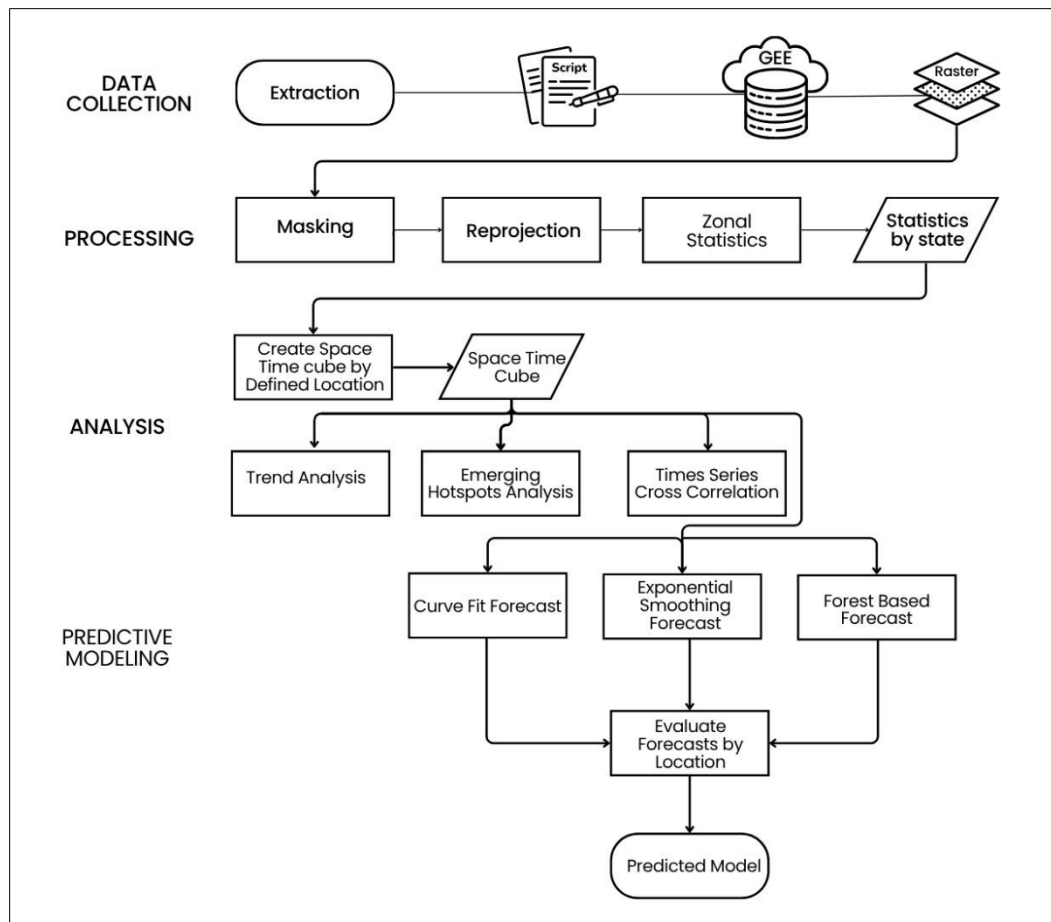


Figure 3: Flowchart of the Analysis Process for this Study.

Results

Trends and Clustering Analysis

Trend Analysis

There is a clear seasonal variation in the temporal trend of the five variables (gaseous, inorganic ions, and LST) from January 2019 to December 2024 as illustrated in figure 3, and the intensity of the concentrations were further confirmed by the Two Time-Based Dimension plot in figure 4. Mean NO₂ concentrations had a seasonal cycle with high intensity levels seen usually between dry season months, in particular, November to March (figure 4). Sulfur dioxide (SO₂) remained relatively constant over the study duration and showed no pronounced seasonal variations, except for occasional spikes, which probably originated due to localized emission events or episodic industrial activities. CO concentrations had a marked and consistent seasonal variation, with low concentration during the wet season and high concentration during the dry season, as a result of increased burning and decreased atmospheric dispersion. Ozone (O₃) concentration also followed seasonal changes, with maxima in the months of March to May and minima in the months of September to November in most years. The LST trends were relatively consistent, showing seasonal variations characteristic of peaks in the transitional months (March–April) and troughs around the peak of the wet season (July–August). Remarkably, the seasonal patterns of O₃ and LST seems to be synchronized indicating a photochemical connection between the surface warming and O₃ generation.

The Mann–Kendall trend test was conducted for every spatial unit within the space-time cube framework to detect significant increasing (upward) or decreasing (downward) monotonic trends. The

direction and statistical significance of temporal trends of monthly air pollutants (NO_2 , SO_2 , CO , and O_3) and Land Surface Temperature (LST) across Nigeria for the period between 2019 and 2024 are shown in figure 5 and percentage of states within each statistical confidence interval are shown in Figure 6. NO_2 and CO were identified to demonstrate no significant trend across 100% of the states. Nevertheless, there was significant an increasing trend of SO_2 concentration in several southern and central states, as 41% of the state such as Lagos, Edo, Rivers, Enugu, Taraba, Adamawa and Benue showed a significantly increasing trend of SO_2 concentrations with 99% confidence level which is indicative of highly reliable warming trend during the study period. A further 16% of the states (Kogi, FCT, Delta, Ondo, Kaduna, Ogun etc.) showed an upward trend at 95% confidence level and 3% (Kwara State) exhibited upward trend at 90% level of confidence, which indicates some modest to strong warming, although the statistical confidence level is slightly lower. In contrast, 40% of the states showed no significant trend in SO_2 , indicating that either the SO_2 concentration was constant over time or that any movement that did occur did not represent a consistent trend in either direction.

O_3 levels significantly increased at the 95% confidence level in 32% of the states, with highest frequencies found in northeastern, in particular Borno, Yobe, and Gombe States. The remaining 68 % of states did not have a significant trend in O_3 . In contrast, LST showed a dominance of a decreasing trend with 33% of the states indicating a significant decreasing trend at 95% confidence level, mainly at northern part of Nigeria and forest–savanna transition zone in the south. In 5% of the states, such as Osun and Ondo, an even steeper reduction with a statistically significant confidence at 99% was detected. Besides, 24% of the states including Oyo, Ogun, Anambra, Cross River, Plateau, Kebbi, and Kano displayed a decrease at the 90% confidence interval. Finally, 38% of the states did not show significant trends in LST.

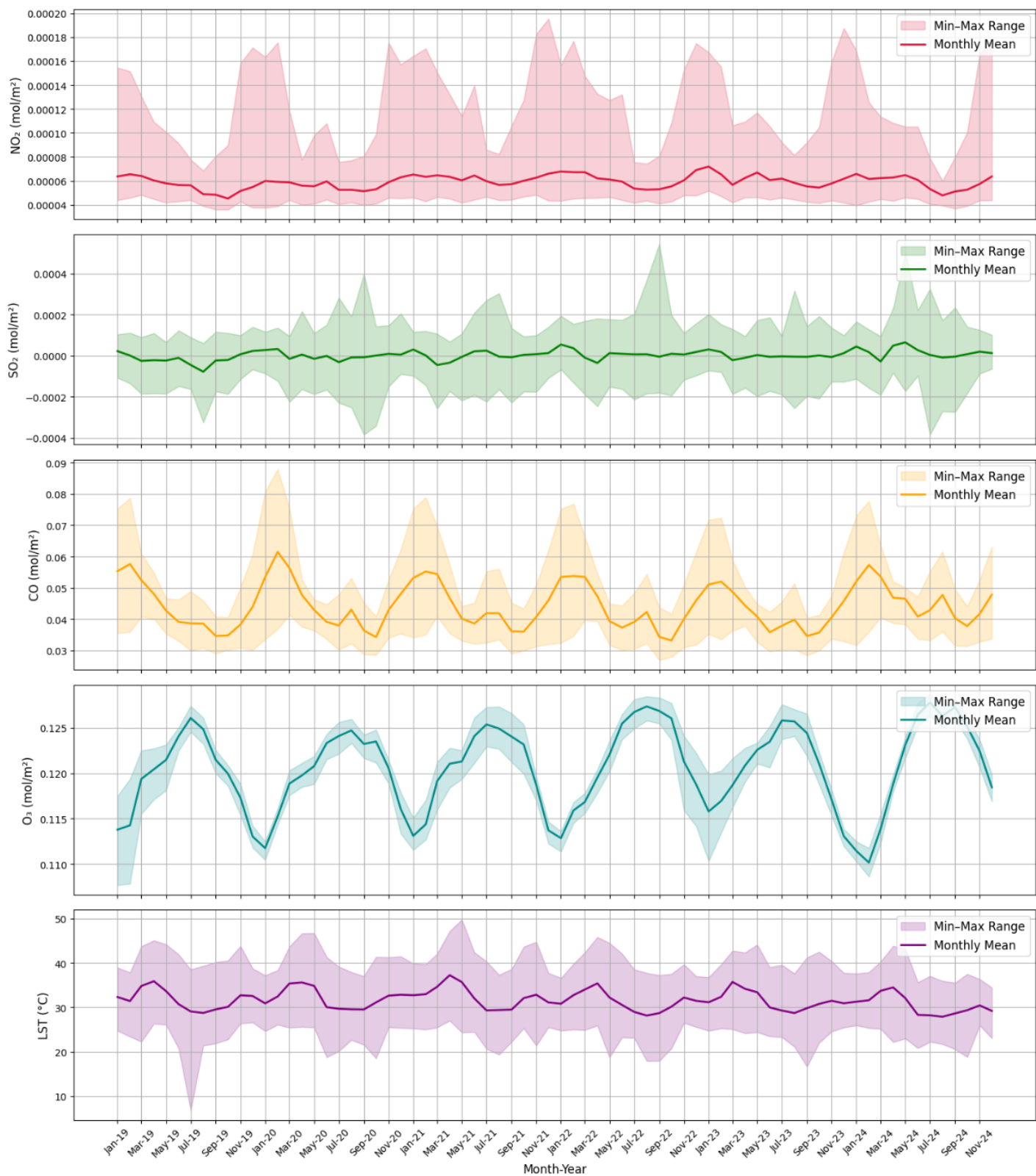


Figure 4: Trend of Monthly average concentration (mol/m²) of air pollutants and Land Surface Temperature (°C) over Nigeria. The upper and lower bands indicate the maximum and minimum concentration.

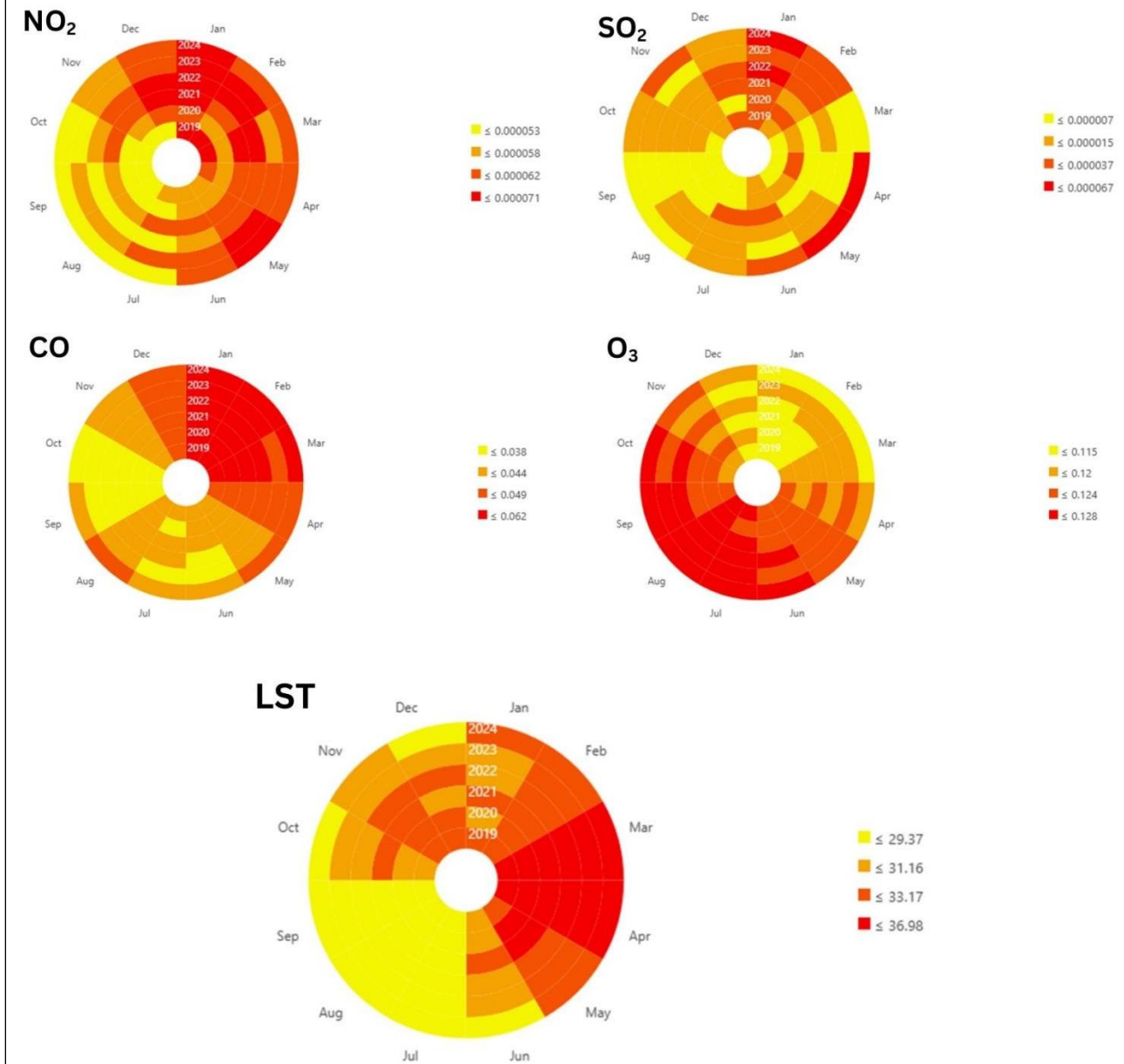


Figure 5: Two Time-Based Dimension of Air Pollutants (mol/m^2) and Land Surface Temperature ($^{\circ}\text{C}$). Red colour indicates high intensity while yellow colour indicates low intensity.

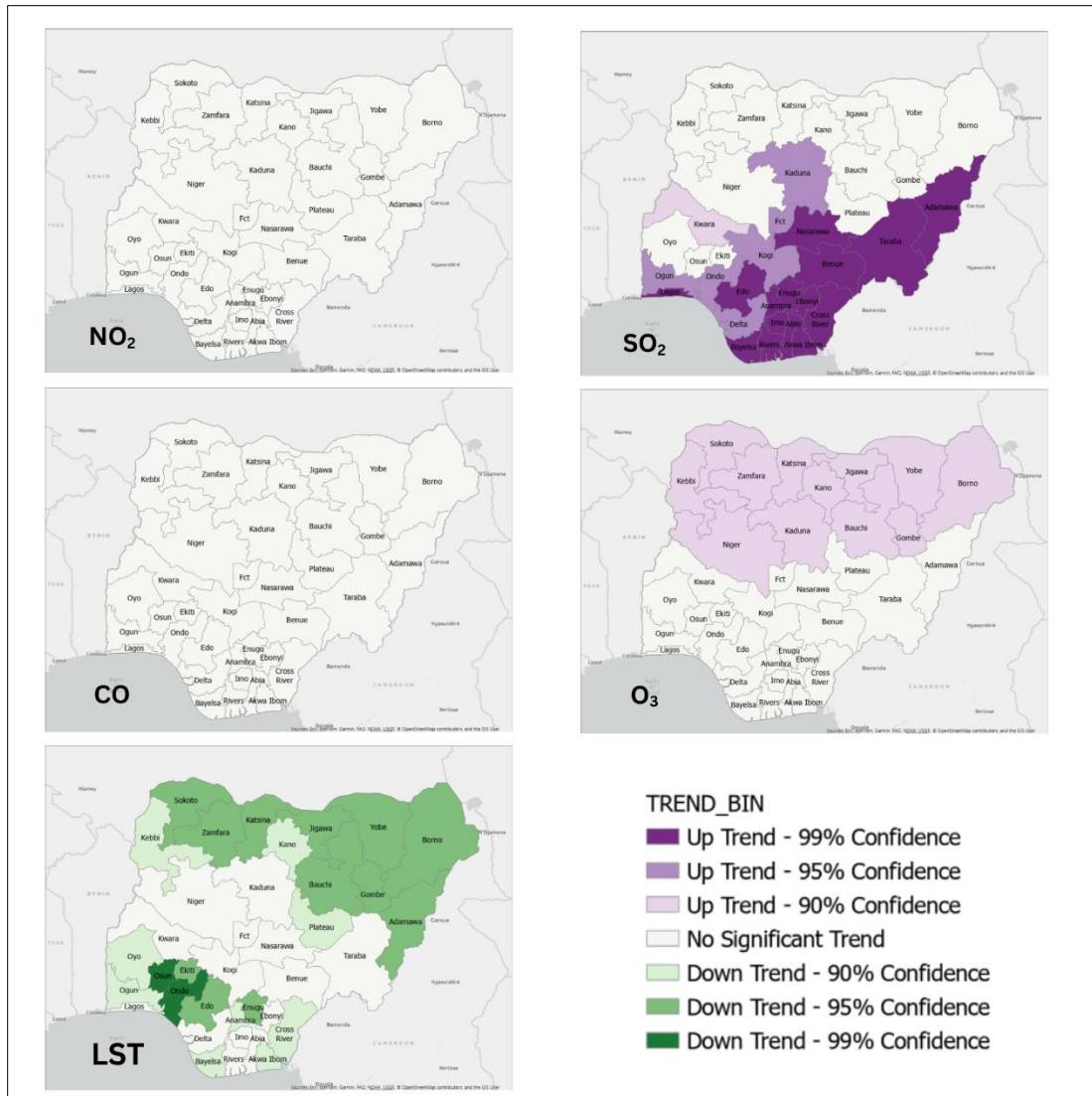


Figure 6: Spatial Distribution of Air Pollutant and Land Surface Temperature Trends (2019–2024) Based on the Mann–Kendall Trend Test

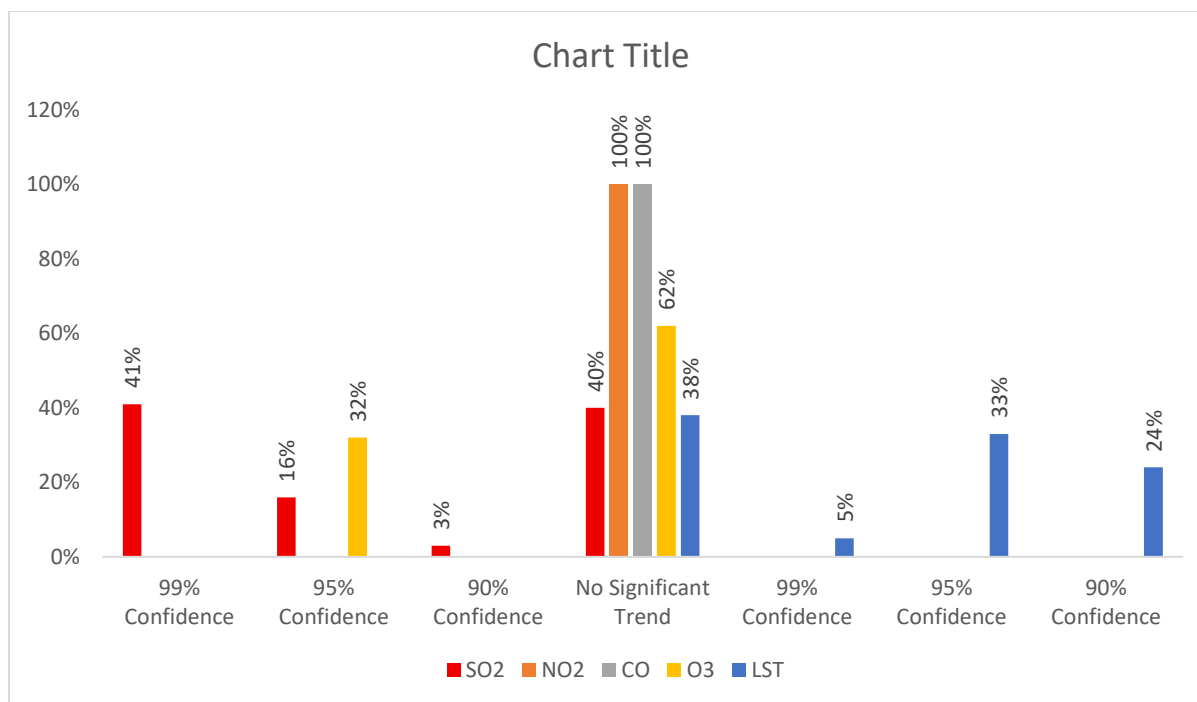


Figure 7: A clustered column chart showing the percentage of states falling within each statistical confidence interval (90%, 95%, and 99%) for observed temporal trends in NO₂, SO₂, CO, and O₃, based on the Mann–Kendall trend test

Time Series Clustering

The time series clustering results presented in figure 7 and 8 below provided further insights into the spatial and temporal dynamics of the variables. The time series clustering results for NO₂, SO₂, CO, O₃, and LST reveal distinct spatial and temporal patterns across Nigeria. For NO₂, four clusters were identified, with Cluster 4 (containing only Lagos) exhibiting the highest seasonal peaks. The state show pronounced dry-season spikes, likely due to traffic and industrial emissions, while Clusters 1 and 3 (with more northern and central states) had flatter, lower trends, suggesting less intense NO₂ activity. SO₂ clustering followed a similar pattern, where Cluster 4 (containing Lagos, Ogun and Ondo) again showed more volatile and elevated concentrations.

For CO, Cluster 1 had the highest average concentrations and included several southern states and few southwestern states (Ogun, Lagos and Ondo), indicating high emissions likely from industrial fuel use and gas flaring; meanwhile, Clusters 3 and 4, mostly in the north, showed lower CO levels. The O₃ clusters revealed strong seasonal cycles across all groups, but little distinction in magnitude, suggesting that O₃ variability is more temporally than spatially driven. All clusters followed a similar annual rhythm, although minor differences in amplitude exist.

In contrast, LST clusters revealed a clear latitudinal gradient: Cluster 1 (southern states) had consistently lower land surface temperatures, while Cluster 2 (northern states) showed the highest peaks, especially during the dry season. The number of states per cluster (i.e., location count) reflects the geographical and environmental coherence of each group, with larger clusters often representing broader climatic zones and smaller ones capturing more extreme or localised behaviours. Across all variables, a strong north–south environmental gradient is evident. Pollutants like CO and O₃ exhibit increasing trends and higher concentrations in northern regions, likely due to open burning, intense sunlight, and sparse vegetation. On the other hand, SO₂ and NO₂ concentrations and trends are more pronounced in southern

Nigeria, reflecting industrial and urban emissions. LST patterns reinforce this, with cooling observed in the south and persistent heat in the north.

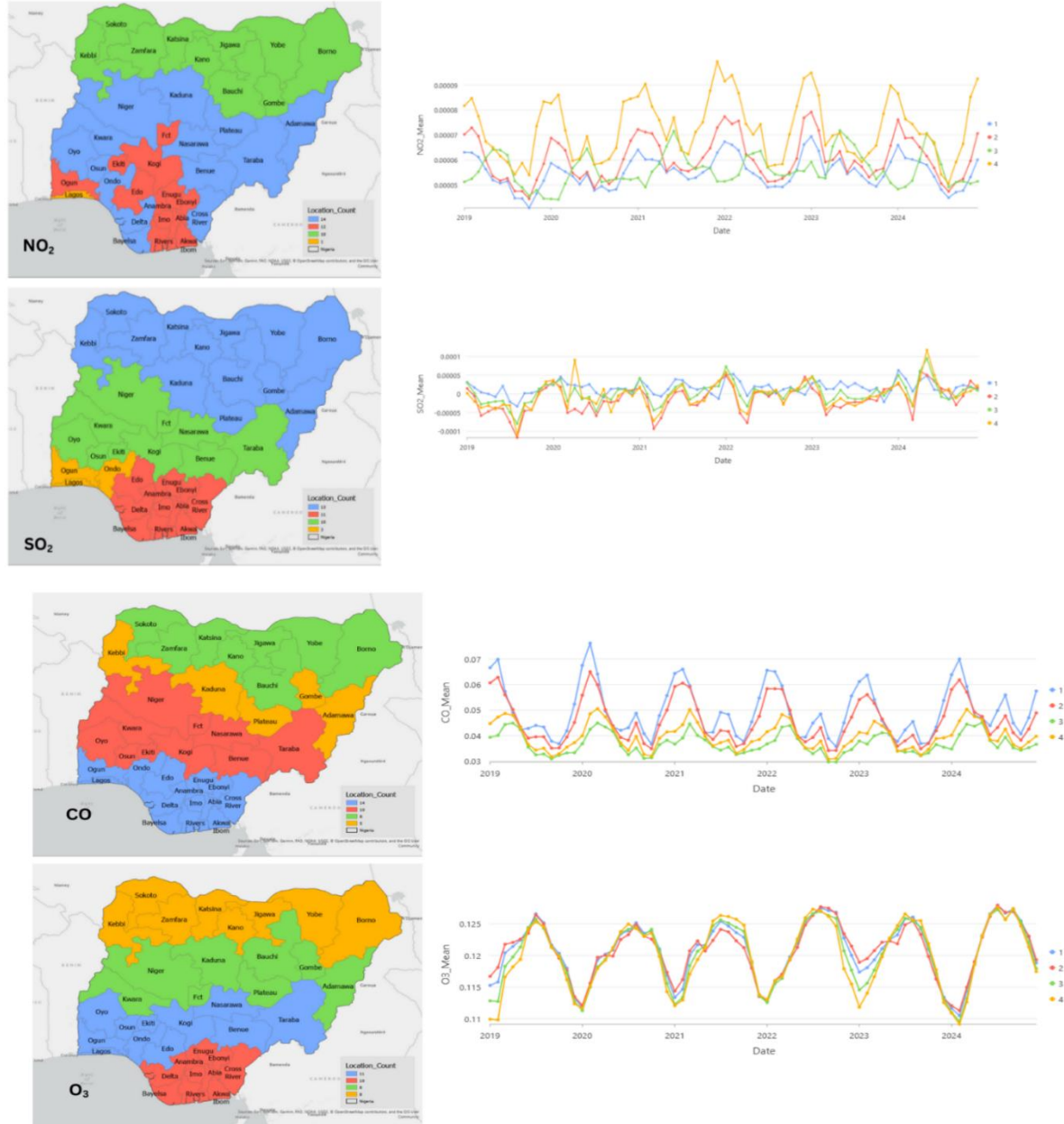


Figure 8: Time Series Clustering of NO₂, SO₂, CO and O₃. The maps (left) represent the spatial distribution of the clusters, and the plots show the average time series of the clusters

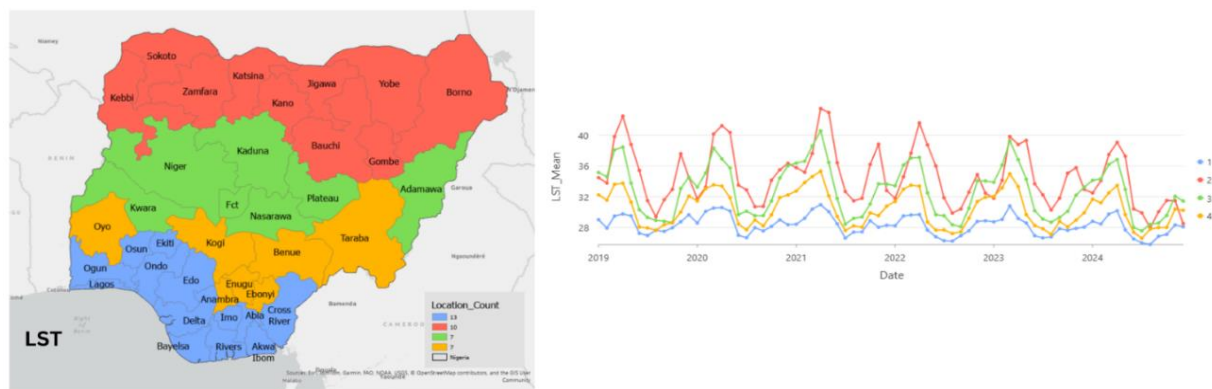


Figure 9: Time Series Clustering of Land Surface Temperature. The maps (left) represent the spatial distribution of the clusters, and the plots show the average time series of the clusters

Spatio-Temporal Patterns

Figure 9 and 10 illustrates the spatiotemporal patterns of statistically significant hot and cold spots detected using the Emerging Hot Spot Analysis (EHSA) tool in ArcGIS Pro for NO_2 , SO_2 , CO , O_3 , and LST. Each location is categorised based on the temporal behaviour of clustering, such as new, intensifying, persistent, sporadic, oscillating, diminishing, or historical hot/cold spots, revealing where values have increased, decreased, or fluctuated over time. Areas with no discernible pattern are also indicated. The analysis highlights regions with consistent or emerging environmental stress, supporting targeted intervention and policy responses.

Of all variables, LST revealed the strongest and spatially coherent patterns as 24% of states (9 of 37) emerged as persistent hot spots, mainly in northern and central states including Yobe, Gombe, Borno, Kebbi, Kaduna, Jigawa, Zamfara, Bauchi and Adamawa. In contrast, persistent cold spots were found in 22% of all states, with most found in the southern coastal regions, including Edo, Imo, Abia, Delta, Abia, Rivers, Cross River, and Bayelsa states that may be cooled by presence of dense vegetations and proximity to the oceans. On the other hand, 16% of states (Oyo, Kwara, Ekiti, Kogi and Benue) indicated no statistically significant trend in LST while few states indicated sporadic or oscillatory patterns indicating seasonal or short-term fluctuations.

Carbon monoxide (CO) also displayed clear spatio-temporal trends. States in the north exhibited persistent cold spots, whereas southern urbanized and industrial states such as Lagos, Delta, Edo, Imo, Abia, Delta, Abia, Rivers, Cross River and Bayelsa were dominated by persistent and sporadic hot spots, together accounting for over 43% of the states. This spatial contrast mirrors population density and emission sources such as traffic and industries. Nitrogen dioxide (NO_2), another traffic-related pollutant, showed less temporal stability. While 16% of the states exhibited sporadic hot spots, another 16% revealed oscillating hot spots, suggesting seasonal fluctuations influenced by human mobility and meteorological dynamics. Notably, 35% of states had no significant NO_2 trend such as FCT, Osun, Ondo, Ekiti, Niger and Kaduna indicating irregular or insufficient clustering for statistical detection.

Sulfur dioxide (SO_2) and ozone (O_3) presented relatively weaker clustering. For SO_2 , 70% of states showed no pattern, although isolated oscillating cold spots and sporadic hot spots occurred in southwestern and northeastern part of the country. This inconsistency may result from fluctuating emission rates and satellite retrieval limitations due to cloud cover or low concentrations. O_3 , a secondary pollutant formed through photochemical reactions, showed no detectable hotspot patterns in any state, reflecting its complex formation mechanisms and strong dependence on meteorological conditions rather than direct emissions.

In summary, the EHSA results provide clear evidence of the differential behavior of pollutants and LST across Nigeria, with LST and CO showing the most persistent spatial patterns. These findings

underscore the importance of localized environmental management strategies. While the north faces persistent thermal intensification requiring climate resilience planning, the south demands stricter emissions control and urban planning policies.

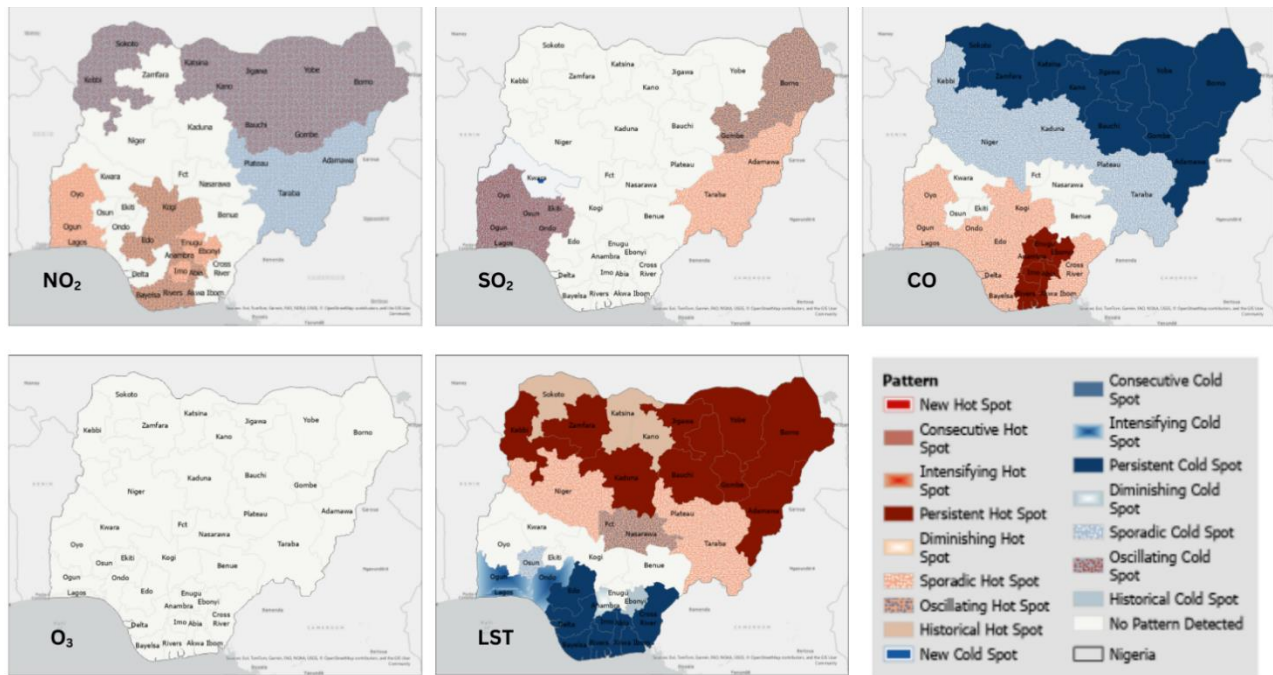


Figure 10: Spatial Distribution of Emerging Hot and Cold Spots for Air Pollutants and Land Surface Temperature (LST) in Nigeria (2019–2024).

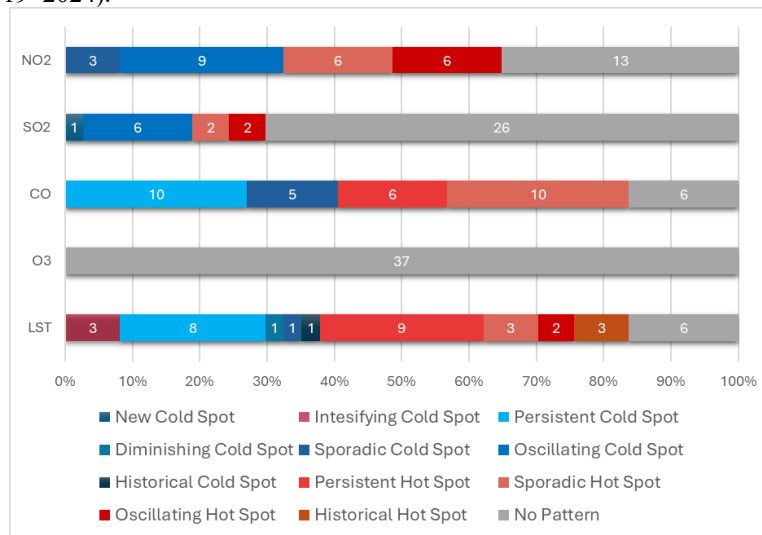


Figure 11: Detailed Percent Distributions of Spatio-temporal Pattern for Air Pollutants and LST from 2019-2024.

Time series Forecasting

Curve Fit Model

As shown in Figure 11 below, the Curve Fit model predicts trends in temperature distribution nationwide for 2025. As expected, the peak temperature months projected between March and May, with many of the Northern and Central states (Sokoto, Zamfara, Borno, and Niger) experiencing LST values over 37°C

while cooler temperatures particularly in Southern states (Lagos, Bayelsa, and Cross River) projected to experience cooler temperature with LST falling below 30°C.

The maps also highlighted the north–south thermal gradient, showing consistently high from the Sahelian and Sudanian zones to cooler temperatures in the tropical rainforest zone. This trend is more pronounced in the dry season (January– April), where vegetation cover is reduced and more soil is exposed contributing to higher surface heating.

The smooth seasonal transitions are better captured by the Curve Fit model but may underestimate short-term anomalies or non-linear fluctuations, especially in regions with complex micro-climatic conditions or lots of different types of land cover. Accordingly, while the Curve Fit is a valuable basic forecast model, its predictive ability needs to be compared with more adaptive models like the Smoothed Exponential and Forest-Based Forecasts particularly in locations where large model residuals exist.

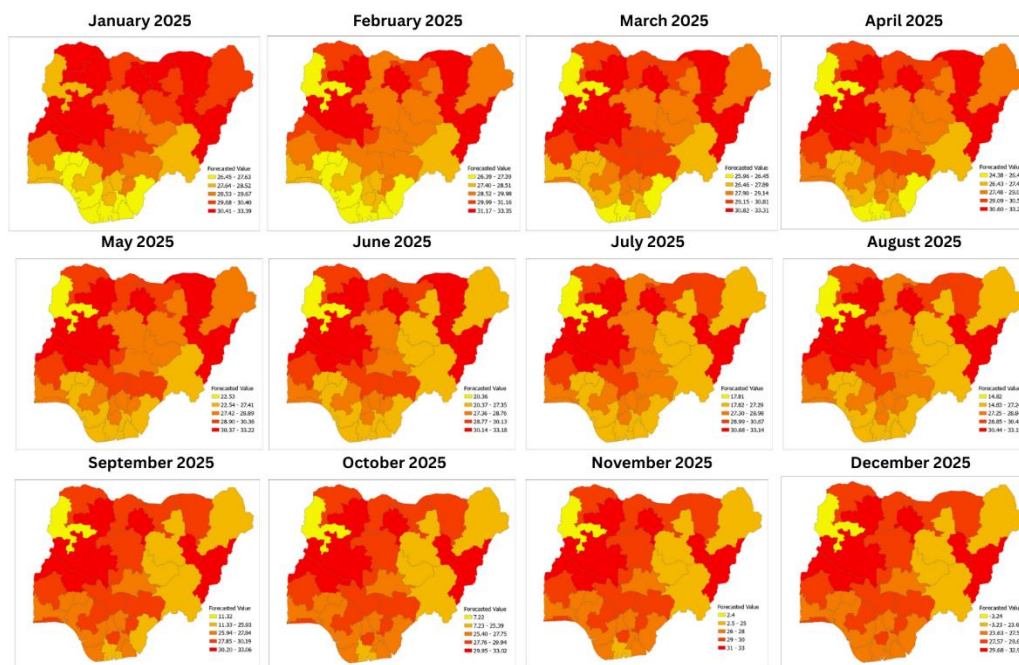


Figure 12: Monthly forecasted Land Surface Temperature (LST) across Nigeria for the year 2025 using the Curve Fit Forecast model. Each map displays the spatial distribution of forecasted LST values (°C) for a given month, aggregated at the state level

Exponential Smoothing Forecast

The Exponential Smoothing Forecast model showed more distinct seasonal patterns of the LST for the year 2025 in Nigeria (Figure 12), (with well-defined transition between cooler and warmer months). The highest mean predicted values of LST are found in northern states (Yobe, Zamfara, Sokoto) throughout most of the period of March–May, when monthly mean temperatures reach levels as high as 39°C while coastal and southern states (e.g., Cross River, Akwa Ibom, Lagos) record the most moderate temperatures during the year, seldom higher than 33°C.

With respect to the Curve Fit model, the Exponential Smoothing model yields a higher degree of temporal response to recent changes, particularly in sites with regular seasonal fluctuations. This is notably visible during the mid-year cooling (June–August), where southern states demonstrate a faster reduction in LST, perhaps due to higher rainfall and vegetation cover during the wet season. However,

the model appears to smooth out excessive variations, which could lead to underestimate of unexpected climate events or anomalies.

The geographic consistency and moderate forecast behavior of this model make it suited for places with minimal inter-annual variability or strong seasonal signals, as shown in the humid south. However, in semi-arid or transitional zones, its performance may be less robust when compared to models like Forest-Based Forecast, which account for non-linear trends and complicated interactions between environmental elements.

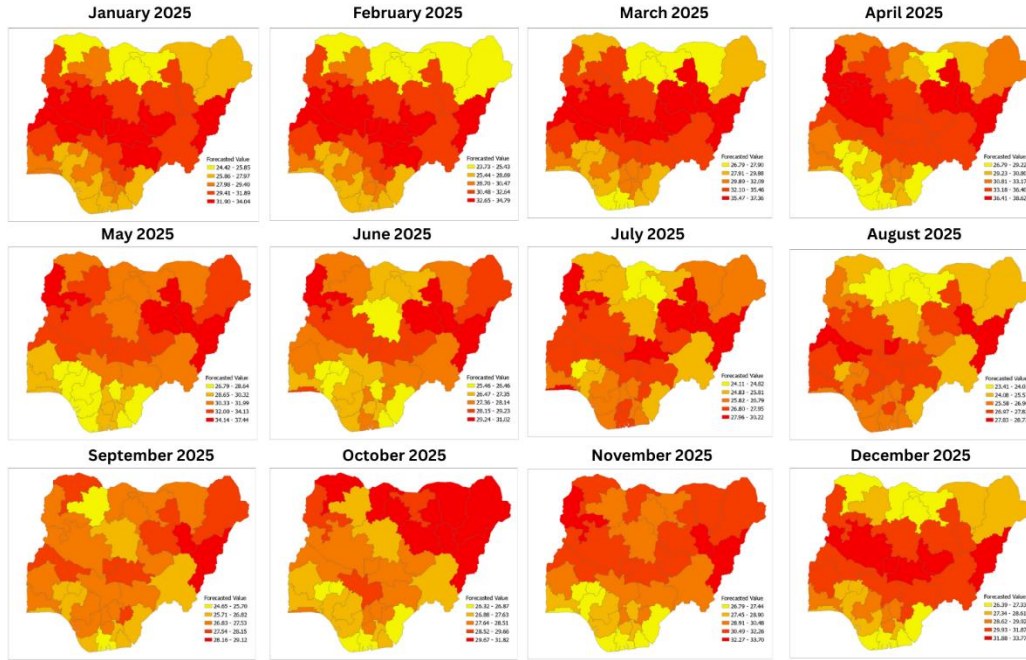


Figure 13: Monthly forecasted Land Surface Temperature (LST) across Nigeria for the year 2025 using the Smoothed Exponential Forecast model. Each map displays the spatial distribution of forecasted LST values (°C) for a given month, aggregated at the state level

Forest-Based Forecast

The Forest-Based Forecast model gave the best spatially coherent and climatically consistent LST projections for the year 2025 as presented in figure 13. As projected, the hottest months fall within March to May, with northern states such as Borno, Yobe, Sokoto, and Katsina forecasted to exceed 38°C in mean monthly surface temperatures. In contrast, southern states particularly Rivers, Bayelsa, Akwa Ibom, and Lagos stay consistently cooler, with LST values ranging between 28°C and 32°C during the projected period.

Unlike the other models, the Forest-Based Forecast better captured regional thermal anomalies, transitional zones, and non-linear seasonality. For instance, mid-year cooling during the rainy season (July–September) is more sharply delineated in the southern zone, suggesting vegetation regeneration

and lower solar heating. Similarly, inland central states like Kogi and Benue display smoother transitions between warming and cooling cycles, fitting well with their diverse agroecological characteristics.

The model preserves the north-south climatic gradient while demonstrating sharper spatial contrasts and seasonal shifts, particularly in the intertropical convergence zone where temperature is driven by both climatic and land cover dynamics.

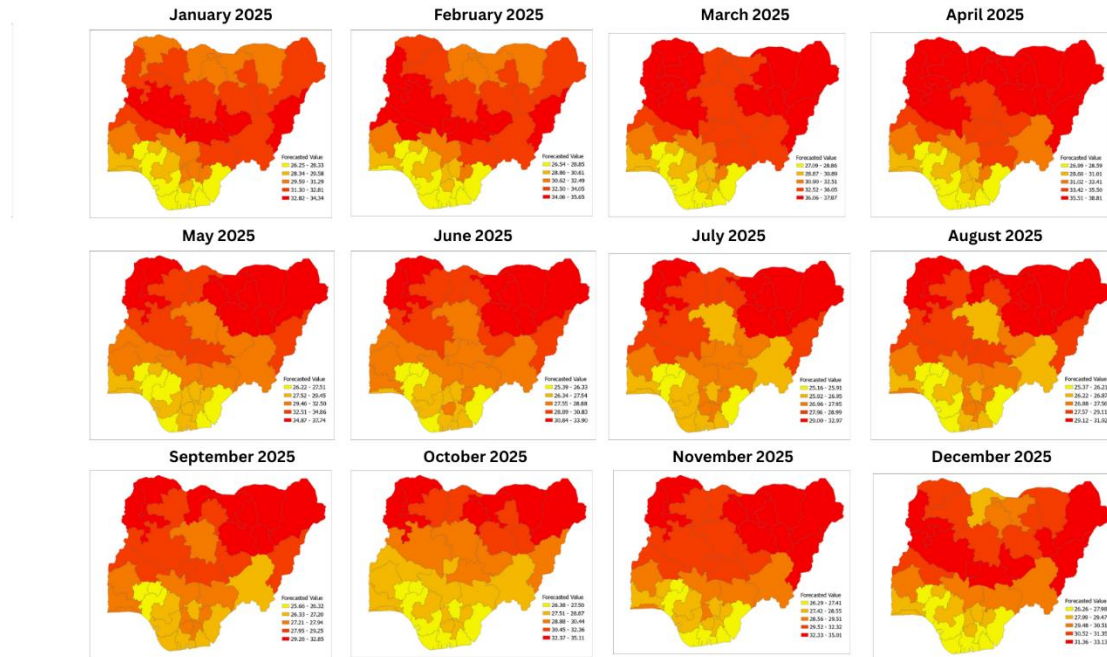


Figure 14: Monthly forecasted Land Surface Temperature (LST) across Nigeria for the year 2025 using the Forest-Based Forecast model. Each map displays the spatial distribution of forecasted LST values (°C) for a given month, aggregated at the state level

Model Evaluation and Selection

Based on figure 14, across Nigeria's 37 states, significant disparities in model performance were discovered. The Forest-Based Forecast model outperformed others in the majority of the states, notably in the central and northern regions, where LST patterns are more non-linear and influenced by land cover fluctuation and seasonal extremes. Exponential Smoothing was better suitable for states in the southern and southeastern zones, where temporal trends were stable and less vulnerable to rapid change. The Curve Fit model often provided larger RMSEs and was not picked as the best model in any state, showing its limitations in capturing dynamic environmental processes throughout Nigeria's different climatic zones.

A comparison RMSE (Table 6) indicated that Forest-Based Forecast achieved the lowest mean RMSE in 24 states (65%), followed by Exponential Smoothing in 13 states (35%). Curve Fit was routinely outperformed by the other two models. The lowest RMSE for the evaluated model was recorded in Akwa Ibom (0.32°C) using Exponential Smoothing, while the highest was in Sokoto (3.27°C) despite Forest-Based Forecast being the best-performing model in that state (Table 6). The spatial distribution of the best model picked illustrated in figure 13 and 14 further indicates the distribution of best model selected throughout the states.

Table 3: Comparative RMSE (°C) of Forecasting Models by State

StateName	GeoZone	RMSE Curvefit	RMSE Smoothed	RMSE Forest	Best RMSE	Best Model
Akwa Ibom	SSZ	1.02	0.32	0.7	0.32	Smoothed
Cross River	SSZ	1.1	0.42	0.61	0.42	Smoothed
Delta	SSZ	1.18	0.44	0.62	0.44	Smoothed
Osun	SWZ	1.55	0.85	0.49	0.49	Forest
Edo	SSZ	1.37	0.57	0.5	0.5	Forest
Anambra	SEZ	1.78	0.55	0.81	0.55	Smoothed
Ebonyi	SEZ	1.91	0.59	0.68	0.59	Smoothed
FCT	NCZ	3.31	1.15	0.61	0.61	Forest
Abia	SEZ	1.46	0.62	0.77	0.62	Smoothed
Enugu	SEZ	1.54	1.08	0.68	0.68	Forest
Nasarawa	NCZ	3.05	1.78	0.72	0.72	Forest
Benue	NCZ	2.4	0.79	0.76	0.76	Forest
Ekiti	SWZ	1.36	0.8	0.96	0.8	Smoothed
Ondo	SWZ	1.61	1.03	0.83	0.83	Forest
Kogi	NCZ	1.73	0.94	0.9	0.9	Forest
Plateau	NCZ	3.61	2.19	0.91	0.91	Forest
Oyo	SWZ	1.77	0.93	0.96	0.93	Smoothed
Imo	SEZ	1.76	1.01	1.11	1.01	Smoothed
Lagos	SWZ	1.77	1.61	1.03	1.03	Forest
Rivers	SSZ	1.5	1.41	1.03	1.03	Forest
Bayelsa	SSZ	1.19	1.2	1.04	1.04	Forest
Adamawa	NEZ	3.7	1.56	1.12	1.12	Forest
Niger	NCZ	3.95	1.24	1.18	1.18	Forest
Ogun	SWZ	1.81	1.34	1.22	1.22	Forest
Kaduna	NWZ	3.8	1.23	1.49	1.23	Smoothed
Taraba	NEZ	3.6	1.24	1.3	1.24	Smoothed
Kwara	NCZ	2.21	1.39	1.36	1.36	Forest
Gombe	NEZ	3.63	2.24	1.45	1.45	Forest
Bauchi	NEZ	4.06	1.78	1.67	1.67	Forest
Kebbi	NWZ	4.55	1.95	2.18	1.95	Smoothed
Jigawa	NWZ	3.85	4.63	2.05	2.05	Forest
Zamfara	NWZ	5.33	2.06	2.56	2.06	Smoothed
Katsina	NWZ	4.45	4.67	2.19	2.19	Forest
Kano	NWZ	4.8	4.66	2.44	2.44	Forest
Yobe	NEZ	3.98	4.54	2.72	2.72	Forest
Borno	NEZ	5.44	5.36	2.77	2.77	Forest
Sokoto	NWZ	5.33	5.31	3.27	3.27	Forest

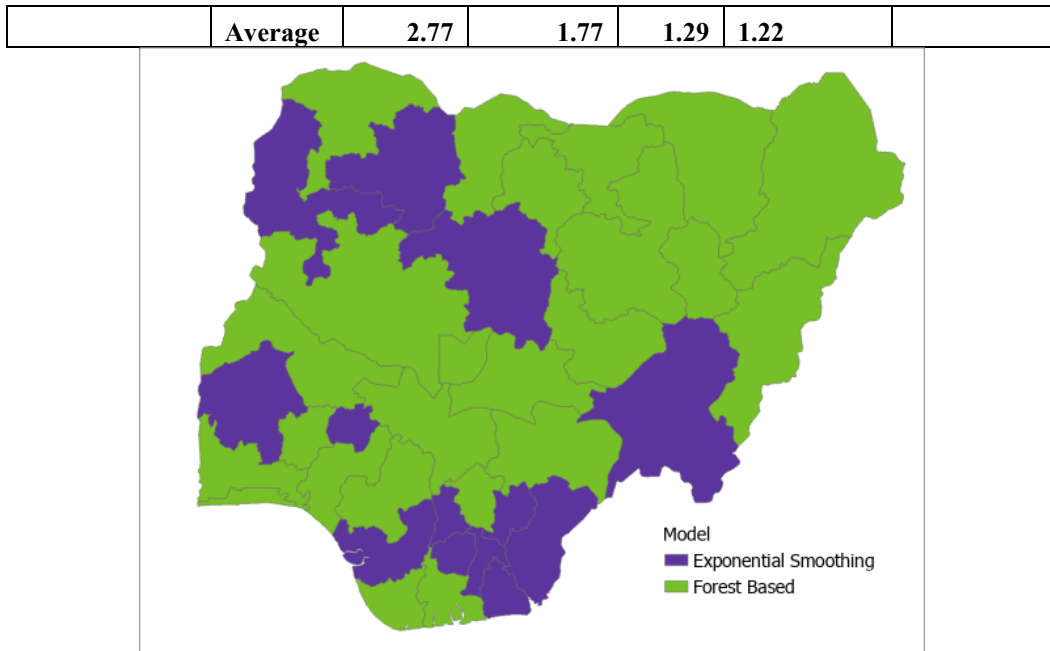


Figure 15: Spatial Distribution of Best-Performing Forecast Models for Predicting Land Surface Temperature (LST) Across Nigerian States

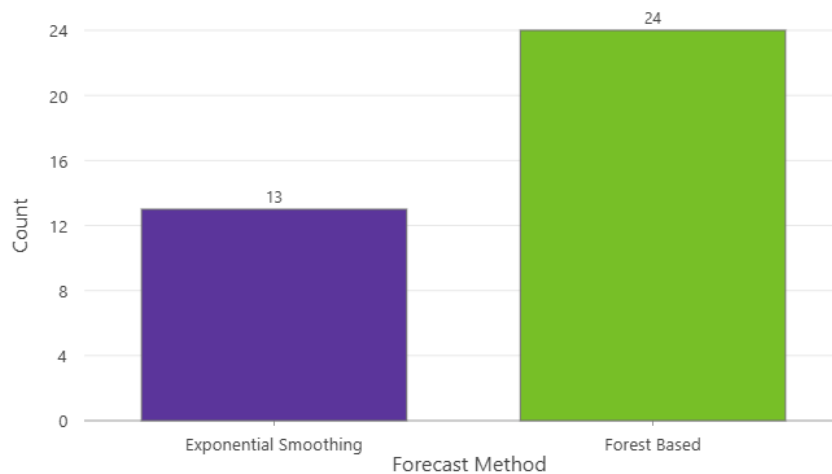


Figure 16: Frequency Distribution of Best-Performing Forecast Models Selected Across All States

Forecasted LST Trend for 2025

The final predictions for each state by month produced by the chosen best model are shown in figure 16. These predictions showed distinct seasonal patterns that aligns with Nigeria's climatic zones. Peak LST values were projected to occur during the pre-rainy season (March to May), particularly in the Northwest and Northeast zones, where the mean monthly temperature is predicted to be above 38°C, while coastal and forested states like Cross River, Rivers and Lagos remained relatively cooler(28–32°C) with lower LST values all year round.

Spatial heterogeneity in forecasted temperatures is attributed to differences in land cover, vegetation density, and urban expansion. For example, states like Borno, Yobe, and Zamfara exhibited high LST

values across multiple months, aligning with their location in the semi-arid Sahelian region. Conversely, thermal patterns in the southern states were lower, in particular during the middle of the year rainy season (June–August), favored by an accentuated evapotranspiration process, leading to more localized cooling effects.

The aggregated national forecast trend (figure 17) also indicated a seasonal cycle with the highest national average LST forecast for April 2025 and the lowest for August 2025, similar to the historical climatology. This highlights the temporal validity of the forecasting models and supports the reliability of spatially targeted thermal projections.

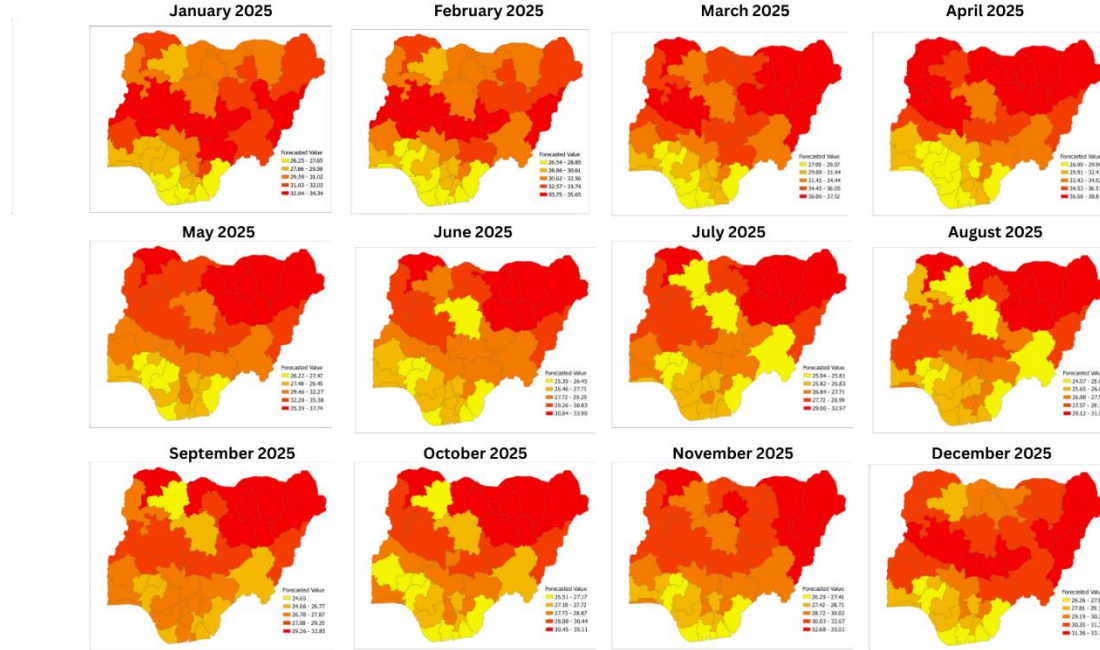


Figure 17: Spatial Distribution of Predicted Land Surface Temperature (LST) for 2025 Based on the Best-Performing Forecast Models Across Nigerian States

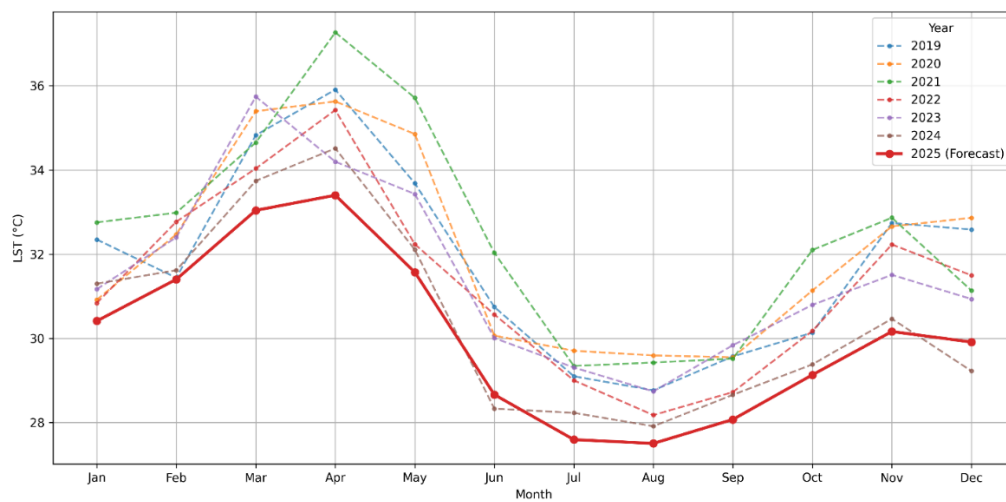


Figure 18: Forecasted National Average Land Surface Temperature (LST) Trend for 2025 Compared with Historical Trends (2019–2024)

Discussion

The results of this study reveal critical environmental dynamics across Nigeria, particularly highlighting the spatio-temporal relationship between key air pollutants and land surface temperature (LST). Through integrated time series analysis, emerging hot spot detection, and multi-model forecasting, the study offers valuable insights into the spatial distribution, temporal trends, and thermal impacts of atmospheric pollution nationwide.

The temporal analysis revealed seasonal patterns for pollutants and LST. For instance, NO₂ and CO concentrations peaked during the dry season (November–March), aligning with findings by Lelieveld et al. (2015), which emphasize the role of combustion-related activities and low atmospheric dispersion during this period. SO₂ showed sporadic peaks, possibly from localized industrial emissions (Islam et al., 2022). O₃ and LST shared a photochemical linkage, with parallel increases during March–May, consistent with studies indicating that O₃ formation is temperature-dependent (EPA, 2021).

Spatial clustering and trend analyses revealed marked geographic disparities. SO₂ concentrations were notably higher and trending upward significantly in 41% of states at 99% confidence, predominantly in southern and central states (e.g., Lagos, Edo, Rivers), reflecting intensive urban and industrial activities. These observations are consistent with the known regional drivers such as traffic emissions and gas flaring (Ogaji et al., 2022). O₃ exhibited upward trends in 32% of states, mostly in the Northeast, including Borno and Yobe, indicating strong photochemical activity under high solar radiation. In contrast, LST displayed significant downward trends in 33% of states (95% confidence), notably in parts of the North and the forest-savanna transition zones, potentially linked to vegetative recovery or increased rainfall, as also observed by Ogaji et al. (2022). Conversely, CO and NO₂ showed no significant monotonic trends across the study period, suggesting more temporally variable or episodic emissions.

The Emerging Hot Spot Analysis (EHSA) demonstrated spatially consistent patterns, especially for LST and CO. Approximately 24% of states, predominantly in the north, were identified as persistent LST hot spots, likely driven by sparse vegetation, desertification, and urban expansion. Conversely, southern states such as Edo, Cross River and Bayelsa were identified as persistent cold spots in 22% of states, indicative of moderating influences from forest cover and oceanic proximity (Rahaman et al., 2024).

For CO, the spatial distribution of persistent and sporadic hot spots in southern Nigeria parallels regions with dense urbanization and industrial activity. NO₂ and SO₂, while spatially present, displayed more volatile hotspot behavior, underscoring their transient atmospheric lifespans and susceptibility to short-term emissions. Notably, O₃ exhibited minimal spatio-temporal clustering, a result consistent with its complex formation dynamics, driven more by solar radiation and precursor interactions than direct emissions (UNEP/WMO, 2011).

The use of three forecasting models (Curve Fit, Exponential Smoothing, and Forest-Based Forecast) allowed for robust prediction of LST across diverse climatic regions revealing a consistent north-south thermal gradient. The Forest-Based Forecast model emerged as the best performer in 65% of states, particularly in central and northern regions where nonlinear and complex environmental processes are prevalent. Exponential Smoothing was better suited for more climatically stable southern states. The validation RMSE values, which averaged as low as 1.22°C nationally, indicate high predictive accuracy.

The national LST forecast for 2025 mirrored historical seasonal trends, with April identified as the peak month. The clear north-south thermal gradient reinforces known ecological zones and anthropogenic influences. Importantly, the spatial variation in best-performing models highlights the need for adaptive forecasting strategies in environmental planning. These findings affirm the value of ensemble and hybrid modelling approaches and support recommendations in recent literature that advocate adaptive models for climate and environmental forecasting in heterogeneous landscapes (Rahaman et al. 2024; Purwanto et al., 2021).

Conclusion

This study has provided a detailed spatio-temporal assessment of atmospheric pollutants and Land Surface Temperature (LST) across Nigeria from 2019 to 2024, utilizing remote sensing data and space

time pattern mining techniques. The findings reveal that air pollution remains a persistent and geographically differentiated environmental challenge in Nigeria, particularly in industrial and urbanised states where the effects of elevated LST are most pronounced.

The temporal analysis showed clear seasonal cycles, with pollutant levels and LST peaking during the dry season and significant increasing trends for SO₂ (in 60% of states) and O₃ (in 32%), especially in the southern and northeastern zones respectively, reflecting the impact of anthropogenic emissions, biomass burning, and reduced atmospheric dispersion. The emerging hot spot identification, demonstrated that several states especially in the Southern part are experiencing intensifying and persistent hot spots in CO concentrations while the northern part experience persistent hot spots in LST concentrations. These trends are symptomatic of increasing urbanization, industrial activity, and fossil fuel combustion.

The forecasting component of the study projected monthly LST values for 2025 using three statistical models, with the Forest-Based Forecast model yielding the most accurate results in the majority of states with a national average RMSE of 1.22°C. The forecast indicated similar LST trends for the year and close values in already vulnerable regions, implying compounding stress on urban infrastructure, energy systems, and public health. These projections are critical for guiding proactive climate adaptation and urban planning measures.

Importantly, this study demonstrated the value of integrating space–time cube models, emerging hot spot analysis, and forecasting in understanding complex environmental dynamics. The methodology went beyond traditional correlation and regression by embedding temporal trends within spatial frameworks, thereby offering deeper insights into how, where, and when pollution-related thermal anomalies occur.

These findings have several broad implications. High LST and pollutant concentrations disproportionately affect Nigerian states, necessitating green infrastructure, better emission regulation, and heat-mitigating designs. Elevated LST contributes to increased cooling demand, potentially worsen fossil fuel usage and emissions. Effective policies must balance urban growth with climate-smart energy transitions. Also, the application of space–time analytics offers a replicable framework for other nations in the Global South to conduct high-resolution, policy-relevant environmental assessments.

In sum, this study contributes both empirical and methodological value to the field of environmental monitoring in sub-Saharan Africa. It underscores the interconnectedness of air quality and surface temperature and highlights how advanced spatial-temporal tools can support evidence-based decision-making. Future studies should consider incorporating additional variables such as land cover change, vegetation indices, population dynamics, and meteorological factors to build even more robust models of a holistic assessment of Nigeria's atmospheric environment.

The ultimate goal remains clear: to enable data-driven planning that safeguards environmental integrity, enhances environment livability, and fosters climate resilience across Nigeria's rapidly evolving landscape.

Limitations of the Study

Despite the comprehensive nature of this study, several limitations must be acknowledged. Firstly, the temporal window (2019–2024), although sufficient to capture short-term seasonal and interannual variability, is relatively short for detecting long-term climatological trends or decadal pollution shifts. Environmental variables such as LST and O₃ exhibit strong interannual variability influenced by phenomena like El Niño-Southern Oscillation (ENSO), which may not be fully represented in a six-year period.

Secondly, although remote sensing offers broad spatial coverage, satellite-derived pollutant concentrations are subject to retrieval errors due to cloud cover, aerosol interference, and surface reflectance anomalies. This may have impacted the detection of statistically significant trends in pollutants like SO₂ and O₃, which often exist in trace concentrations. Additionally, the spatial resolution (1 km for MODIS and ~1.1 km for Sentinel-5P) and the broad state assessment may smooth over urban hotspots and localized emission zones, potentially underestimating intra-urban variability.

Also, ground-based validation was not integrated due to limited availability of air quality monitoring infrastructure in Nigeria. This restricts the ability to cross-validate satellite data and model outputs, especially in regions with complex topography or emission profiles.

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ENVIRONMENTAL ATTITUDES AND VALUES

Coping Strategies among Couples Experiencing Sexual Intercourse Misunderstandings in Lagos

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Abstract

Coping Strategies (CS) is the cognitive and behavioural efforts individuals make to manage stressful situations. In romantic relationships, especially concerning sexual intimacy, these strategies can be categorized as both problem-focused and emotion-focused. Coping Strategies CS is fast becoming a comprehensive social phenomenon with implications on the family in Lagos.

Drawing on Michel Foucault's theory of sexuality, the research explores how power dynamics, social norms, and discourses shape these misunderstandings and influence the couples' approaches to resolving them. This study adopts a purely qualitative approach with exploratory design. Data were collected among selected denominations, namely, the Roman Catholic Church, Church of Nigeria Anglican Communion, The African Church, The Redeemed Christian Church of God and Christ Apostolic Churches in Lagos Island and Lagos Mainland Local Government Areas. To explore participants lived experiences, communication patterns, and the impact of cultural context (75) couples who participated in the study were categorised among 10 FGD's; 25 IDI's; 30 KII's, and 10 Case Studies. Data were also analysed within the content and sub themes of the focus of the study.

Study investigates the coping strategies employed by couples who experience misunderstandings related to sexual intercourse. Findings revealed the complexities of navigating sexual misunderstandings within a specific cultural setting and offer insights into how couples negotiate their sexual experiences within the framework of power relations and social norms.

The study contributes better understanding of sexual health and well-being in Lagos and provides valuable information for developing interventions and support systems for couples facing similar challenges.

Keywords: Coping strategies, couples experience, misunderstandings, sexual intercourse

Introduction

Sexuality is a complex construct that is deeply influenced by cultural, social, and psychological factors. In Lagos, Nigeria, a city marked by diverse cultural backgrounds, couples often experience misunderstandings related to sexual intercourse, leading to emotional distress and dissatisfaction in relationships. This study investigates the coping strategies employed by couples facing these challenges, guided by Michel Foucault's theory of sexuality, which emphasizes the role of power relations and discourse in shaping sexual identities and practices (Foucault, 1976).¹¹ Foucault's framework allows for a nuanced understanding of how societal expectations and individual experiences intersect, influencing the dynamics within intimate relationships.¹² By exploring the coping strategies of couples dealing with sexual misunderstandings, this research contributes to a deeper understanding of human sexuality in contemporary Nigerian society.¹³

¹¹ Foucault, M. (1978). *The History of Sexuality, Volume 1: An Introduction*. New York: Vintage.

¹² Adebayo, E. O., & Odukogbe, A. T. (2018). Sexual health knowledge, attitudes, and practices among married couples in Ibadan, Nigeria. *African Journal of Reproductive Health*, 22(4), 75-83.

¹³ Communication and conflict resolution in relationships is one of the behavioural efforts individuals make to manage stressful situations. Gottman, J. M., & Silver, N. (1999). *The seven principles for making marriage work*. New York: Crown. Scholars from Nigeria also related this view to cultural context, gender roles, or power dynamics in Nigeria. Okeke, C. (2005). Gender in Nigeria: A Historical Perspective. *Journal of African Cultural Studies*, 17(2), 155-170.

Literature Review¹⁴ and Theoretical Framework¹⁵

Understanding sexual misunderstandings requires a consideration of various theoretical perspectives. Research suggests that communication theories highlight the importance of dialogue in resolving misunderstandings (Gottman, 1999). Additionally, cultural theories emphasize how societal norms and values shape perceptions of sexuality and intimacy (Hofstede, 2001). Foucault (1976) posits that sexuality is not merely a biological or personal phenomenon but is deeply embedded in social and power structures. His analysis emphasizes how discourses surrounding sexuality are shaped by societal norms and power relations, which can lead to misunderstandings in intimate relationships. This framework allows for a deeper understanding of how couples in Lagos navigate their sexual relationships amidst cultural expectations and norms. This review will integrate the focus of the study to explore how couples in Lagos cope with sexual misunderstandings. Effective communication is critical in addressing misunderstandings. Couples who engage in open discussions about their sexual needs and expectations often report higher satisfaction levels (Dada & Ojo, 2020). Studies indicate that couples who practice active listening and empathy can navigate misunderstandings more effectively (Adedayo & Ogunleye, 2021). The focus of the study is to explore coping strategies among couples experiencing sexual intercourse misunderstandings.

Knowledge about sexual health and relationship dynamics can empower couples to address misunderstandings. Educational interventions that promote sexual health awareness have been shown to improve communication and understanding between partners (Ibrahim & Adebayo, 2022). Seeking help from therapists or counsellors can provide couples with tools to cope with misunderstandings. Research indicates that professional support can facilitate better communication and conflict resolution skills among couples (Adeola, 2023). Recognizing and respecting cultural differences in sexual practices is crucial. Couples who are culturally aware are better equipped to understand each other's perspectives and reduce misunderstandings (Olaniyan, 2021). Couples who prioritize open and honest communication about their sexual needs report higher relationship satisfaction and lower instances of misunderstandings (Dada & Ojo, 2020). Participation in sexual health education programs significantly improves couples' understanding of sexual issues, leading to a reduction in misunderstandings (Ibrahim & Adebayo, 2022). Couples who seek professional counselling experience improved communication and conflict resolution skills, which are vital for navigating sexual misunderstandings (Adeola, 2023). Understanding cultural contexts plays a vital role in how couples perceive and address sexual misunderstandings, highlighting the need for culturally sensitive approaches (Olaniyan, 2021). This study focus on coping strategies among couples experiencing sexual intercourse misunderstandings.

However, effective communication is crucial in addressing misunderstandings. Studies (e.g., Johnson & Smith, 2021) show that couples who engage in honest discussions about their sexual needs and expectations report higher satisfaction levels. Understanding sexual health and relationships can empower couples. Educational programs focused on sexual health (Ogunleye et al., 2022) have been shown to reduce misconceptions and improve sexual relationships. Seeking help from therapists or counselors can provide couples with tools to navigate misunderstandings. Research by Adeola (2023) highlights the positive impact of professional intervention on couple dynamics. Recognizing and respecting cultural differences in sexual practices and expectations can enhance understanding. Studies (Ibrahim, 2021) emphasize the importance of cultural competence in addressing sexual misunderstandings.¹⁶ This

¹⁴ This literature review examines the coping strategies utilized by couples in Lagos, Nigeria, who experience misunderstandings related to sexual intercourse. The review synthesizes existing research on the topic, highlighting the significance of communication, cultural factors, and educational interventions in addressing these misunderstandings. The findings indicate that effective coping strategies can enhance relationship satisfaction and intimacy.

¹⁵ The framework highlights the importance of dialogue in resolving misunderstandings, it emphasizes how societal norms and values shape perceptions of sexuality and intimacy (Foucault 1976; Hofstede, 2001). This review also integrates these perspectives to explore how couples in Lagos cope with sexual misunderstandings.

¹⁶ Sexual misunderstandings are common in intimate relationships and can lead to significant emotional distress and relationship strain. In Lagos, a bustling metropolis with diverse cultural influences, these misunderstandings were often exacerbated by

literature review provides a foundation for understanding the coping strategies employed by couples in Lagos facing sexual misunderstandings, offering insights that aids survival. The focus of the study is to explore coping strategies among couples experiencing sexual intercourse misunderstandings.

Methodology

A qualitative approach was employed, utilizing semi-structured interviews with 75 couples residing in Lagos. Participants were selected through purposive sampling to ensure a diverse representation of age, gender, socioeconomic status, and cultural background. Data were thematically analyzed within the content, focusing on the coping strategies articulated by participants in response to sexual misunderstandings.

Findings

1. Open Communication: A majority of couples reported that open and honest communication was essential for resolving misunderstandings. Engaging in discussions about sexual needs and expectations helped clarify issues and foster intimacy.¹⁷ Study also noted that gender plays a significant role in misunderstandings related to sexual intercourse among couples, particularly in the contexts Lagos Mainland and Island, Nigeria (Ibisomi, & Sulaimon, 2014).¹⁸ Various societal norms, cultural beliefs, and individual expectations associated with gender influence how misunderstandings arise, how they are perceived, and how they are resolved.¹⁹ With the differences in communication, men and women often have different communication styles, which sometimes lead to misunderstandings (Odukoya, & Akinyemi, 2022; Afolabi, & Adeniran, 2022).²⁰ Studies suggest that women may be more inclined to express their feelings and concerns, while men might approach communication in a more straightforward or solution-focused manner.²¹ This difference can create a gap in understanding each other's perspectives and needs regarding sexual intimacy (Odukoya, & Akinyemi, 2022; Nwankwo, & Nwogu, 2023).²²

2. Cultural Influences: Participants noted that cultural norms significantly impacted their sexual relationships. Traditional beliefs often acted as barriers to open discussions about sex, leading couples to adopt indirect communication or avoidance strategies.²³ This view was supported by Adebayo, &

societal expectations and norms surrounding sexuality. This study focuses on coping strategies among couples experiencing sexual intercourse misunderstandings.

¹⁷ Communication must be problem-focused coping in nature. It should involve attempts to address the issue directly, such as open discussions about needs, preferences, and misunderstandings related to sexual intimacy. By seeking information couples should seek knowledge through books, workshops, or counselling to better understand each other's sexual needs.

¹⁸ Ibisomi, L., & Sulaimon, A. (2014). The Influence of Socio-Cultural Factors on Sexual Behaviour Attitudes: Evidence from Nigeria." *Journal of Sex Research*, 51(8), 867-880. This article provides insights into how socio-cultural factors influence sexual behaviour, which could impact misunderstandings.

¹⁹ Ugochukwu, C. et al. (2016). "Perception and Attitude Towards Sexual Health Education: A Study of Married Couples in Nigeria." *African Journal of Reproductive Health*, 20(2), 69-77. This study highlights the importance of sexual health education in combating misunderstandings among couples.

²⁰ Gonzalez, L. H., & Ramey, S. L. (2014). "The role of communication in sexual satisfaction: A study of dating relationships." *Journal of Social and Personal Relationships*, 31(4), 440-462. This study highlights the importance of effective communication in enhancing sexual satisfaction and resolving misunderstandings.

²¹ Markman, H. J., Stanley, S. M., & Blumberg, S. L. (2010). *Fighting for Your Marriage: A Complete Guide for Couples*. Jossey-Bass. This book presents research-backed strategies for improving communication and resolving conflicts in marriages, including issues related to sexual intimacy.

²² Nneji, I., & Adebayo, O. (2018). "Coping Mechanisms and Psychological Well-Being of Couples in Urban Nigeria." *Journal of Family Issues*, 39(3), 651-675. This paper explores various coping mechanisms used by couples in urban settings in Nigeria, offering valuable insights into the dynamics of marital relationships.

²³ In the context of Lagos, Cultural influence played a significant role on the norms and societal expectations, in Lagos this significantly shape how couples address issues related to sexual intercourse. Other factors were drawn from religious beliefs, traditional values, and societal stigma around discussing sex, these really had effect on the coping strategies employed. In many Nigerian cultures, discussing sex is often taboo, leading to misunderstandings that may not be openly addressed. This can lead to reliance on more emotion-focused strategies like avoidance or social support. Findings also shows that religious teachings

Akinwunmi (2019) in the implications of sexual health literacy which can relate to misunderstandings and coping strategies among couples.²⁴ These influences were drawn from cultural expectations, norms and traditional roles. In many Nigerian cultures, traditional gender roles dictate expectations around sexual behaviour and intimacy. Men may be expected to be more assertive and dominant in sexual relationships, while women might be seen as passive or submissive (Weiner, & Kogan, 2014; Nwankwo, & Nwogu, 2023). This can lead to conflicts when one partner's expectations do not align with the other's, resulting in misunderstandings about consent, desire, and sexual practices.

3. Support Networks: according to participants, many couples sought advice from external sources, such as religious leaders, family members, or friends, to navigate misunderstandings. This reliance on communal support reflected the influence of societal values on individual coping strategies.²⁵ For instance, sexual education and awareness play a significant role on access to information. Gender differences also manifest in the availability and access to sexual education. In many cultures, girls who grows to become female may be less likely to receive comprehensive sexual education compared to boys who grow to become men, leading to gaps in knowledge that can contribute to misunderstandings in sexual relationships (Adebayo, & Akinwunmi, 2019; Afolabi, & Adeniran, 2022).²⁶

4. Roles Taking: The findings revealed that traditional gender roles played a significant role in shaping couples' responses to sexual misunderstandings. Men often felt pressured to conform to societal expectations of sexual performance, while women frequently took on roles as mediators within the relationship (Nneji, & Adebayo, 2018; Schrader, & McRae, 2013).²⁷ From the study, men and women employ different coping strategies when faced with misunderstandings about sexual intimacy and gendered coping strategies.²⁸ Some male participant resort to avoidance or aggression, while other female participant seeks social support and sometimes engaged in verbal expression of their feelings.²⁹ These coping styles can affect how misunderstandings are resolved or exacerbated.

5. Adaptation and Compromise³⁰: Couples often adapted their sexual practices or made compromises to address misunderstandings, demonstrating resilience and flexibility in their relationships. As display of

influence couples' attitudes toward sex, with some couples adhering strictly to traditional views that discourage open communication about sexual needs. similarly, economic factors affect relationship dynamics. Financial stress also compound misunderstandings, leading couples to adopt different coping mechanisms.

²⁴ Adebayo, A. M., & Akinwunmi, A. (2019). "Sexual Health Literacy and Contraceptive Use among Adolescents: A Study of Secondary School Students in Lagos, Nigeria." *Health Education Research*, 34(2), 124-137. This paper discusses the implications of sexual health literacy which can relate to misunderstandings and coping strategies among couples.

²⁵ Nneji, I., & Adebayo, O. (2018). "Coping Mechanisms and Psychological Well-Being of Couples in Urban Nigeria." *Journal of Family Issues*, 39(3), 651-675. This paper explores various coping mechanisms used by couples in urban settings in Nigeria, offering valuable insights into the dynamics of marital relationships.

²⁶ Katz, J., & Silverstein, M. (2009). "Adolescent sexual communication: Patterns and consequences." *Journal of Adolescent Research*, 24(3), 353-375. While focused on adolescents, this study offers insights into the communication patterns that can lead to misunderstandings in sexual relationships, relevant for all age groups.

²⁷ Schrader, S. A., & McRae, T. (2013). "Examining the role of gender in sexual communication among heterosexual couples." *The Family Journal*, 21(1), 44-50. This study discusses how gender influences communication styles and subsequent misunderstandings in sexual relationships.

²⁸ Doss, B. D., & Rhoades, G. K. (2006). "The importance of sexual intimacy in relationships." *Journal of Family*, 20(4), 630-635. This article explores the connection between sexual intimacy and relationship satisfaction, emphasizing the role of effective communication in preventing misunderstandings.

²⁹ Bodenmann, G. (2005). "Dyadic coping: A key concept in the emotional dynamics of couples." *Journal of Emotional and Behavioural Disorders*, 13(4), 197-206. This paper introduces the concept of dyadic coping and how couples can face stressors together, including misunderstandings around sexual intimacy.

³⁰ In some respondents opinions were concerned about switching from missionary to non-missionary sexual styles. The results and findings also contained stated reason(s) for missionary and non-missionary sexual styles. The study was in correspondence to identify as each of the opinion about sex hygiene such as showering before and after sex, adopting certain ornaments and body

power dynamics or decision-making power, gender imbalances in relationships also affect decision-making power concerning sexual intimacy (Adeyemo, & Fashanu, 2023; Oloyede, 2023).³¹ In cases where one partner, often the male, holds more power, it may lead to misunderstandings about sexual preferences and boundaries. Some female participants claim they feel less empowered to voice their desires or concerns, leading to unresolved issues and resentment. Some of these women related their experiences of societal stigma and shame regarding their sexuality. Cultural taboos inhibit them from open discussions about sexual issues, leading to misunderstandings (Afolabi, & Adeniran, 2022; Odukoya, & Akinyemi, 2022). For the fear of societal rejection or judgment for expressing their sexual needs or for not conforming to traditional expectations, while some male participants claimed they feel pressure to conform to ideals of masculinity that discourage vulnerability. Whereas, some of these Men often face societal pressure to perform sexually, which can lead to misunderstandings if there is a perceived failure in this area.³² As some female participants expect emotional intimacy and connection, their male counterparts focus on physical performance. These differing expectations create frustration and conflict, particularly if neither partner is willing to discuss their feelings openly.

Conclusion

This research highlights the importance of communication and cultural context in shaping coping strategies among couples experiencing sexual intercourse misunderstandings in Lagos. Foucault's theory of sexuality provides a valuable lens for understanding the power dynamics at play in these relationships. As couples navigate the complexities of sexual misunderstandings, their coping strategies reflect broader societal influences and individual agency. The study concludes sex is critical for survival through marriage, extra-marital relationship – paramour, masturbation / self-satisfaction. Other researchers may also examine the long-term implications of these coping mechanisms on relationship satisfaction and sexual health.

Recommendation

The study recommends that Churches should organise sex and Sexuality Therapy Sessions for married couples regularly where these coping strategies among couples experiencing sexual intercourse misunderstandings could be addressed alternatively, the sessions should bear it all “say-it-all” and non-judgemental.

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deodorants were also discussed by persons under the survey of the study. It was also reported that these reconstruction also played a significant role in their family.

³¹ Reeves, P. J., & Rapee, R. M. (2013). "Understanding sexual intimacy in intimacy-focused therapy: An integrative review." *The Australian & New Zealand Journal of Family Therapy*, 34(3), 236-254. The review discusses therapeutic approaches focusing on sexual intimacy and the crucial aspect of addressing misunderstandings within relationships.

³² Weiner, A. S., & Kogan, S. M. (2014). "Couples therapy and sexual dysfunction: A review of the literature." *Journal of Sex & Marital Therapy*, 40(6), 630-644. This article reviews approaches in couples therapy that specifically address sexual dysfunction and misunderstandings, offering insights into effective coping strategies.

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Intersection of Education and the Future of Work in Human Capital Development among Youths in Lagos Mainland

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Abstract

In the contemporary landscape of developing countries, the intersection of education, human capital development, and the future of work is becoming increasingly critical. The intersection of education, human capital development, and the future of work presents significant challenges, particularly for the youth in the Lagos Mainland Local Government Area of Lagos, Nigeria. This paper explores the societal imperatives that shape these dynamics, particularly focusing on selected youth in the Lagos Mainland Local Government Area of Lagos, Nigeria. As globalization and technological advancements reshape labour markets, the role of education as a catalyst for human capital development is paramount. This study emphasizes the necessity of reimagining educational frameworks to equip the youth with relevant skills that align with the evolving demands of the workforce.

Social Action Theory, Bandura's Social Learning Theory and relevant underpinnings were adopted as a frame work for the study. Through purposive sampling 300 persons were selected among ten secondary schools (five private and five public secondary schools) in Lagos Mainland.

Participants' age was between 12 and 50 years (JSS 3 – SS 3 students and their teachers) who were predominantly female. Through qualitative and quantitative methodologies, the research identifies critical gaps in the current educational system and proposes strategic interventions aimed at enhancing human capital development.

Ultimately, this paper advocates for a collaborative approach among government, educational institutions, and the private sector to create a robust ecosystem that supports youth empowerment and prepares them for the future of work in an increasingly complex global environment.

Keywords: Intersection, education, future of work, human capital development

Statement of the Problem

The intersection of education, human capital development, and the future of work presents significant challenges, particularly for youths in the Lagos Mainland Local Government Area of Lagos, Nigeria. This statement of problems identifies key issues that hinder the effective development of human capital and the successful integration of youth into the evolving workforce. As some educational institutions in Lagos Mainland suffer from poor infrastructure, lack of essential resources, and insufficient trained personnel³³. This inadequacy limits the quality of education and the ability to provide students with skills relevant to the current job market. There is a significant gap between the skills acquired through formal education and the competencies required by employers in developed countries³⁴. This mismatch leads to high unemployment rates among youth, as they are unable to meet the demands of an increasingly competitive and technologically-driven labour market. Socio-economic factors play a crucial role in educational access and quality. Youth from low-income families often face barriers to education, including financial constraints, limited access to technology, and inadequate support systems, exacerbating cycles of poverty and limiting opportunities for human capital development. Cultural expectations and societal norms can influence the educational aspirations and career choices of youth³⁵.

³³ Oyetunji, A. (2021). "Youth Learning Methodologies: The Case of Lagos Mainland Secondary Schools." *Nigerian Journal of Educational Studies*, 15(2), 67-80.

³⁴ National Bureau of Statistics (NBS) Nigeria Reports 2025

³⁵ UNESCO. (2018). "Education for Sustainable Development Goals: Learning Objectives." Retrieved from [UNESCO website](<https://unesdoc.unesco.org/ark:/48223/pf0000261802>).

In some cases, there may be a preference for traditional vocational paths over higher education, which can restrict their ability to engage in more dynamic and growing sectors of the economy. There is often a lack of effective career counselling and mentorship programs that can help youth navigate their educational and professional choices³⁶. This absence can lead to a lack of awareness regarding available opportunities and the skills needed to pursue them.

Introduction

In an era where digital skills are increasingly vital, limited access to technology and the internet hampers the ability of youth to acquire necessary competencies. This digital divide creates inequalities in educational attainment and employability. Existing policies may not adequately address the unique challenges faced by youth in Lagos Mainland, particularly in terms of aligning educational outcomes with labour market needs. There is a need for comprehensive policy frameworks that promote inclusive educational practices and support human capital development. The rapid changes in the global economy, including the rise of automation and remote work, pose a challenge for the current educational system to adapt quickly and effectively³⁷. Youth must be prepared for jobs that may not yet exist, necessitating a focus on lifelong learning and adaptability. Addressing these problems is essential for fostering an environment that enhances human capital development and prepares the youth of Lagos Mainland for successful futures in a rapidly changing global workforce. Comprehensive strategies that encompass educational reform, community involvement, and policy innovation are necessary to overcome these challenges and empower the next generation.

Objective of Study

This study examined the level of education and skill development among the youth of Lagos Mainland Local Government, the enhancement of their employability, and their contributions to the broader socio-economic advancement of their communities.

Review of Literature

In the rapidly evolving landscape of the global economy, no doubt the youth in Lagos Mainland face unique challenges and opportunities influenced by their socio-economic environment, cultural norms, and access to education³⁸. This literature review integrates relevant theories and empirical research to contextualize the social dynamics of work and education within the framework of social action theory, focusing on secondary school students in Lagos Mainland. In 2017 Uwaifo, S, in a study, highlights how educational systems can serve as a vehicle for human capital development, equipping young individuals with the skills necessary to thrive in the future workforce (Adediran, 2020). It emphasizes the role of social interactions, community engagement, and institutional support in fostering a conducive environment for learning and personal growth.³⁹ Gathering specific data on education, human capital development, and the future of work for selected youth in the Lagos Mainland Local Government Area involves synthesizing available statistics, reports, and studies, an overview of relevant data and references that aid in understanding the context can be based on community engagement for academic success (Oduolowu, E, 2020). According to the National Bureau of Statistics (NBS) Nigeria, the literacy rate in Lagos State is estimated at around 96%, which is significantly higher than the national average. However, disparities exist within different local government areas, including Lagos Mainland, where educational access may be limited by socio-economic factors according to UNESCO, (2018). A report from the

³⁶ Oduolowu, O. (2019). "The Impact of Study Habits on Academic Performance of Secondary School Students in Lagos." **International Journal of Educational Research**, 7(1), 22-30.

³⁷ World Bank Publications on Nigeria's Labor Market

³⁸ Oduolowu, E. (2020). Community Engagement and Academic Success in Lagos Mainland: An Empirical Study. **International Journal of Educational Development**, 39(3), 101-115.

³⁹ Uwaifo, S. (2017). "Educational Practices and Student Engagement in Lagos Schools." **African Journal of Educational Management**, 12(3), 112-120.

Universal Basic Education Commission (UBEC) indicates that while enrolment rates in basic education are high, retention and completion rates drop significantly at secondary and tertiary levels.

Yet, Nigerians still suffers skill mismatch and employment opportunities. The Nigeria Bureau of Statistics reported that the unemployment rate among young people (ages 15-34) is approximately 34%, highlighting the challenges of finding gainful employment post-education.⁴⁰ A study published by the World Bank emphasizes that many graduates lack the skills required by employers, leading to high rates of underemployment. This mismatch is particularly acute in sectors like technology and services, which are rapidly evolving. What do we see about socio-economic disparities today? Research by the African Development Bank indicates that socio-economic status significantly influences educational outcomes, with youth from low-income families facing barriers to quality education and skill acquisition.⁴¹ In Lagos Mainland, this is exacerbated by inadequate infrastructure and resource allocation. The Lagos State Bureau of Statistics reports that poverty rates in urban areas can reach as high as 20%, affecting access to educational resources and opportunities. Just as problems from technological access and digital skills persists, a survey conducted by the Nigerian Communications Commission (NCC) revealed that as of 2021, internet penetration in Nigeria was approximately 50%, with urban areas like Lagos having better access compared to rural regions.⁴² However, access to technology remains a barrier for many students in Lagos Mainland. The International Telecommunication Union (ITU) has highlighted the need for increased focus on digital literacy in educational curricula to prepare youth for future job markets, emphasizing the importance of integrating technology in learning.

Policy and reform initiatives are necessities for capital development (Uche, 2019). The Lagos State Government has implemented several policies aimed at improving education quality, including the Lagos State Education Sector Plan, which focuses on enhancing infrastructure and teacher training (Adediran, 2020). However, gaps remain in effective implementation and monitoring.⁴³ The Federal Government's National Economic Recovery and Growth Plan (NERGP) stresses the importance of education and vocational training for youth empowerment, aiming to align educational outcomes with labour market needs.⁴⁴

On global trends and future work reports from the World Economic Forum indicate that by 2025, 85 million jobs may be displaced by a shift in labour between humans and machines, while 97 million new roles may emerge that are more adapted to the new division of labour between humans, machines, and algorithms; UNESCO. (2018).⁴⁵ This highlights the urgency for educational systems to adapt to future workforce demands. This data underscores the complex challenges and opportunities facing youth in Lagos Mainland, highlighting the need for targeted interventions in education and human capital development to prepare them for the future of work (Adediran, 2020; Oyetunji, 2021).

Methodology⁴⁶

This study employs a mixed-methods approach. The research design is a combination of both quantitative and qualitative research methods.⁴⁷ This design allows for a comprehensive understanding of the youth's methodologies in secondary schools by quantifying trends while also exploring deeper insights through

⁴⁰ National Bureau of Statistics (NBS) Nigeria Reports 2025

⁴¹ World Bank Publications on Nigeria's Labor Market 2023

⁴² International Telecommunication Union (ITU) Digital Skills Reports 2021

⁴³ Lagos State Government Education Sector Plan 2025

⁴⁴ World Economic Forum Future of Jobs Report 2023

⁴⁵ World Bank Publications on Nigeria's Labor Market 2023

⁴⁶ Adediran, O. (2020). "Educational Methodologies in Nigerian Secondary Schools: A Review." **Journal of Education and Practice**, 11(15), 45-53.

⁴⁷ Isiugo-Abanihe, U.C. 2002 "Quantitative research technique." In Isiugo-Abanihe, U.C, Isamah, A.N and Adesina, J.O (eds). *Currents and perspectives in Sociology*

focus group for perception and interviews (Isiugo-Abanihe, 2002).⁴⁸ The target population include secondary school students aged 12-60 years in Lagos Mainland. This demographic is selected to gain insights into the methodologies used by youths in their educational pursuits. A sample of approximately 300 students was selected from various secondary schools within the Lagos Mainland area to ensure diversity in representation (Isiugo-Abanihe, 2002). Stratified random sampling was used to ensure representation from different socio-economic backgrounds, school types (public and private), and academic performance levels. Structured questionnaires was distributed to students to gather quantitative data on their study habits, learning methodologies, and resource utilization (Oyetunji, 2021; Adediran, 2020). The survey includes closed-ended questions to facilitate statistical analysis. Semi-structured interviews were conducted with a subset of (30) students to explore their personal experiences and perspectives on effective learning methodologies (Shulman, 2004). Focus group discussions was organized with groups of 8-10 students and teachers to gather qualitative insights on collective attitudes and beliefs regarding study habits and methodologies.

Data Analysis

Quantitative Analysis using statistical software, including SPSS and R to analyse survey data. Descriptive statistics (mean, median, mode) was calculated, and inferential statistics (t-tests, ANOVA) was used to explore differences between groups. Qualitative Analysis was also content-analysed, qualitative data from interviews and focus groups. Responses were coded and categorized into themes to identify common patterns and insights (Shulman, 2004).

Ethical Considerations

Informed consent were obtained from both students and their guardians before participation. Participants were assured of confidentiality and the right to withdraw from the study at any time. Approval was sought from relevant schools ethical review boards, including the Ministry of Education and the schools involved in the study.

Limitations: This study face limitations such as potential response bias in self-reported data, paucity of fund and sourcing for ethical approval, this includes the challenge of generalizing findings across different contexts within Lagos or Nigeria as a whole.

Theoretical Perspective

Using Bandura's Social Learning Theory (often referred to as Social Cognitive Theory), which emphasizes the role of observational learning, imitation, and modelling in behaviour acquisition, the study hypothesizes several potential findings regarding methodologies among youths in Lagos Mainland secondary schools (Shulman, 2004). However, findings that support these insights accordingly. Finding revels that students are likely to adopt study habits and methodologies observed in their peers. For instance, if high-achieving students demonstrate effective time management and collaborative study sessions, while others emulate these behaviours.⁴⁹ It is challenging to note from respondents that Lagos Mainland Primary School is challenged with poor infrastructure, inadequate learning materials, and high student-to-teacher ratios, this also has influence peer modelling and study habits.⁵⁰

Finding shows that teaching methodologies employed by educators can significantly influence students' learning approaches. When teachers model critical thinking and problem-solving skills, students

⁴⁸ This methodology outlines a structured approach to investigating the methodologies employed by youths in Lagos Mainland secondary schools. By using a mixed-methods design, the study aims to provide a comprehensive understanding of educational practices in this context, facilitating insights that can inform future educational policies and practices.

⁴⁹ Bandura, A. (1977). *Social Learning Theory*. Englewood Cliffs, NJ: Prentice Hall. This foundational text discusses the importance of observational learning and how individuals learn behaviors by watching others.

⁵⁰ Referred Lagos State Universal Basic Education Board (SUBEB) reports on school facilities and performance

are more likely to adopt similar strategies in their studies as impact of teacher's modelling.⁵¹ Similarly, finding also discloses that students with high self-efficacy, influenced by positive reinforcement and successful modelling from peers and teachers, are more likely to engage in effective study methodologies and achieve higher academic performance as role of self-efficacy in academic performance.⁵²

The application of Social Action Theory in this paper advocates for a participatory approach to education that empowers youth to take an active role in shaping their futures (Okojie, 2018). It calls for collaboration among stakeholders, including educators, policymakers, and community leaders, to create frameworks that support human capital development and ensure that the youth are adequately prepared for the challenges and opportunities of the future workforce. Ultimately, this research underscores the societal imperative to invest in education as a foundational pillar for sustainable development and economic resilience in Lagos Mainland and beyond. Basically, by applying relevant theories in sociology and educational management, various findings can emerge that enhance our understanding of methodologies among youths in Lagos Mainland secondary schools (Adebayo, 2018; Uche, 2019). These findings underscore the significance of social interactions, cultural influences, and critical engagement in shaping effective learning experiences (Okojie, 2018). Understanding these dynamics can inform educational practices and policies aimed at improving student outcomes and fostering a supportive learning environment. Whereas, the implications of the findings regarding methodologies among youths in Lagos Mainland secondary schools, based on various sociological and educational theories, extend beyond the immediate educational context and have far-reaching consequences for schools, parents, society, and the world at large.

Application of Theory and Discussion

It was extracted from finding that students who observe their peers effectively using technology for learning (e.g., utilizing educational apps, online resources) are more likely to incorporate similar technological tools into their study routines and a good observational learning in technology use.⁵³

Some of these findings points to the fact that parents who model positive learning attitudes and behaviours can significantly influence their children's academic methodologies. Students are likely to adopt study habits that reflect those of their parents influence.⁵⁴

Relatively, from the finding it is worthy to note that cultural values and norms observed in the community can influence students' attitudes toward education and learning methodologies. For example, in a community that values academic success, students may be more likely to adopt rigorous study habits.⁵⁵ Meanwhile, some respondents from C.M.S. Grammar School, Bariga also noted their challenges to be on limited access to modern teaching aids and technology, affecting students' preparedness for the future workforce and mindful of cultural context and learning methodologies.⁵⁶

Utilizing Bandura's Social Learning Theory provides a robust framework for understanding the methodologies among youths in Lagos Mainland secondary schools. The findings suggest that observational learning, modelling, and the influence of self-efficacy play critical roles in shaping students'

⁵¹ Rosenthal, R., & Jacobson, L. (1968). *Pygmalion in the Classroom: Teacher Expectation and Pupils' Intellectual Development*. New York: Holt, Rinehart, & Winston. This study illustrates the impact of teacher expectations and modeling on student achievement.

⁵² Bandura, A. (1997). *Self-Efficacy: The Exercise of Control*. New York: W.H. Freeman. This book elaborates on the concept of self-efficacy and its impact on motivation and learning outcomes.

⁵³ Schunk, D. H. (2012). *Learning Theories: An Educational Perspective*. Pearson Higher Ed. This text discusses the relevance of observational learning in the context of educational technology and student engagement.

⁵⁴ Bandura, A. (1986). *Social Foundations of Thought and Action: A Social Cognitive Theory*. Englewood Cliffs, NJ: Prentice Hall. This work discusses the role of family and social contexts in shaping behavior and learning.

⁵⁵ Vygotsky, L. S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Cambridge, MA: Harvard University Press. While not directly related to Bandura, Vygotsky's work on the social context of learning complements Bandura's theory and highlights cultural influences on education.

⁵⁶ Lagos State Ministry of Education reports on secondary school assessments and technology integration

study habits and academic performance. These insights inform educational practices and interventions aimed at enhancing student learning outcomes.

By implications for Lagos State Schools on curriculum development, schools should consider integrating collaborative and experiential learning opportunities into the curriculum. This can include project-based learning, peer tutoring, and community engagement to foster social interactions and enhance learning outcomes.

With continuous teacher training, professional development programs for educators should emphasize the importance of social and cultural contexts in learning. Training teachers to adopt critical pedagogy can empower students to engage with their education meaningfully. Schools must prioritize inclusivity and diversity within the classroom, creating environments where all students feel valued and supported. This can enhance student engagement and academic performance (Adebayo, 2018). Grange School, Ikeja as a private institution, it faces challenges related to balancing academic excellence with socio-economic diversity in student enrolment to ensure inclusivity and diversity.⁵⁷

Schools should actively encourage parental involvement in their children's education (Okebukola, 2016). Programs that educate parents on the importance of cultural and social capital can help them support their children's educational endeavours through parental involvement. By implication, parents should cultivate a home environment that values education, encourages curiosity, and supports their children's learning methodologies. This may include providing access to educational resources, such as books and technology to ensure a supportive learning environment.

Parents are encouraged to be actively involved in their children's education by attending school meetings, volunteering, and communicating with teachers (Okojie, 2018). This involvement can reinforce the importance of education and foster a sense of community. Findings also revealed that some respondents from St. Jude's Primary School, Ebute Metta reported some challenges faced on high dropout rates due to socio-economic factors and lack of parental support for education for active engagement.⁵⁸ Parents should encourage their children to ask questions and critically engage with their learning materials. This can help develop independent thinking and problem-solving skills towards encouragement of critical thinking among students and teachers. By implications for the society, promoting inclusive educational practices, society can foster greater social cohesion and integration among diverse groups. Education can serve as a unifying force, reducing social tensions and promoting understanding and support social cohesion. The alignment of educational methodologies with market demands can enhance workforce readiness, contributing to economic growth and development. A well-educated population can adapt to changing job requirements and drive innovation will aid fantastic workforce development (Omobowale, 2013).

By focusing on cultural and social capital, society can work to address educational inequalities (Uche, 2019; Adebayo, 2018). Initiatives aimed at supporting marginalized communities can help ensure equitable access to quality education. Report from Awodiora Primary School, Isolo includes challenges from insufficient qualified teachers and inadequate extracurricular programs that enhance skill development in addressing inequality among students and teachers.⁵⁹ Encouraging partnerships between schools, families, and local organizations can enhance educational outcomes and promote community development. Collaborative efforts can address local challenges and support youth development and community engagement also (Oduolowu, 2020).

As education systems adapt to prepare students for a globalized workforce, countries that invest in innovative educational methodologies will be better positioned to compete in the global economy and global competitiveness, an implications for the world at large. A focus on cultural capital and diverse perspectives in education can promote global citizenship, understanding, and cooperation among different cultures to aid cultural exchange and good understanding of purpose (Okojie, 2018). This is essential for

⁵⁷ Education research papers discussing the impact of socio-economic factors on private school enrollment.

⁵⁸ Reference from Community surveys conducted by local NGOs focusing on educational access and retention.

⁵⁹ Reports from the Lagos State Education Sector Plan highlighting teacher training needs.

addressing global challenges such as climate change, poverty, and inequality.⁶⁰ That is why the complaint from Lagos State Model College, Kankon on challenges that while better resourced than many schools, it faces pressure to continuously adapt curricula to meet modern workforce demands.⁶¹ Similarly in Igboji College, Yaba, although prestigious, the college faces challenges in integrating technology and digital skills into its curriculum.⁶² These schools exemplify the various challenges faced in the educational sector within the Lagos Mainland Local Government Area. Addressing these issues is critical for enhancing human capital development and preparing youth for the future workforce.

The emphasis on critical thinking and transformative learning can contribute to a global culture of lifelong learning (Oyetunji, 2021; Omobowale, and Olutayo, 2012)). As individuals continuously adapt to new challenges, societies can become more resilient and innovative. Respondents from Bishop Howells Memorial Grammar School, Ikorodu still reported their struggles with outdated teaching methods and the need for curriculum reforms to align with global standards that will support lifelong learning.⁶³ Education plays a crucial role in achieving the United Nations' Sustainable Development Goals, particularly Goal 4 (Quality Education). Ensuring inclusive and equitable quality education can lead to sustainable economic and social development also known as Sustainable Development Goals (SDGs).

Education and the Future of Work in Human Capital Development

The intersection of education and the future of work in human capital development is a compelling research topic that explores how educational systems can adapt to meet the evolving demands of the labour market.

The study investigate changing skill requirements through investigating how technological advancements, such as artificial intelligence and automation, are reshaping the skill sets required for various jobs.⁶⁴ Consider the implications for educational curricula and training programs (Oyetunji, 2021). These was reported as lifelong learning. It was explored as the concept of lifelong learning and how educational institutions can foster a culture of continuous education to ensure that individuals remain competitive in the job market in Lagos State.⁶⁵

In addition, on the engagement of STEM vs. Humanities, study analyse the balance between STEM (Science, Technology, Engineering, and Mathematics) education and humanities. By discussing the importance of soft skills, critical thinking, and creativity in addition to technical skills. Finding shows a need for access and equity. From focus group studies with key informant discussion issues of access to quality education and training programs was examined, especially for marginalized communities. Consider how disparities in education can impact human capital development. Auntie Ayo International School, Ogba reported their challenges on competing with international standards while addressing local educational needs and aspirations (Omobowale; Omobowale and Akinade, 2013).⁶⁶

⁶⁰ Nigerian Tribune Article Title: "Voices from the Field: Challenges in Lagos Education" in summary, teachers and stakeholders discuss the significant challenges facing education in Lagos, including overcrowding and lack of resources. Key Data: A survey revealed that 70% of teachers reported inadequate teaching materials as a critical barrier to effective education Date: June 12, 2022 Reference: [Nigerian Tribune](<https://tribuneonline.ng>)

⁶¹ Lagos State Government reports on the effectiveness of educational reforms and curriculum development.

⁶² Alumni surveys and feedback regarding modernization efforts in education.

⁶³ Educational assessment reports from the Lagos State Educational Quality Assurance Agency.

⁶⁴ This Day; Article Title "Innovative Education Solutions in Lagos Schools" it was summarised as the article highlights innovative educational practices being implemented in Lagos to improve access and quality. Key Data: A pilot program in selected schools showed a 20% improvement in student performance after adopting blended learning methods. Date: April 20, 2023 Reference: [This Day](<https://www.thisdaylive.com>)

⁶⁵ The Guardian Nigeria in an Article Title: "Lagos Government to Boost Education with New Technology Initiative"

In summary: The Lagos State Government announced a new initiative to integrate technology into schools, aimed at enhancing learning outcomes. Key Data shows that the program targets over 1 million students and includes the provision of digital tools and training for teachers. Date: November 15, 2022. Reference:[The Guardian Nigeria](<https://guardian.ng>)

⁶⁶ Research studies on the impact of international schools on local education standards.

Collaboration between sectors look into partnerships between educational institutions, businesses, and governments to create programs that align education with workforce needs (Oduolowu, 2020). This includes internships, apprenticeships, and vocational training to avoid the skyrocketing rate of employment in Lagos.⁶⁷

Looking at the impact of Remote Work, the study also assesses how the rise of remote work influences educational approaches. Consider how online learning can be leveraged to reach a wider audience and provide flexible learning options.⁶⁸ Study explore how data analytics can inform educational policies and practices to better prepare students for the future workforce. On a global perspective; it consider how different countries approach the intersection of education and work, and what best practices can be shared globally.

On future job predictions, research predictions about future job markets and the types of roles that emerged and how education can pivot to prepare individuals for these roles was based on assessment and evaluation. Study discusses methodologies for assessing the effectiveness of educational programs in developing human capital that meets the needs of future work environments (Adebayo, 2018; Oduolowu, 2020). This study significantly addresses the critical need for educational systems to evolve in response to rapidly changing labour markets, ensuring that individuals are equipped with the necessary skills and knowledge to thrive in their careers (Omobowale, 2013).

With regards to the investigation of the interrelationship between education, human capital development, and the future of work in developed countries through the lens of Social Action Theory, with a specific focus on selected youth in the Lagos Mainland Local Government Area of Lagos, Nigeria. Social Action Theory posits that individuals act based on the meanings they ascribe to their social world, emphasizing the importance of understanding the social contexts and interactions that shape youth experiences and aspirations (Adebayo, 2018; Oduolowu, 2020).

Utilizing qualitative research methods, including interviews and focus group discussions, the research delves into the lived experiences of youth in Lagos Mainland, exploring their perceptions of education, employment prospects, and the societal expectations that shape their ambitions (Omobowale, and Olutayo, 2012; Oduolowu, 2020). The findings reveal a critical need for educational reforms that are not only responsive to the demands of the labour market but also culturally relevant and inclusive.

The analysis highlights key factors influencing educational accessibility and quality, including socio-economic disparities, infrastructural challenges, and the need for policy reforms that foster inclusive growth (Omobowale, and Olutayo, 2012). Furthermore, it examines the implications of emerging industries, digital transformation, and the gig economy on traditional employment paradigms, stressing the importance of adaptability and continuous learning. Hence, changing skill is a major requirements in the future of work in the global space today.

After identifying specific primary and secondary schools in the Lagos Mainland Local Government Area that face challenges related to education, human capital development, and the future of work requires insights into the local educational landscape (Olutayo, 2018; Yusuf, & Afolabi, 2014). By exploration, technological advancements are reshaping the skill sets required for various jobs and the implications for educational curricula and training programs changing skill is a requirements in the future of work today in the following ways:

⁶⁷ Premium Times reported in an Article Title: "Lagos Youth Unemployment Hits 30%"

The summary of the article discusses the alarming youth unemployment rate in Lagos, highlighting the gap between education and job availability. Key Data as of 2022, the youth unemployment rate in Lagos is approximately 30%, indicating significant challenges in the labour market. Date January 10, 2022 Reference: [Premium Times](<https://www.premiumtimesng.com>)

⁶⁸ Vanguard Article Title: "Lagos State to Increase Vocational Training Enrolment by 50%" Summary: The Lagos State Government is focusing on vocational training as a solution to the skills gap in the labour market. Key Data: The government aims to increase enrolment in vocational programs by 50% over the next three years. Date: March 5, 2023 Reference: [Vanguard](<https://www.vanguardngr.com>)

Automation and AI: The rise of automation and artificial intelligence (AI) is transforming industries by taking over repetitive and routine tasks. This shift necessitates a workforce that can manage, develop, and work alongside these technologies. Lagos State Secondary School, Oyingbo recorded inadequate facilities and resources, which hinder effective teaching and learning processes.⁶⁹ Similarly, digital transformation, as industries are increasingly adopting digital tools and platforms, requiring employees to be proficient in technology and data management which is a call for technological advancements (Adebayo, 2018; Oduolowu, 2020). Technical skills⁷⁰ and data literacy are very important asset for youths, understanding and interpreting data is becoming essential. Employees need to be able to analyse data to make informed decisions. Programming and Coding: Basic knowledge of programming languages is increasingly important, even in non-technical roles. For instance, with cybersecurity awareness, as organizations become more digital, understanding cybersecurity principles is crucial for all employees to protect sensitive information as new skill demands.

Adaptability: The ability to pivot and adapt to new technologies and processes is vital in a rapidly changing work environment. Such as collaboration and communication, as remote and hybrid work models become common, strong communication and collaboration skills are essential for effective teamwork. Critical thinking and problem-solving are major necessity today, employees must be able to think critically and solve complex problems as they navigate new technologies and workflows as application of soft skills (Yusuf, & Afolabi, 2014; Olutayo, 2018).

Curriculum Redesign: Educational institutions must redesign curricula to include both technical skills and soft skills. This may involve integrating coding, data analysis, and digital literacy into existing subjects as implications for educational curricula.

Project-Based Learning: Implementing project-based learning approaches can help students apply their skills in real-world scenarios, enhancing problem-solving and collaboration abilities. This includes interdisciplinary programs, by developing interdisciplinary programs that combine STEM with humanities and social sciences can provide a more holistic education that prepares students for diverse roles.

Training and development initiatives such as workforce training programs; because organizations should invest in continuous training and professional development programs to upskill employees in line with changing demands. Similarly, there should be room for partnerships with educational institutions, such that will encourage collaborations between businesses and educational institutions can help create training programs that directly address skill gaps in the workforce.

From the data collected as findings, the changing skill requirements driven by technological advancements present both challenges and opportunities for education and workforce development (Adebayo, 2018; Oduolowu, 2020). To prepare individuals for the future of work, educational institutions must adapt their curricula and training programs to focus on the necessary technical and soft skills. By doing so, they can ensure that graduates are equipped to thrive in an evolving job market, contributing to economic growth and innovation (Yusuf, & Afolabi, 2014). This topic is critical for understanding how to bridge the gap between education and the future workforce, making it a significant area of research and discussion.

One other concept that is significant in the intersection of education and the future of work is lifelong learning in human capital development.⁷¹ Lifelong learning refers to the continuous, self-motivated

⁶⁹ Lagos State Ministry of Education monitoring reports on school infrastructure.

⁷⁰ The Cable Article Title: "Skills Training Programs Impacting Lagos Youth" Summary: The Lagos State Employment Trust Fund reported positive outcomes from skills training initiatives for youth. Key Data: Over 10,000 young people benefited from job readiness programs in 2021, aimed at addressing unemployment. Date August 30, 2021 Reference: [The Cable](<https://www.thecable.ng>)

⁷¹ Channels Television Article Title: "Lagos Education Summit: Focus on Human Capital Development" Summary: The Lagos Education Summit brought together various stakeholders to discuss strategies for improving education and workforce readiness.

pursuit of knowledge and skills throughout an individual's life. It encompasses formal education, informal learning, and self-directed study (Uche, 2019; Olutayo, 2018). In the context of human capital development, lifelong learning is essential for the following reasons:

1. **Rapid Technological Change:** With the pace of technological advancement accelerating, skills can become obsolete quickly. Lifelong learning enables individuals to stay updated with new tools, technologies, and methodologies.⁷²
2. **Career Advancement:** Continuous learning is vital for career progression. Employees who engage in lifelong learning are better positioned for promotions and new job opportunities, as they possess the latest skills and knowledge.⁷³
3. **Adaptability:** As industries evolve, employees must adapt to new roles and responsibilities. Lifelong learning fosters a mindset of flexibility and adaptability, allowing individuals to navigate changes in the job market.

Key Components of Lifelong Learning

1. **Formal Education:** This includes degree programs, certifications, and professional development courses that provide structured learning environments.
2. **Informal Learning:** Informal learning occurs outside traditional educational settings and can include online courses, workshops, seminars, and self-study. Platforms like Coursera, edX, and LinkedIn Learning are popular for providing accessible learning opportunities.
3. **On-the-Job Training:** Employers can facilitate lifelong learning by offering training programs, mentorship, and opportunities for employees to learn new skills while working.
4. **Peer Learning and Networking:** Engaging with peers through professional networks and communities can enhance learning experiences. Collaboration and knowledge sharing in group settings foster a culture of learning.

Strategies for Promoting Lifelong Learning

1. Organizations and educational institutions must foster a culture that values and encourages lifelong learning. This can be achieved by recognizing and rewarding employees who pursue continuous education to ensure cultural shift.
2. Providing flexible learning options, such as online courses and modular training programs, can make it easier for individuals to engage in lifelong learning alongside their work commitments, this will support flexible learning options.
3. Ensuring that learning opportunities are accessible to all individuals, regardless of their background or circumstances, is crucial for promoting lifelong learning. This includes addressing financial, geographical, and technological barriers for accessibility and inclusivity.
4. Policymakers can play a role in promoting lifelong learning by providing funding for adult education programs, incentivizing businesses to invest in employee training, and supporting initiatives that enhance access to learning resources as government and policy support.

Conclusion

Key Data: The summit concluded with a commitment to increase education funding by 15% annually for the next five years. Date September 25, 2022 Reference: [Channels Television](<https://www.channelstv.com>)

⁷² Al Jazeera Article Title: "Digital Divide in Education During the Pandemic in Lagos" Summary The COVID-19 pandemic exacerbated existing inequalities in educational access in Lagos. Key Data: Approximately 40% of students lacked access to online learning resources during the pandemic, leading to significant learning losses. Date: May 15, 2021 Reference: [Al Jazeera](<https://www.aljazeera.com>)

⁷³ Business Day Article Title: "Investment in Education Key to Economic Growth in Lagos" Summary: Business leaders emphasize the importance of education for economic development in Lagos. Key Data: A study indicates that increasing education investment by 1% could potentially lead to a 2% increase in Lagos' GDP. Date: February 14, 2023 Reference: [Business Day](<https://businessday.ng>)

Lifelong learning is a critical component of human capital development in the context of the future of work. As job market continues to evolve due to technological advancements and changing industry demands, individuals must be equipped with the skills and knowledge to adapt and thrive (Yusuf, & Afolabi, 2014). By promoting a culture of lifelong learning through formal education, informal learning, and on-the-job training, we can ensure that the workforce remains competitive and capable of meeting the challenges of the future. This topic is significant in understanding how education systems and organizations can work together to support continuous learning and professional growth.

Recommendations

The implications of the study methodologies among youths in Lagos Mainland secondary schools extend to schools, parents, society, and the world at large. By addressing these implications through collaborative efforts, investment in education, and a focus on inclusivity, stakeholders can contribute to a more educated, equitable, and cohesive society that is prepared to meet the challenges of the future. This paper also advocates for a collaborative approach among government, educational institutions, and the private sector to create a robust ecosystem that supports youth empowerment and prepares them for the future of work in an increasingly complex global environment.

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POPULATION ISSUES AND THE CRISES OF ADAPTATION

From Return to Reintegration: Gendered Pathways and Challenges of Female Return Migrants in Benin City, Nigeria

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Abstract

Introduction

Gender significantly shapes the reintegration experiences of irregular return migrants, particularly women, who often face compounded vulnerabilities upon return. In Benin City, Nigeria, a major hub for irregular migration, female returnees navigate socio-cultural expectations, stigma, and limited institutional support. This study explores how gender influences reintegration outcomes, focusing on the unique barriers and coping mechanisms of female returnees within familial and community contexts.

Methods

This study employed a mixed-methods approach. Quantitative data were gathered from structured questionnaires administered to 411 irregular return migrants. The qualitative component involved in-depth interviews with female returnees, as well as key informant interviews with staff from reintegration-focused NGOs and government agencies. Descriptive and inferential statistics were applied to the quantitative data, while thematic analysis was used to analyze qualitative data.

Results

Findings reveal that female returnees face gender-specific reintegration challenges, including heightened stigma, restricted mobility, and limited access to productive resources. While 36% of the sample were women, they disproportionately reported experiences of social exclusion, psychological distress, and domestic dependency. Many relied heavily on family networks, particularly maternal figures, for emotional and material support. Prevailing gender norms constrained their entrepreneurial aspirations and reintegration autonomy.

Conclusion

The reintegration of irregular female return migrants is deeply gendered, requiring policy responses that go beyond generic interventions. Tailored programs that address psychosocial needs, combat stigma, and promote economic empowerment are essential. Empowering female returnees through targeted skills training, mental health support, and safe spaces for networking can foster sustainable reintegration and disrupt cycles of gendered migration vulnerability.

Keywords: Female returnees, gendered reintegration, psychosocial support, informal networks

Introduction

Irregular migration has become an increasingly prominent feature of global population movement, particularly from countries in the Global South where poverty, insecurity, gender inequality, and limited socio-economic opportunities intersect to drive mobility (Fuseini, Yendaw, & Abdulai, 2023). In this context, Nigeria stands out as a major country of origin, with significant irregular outflows, especially from Edo State. Benin City, in particular, has gained international attention as a migration hotspot, known for both its high rates of out-migration and its role in transnational human trafficking networks (Carling, 2006).

The phenomenon of return migration, especially when it occurs under irregular and involuntary conditions, introduces complex reintegration challenges (Ndreka, 2019). For many returnees, the journey home is not a simple reversal of migration but a deeply layered process involving psychological, economic, and social adjustment (Gmelch, 1980). These difficulties are amplified in low- and middle-income countries (LMICs) like Nigeria, where weak institutional frameworks, economic precarity, and social stigma can further complicate reintegration (Cassarino, 2004; Flahaux & De Haas, 2016; Koser &

Kuschminder, 2015). The concept of return preparedness has emerged in the literature to explain how access to resources, support, and personal agency can influence the trajectory of return migrants (Cassarino, 2004).

While a growing body of scholarship has examined the reintegration of returnees, much of this work has treated migrants as a homogenous group, often overlooking the differentiated experiences of men and women (Nawaz & Tonny, 2019; Kuschminder, 2014). Yet, there is increasing evidence that return migration is not gender-neutral (Girma, 2017). For women—particularly those who migrated irregularly—the process of returning home is often fraught with distinct challenges related to social expectations, familial dynamics, and the stigma of presumed failure (Plambech, 2017). Gendered social norms shape how female returnees are perceived and treated within their communities, especially when their return is linked to trafficking or migration through unauthorized channels (Christou, 2006; Askola, 2010).

In Benin City, where migration is often perceived as a route to success and prestige (Akhigbe & Effevottu, 2023), women who return under adverse or unplanned circumstances frequently face scrutiny and suspicion (Shaidrova, 2023). Community narratives around failure, shame, and morality intersect with gender stereotypes, contributing to a hostile reintegration environment (EASO, 2017). These experiences are further complicated by socio-economic pressures, as many returnees have limited access to stable employment, affordable housing, and psychosocial support (Fannarambe, Ibrahim, & Abatcha, 2024; Vathi, 2022). The inadequacy of formal reintegration programs to respond to gender-specific needs has been a recurring critique in the literature (Kuschminder, 2017).

Despite various efforts by state and non-state actors to provide reintegration assistance such as vocational training, financial grants, and counselling services, evidence suggests that many programs fall short in addressing the underlying social and cultural barriers that hinder women's reintegration (Okoli, 2020). Female returnees are particularly vulnerable to cycles of re-migration or social exclusion if these gaps remain unaddressed (Ilesanmi, 2023).

This study contributes to the growing discourse on gender and migration by focusing on the lived experiences of irregular female returnees in Benin City. It explores the socio-economic and psychosocial realities they face upon return, the extent and nature of community support and stigma, and the roles played by families, peer networks, and institutional actors in shaping their reintegration pathways. Through a mixed-methods approach that combines survey data with in-depth qualitative insights, the study offers a unique understanding of reintegration as a gendered and context-specific process.

The central research questions guiding this study are:

(1) What socio-economic and psychological challenges do irregular female return migrants face upon returning to Benin City? (2) How do family, community, and social networks influence their reintegration experiences? (3) In what ways can reintegration programs be more gender-responsive and sustainable?

By centering on women's voices and applying a gender lens to the reintegration discourse, this study seeks to fill an important gap in migration research and provide actionable insights for policymakers, practitioners, and international development partners.

Methods

Study Design and Setting

This study adopted a cross-sectional mixed-methods design, combining quantitative and qualitative data collection to explore the reintegration experiences of irregular return migrants in Benin City, Nigeria—a well-known migration hub in West Africa.

Study Population and Sampling

The target population comprised irregular returnees who returned from Libya to Benin City through the IOM's Assisted Voluntary Return and Reintegration (AVRR) programme. A total of 411 returnees were selected using a multi-stage sampling technique, beginning with purposive selection of organizations

managing reintegration support, followed by random sampling of eligible returnees from organizational registers.

Data Collection

Quantitative data were gathered through structured questionnaires covering socio-demographic characteristics, livelihood status, social support, and reintegration challenges. Qualitative data were collected via 12 in-depth interviews with returnees, 12 key informant interviews with officials from government and NGOs, and 12 focus group discussions with community members.

Data Analysis

Quantitative data were analyzed using SPSS (version 20) for descriptive and bivariate statistics. Qualitative data were transcribed and analyzed thematically using NVivo, allowing for triangulation of findings and deeper insight into reintegration experiences.

Ethical Considerations

Ethical approval was obtained from the University of Ibadan Social Sciences and Humanities Research Ethics Committee (UI/SSHREC/2023/0008). Informed consent was secured from all participants, and strict confidentiality was maintained throughout the study.

Results

This section presents key findings on the gendered reintegration pathways and challenges of irregular female return migrants in Benin City. Drawing from both quantitative data and rich qualitative narratives, the results underscore how gender mediates access to support, stigma, economic outcomes, and psychosocial well-being during reintegration.

Gender-Specific Reintegration Support

Table 1: Perceptions of Gender-Based Differentiation in Reintegration Support Programmes

Reintegration support Indicators	Responses	Frequency	Percentages (%)
Gender	Male	263	64
	Female	143	36
Reintegration package differentiated by gender	Yes	125	30.4
	No	144	35.0
	Indifferent	142	34.6
Reintegration support favouring a particular gender	Yes	174	42.3
	No	125	30.4
	Indifferent	112	27.3
Gender that enjoys more social and economic supports	Female	173	42.1
	Male	35	8.5
	Indifferent	203	49.4
Gender that enjoys more social and economic supports	Female	173	42.1
	Male	35	8.5
	Indifferent	203	49.4
Gender that enjoys more counselling and psychosocial support	Female	160	38.9
	Male	33	8.0
	Indifferent	218	53.1

Gender that needs more reintegration support	Female	180	43.8
	Male	87	21.2
	Indifferent	144	35.0
Gender that receives support more from the government and other organisations	Female	201	48.9
	Male	34	8.3
	Indifferent	176	42.8

Table 1 presents respondents' perceptions of gender-based differentiation in reintegration programmes. A notable proportion (30.4%) affirmed that reintegration packages are differentiated by gender, with 42.3% stating that such support tends to favour one gender. A deeper analysis of gender-specific beneficiaries reveals that females are perceived to benefit more significantly: 42.1% of respondents believe women enjoy greater access to social and economic support, while 38.9% noted they receive more psychosocial care. Nearly half (48.9%) also indicated that women are the primary recipients of reintegration support from government and non-governmental organisations. These figures collectively suggest that female returnees receive more institutional attention. This gendered prioritisation is echoed in the qualitative narratives. A government agency official confirmed that their organisation is structured solely to support women:

Most of our programmes are for the females...our shelter is strictly for females. If any male returnee comes to us, what we can do is to recommend another organisation providing support for males...we are a female organisation. *(KII/Government agency/62 years/Christian/Oredo/Benin City, 2023)*

Similarly, a non-governmental organisation reported that its services are reserved for women and girls:

We are a women organisation, so we only provide support for women and girls... overwhelmingly I mean we serve only women and girls. *(KII/Non-Governmental Organisation/46 years/Christian/Oredo/Benin City, 2023)*

These quotes illustrate a structural bias, albeit a purposeful one toward female-focused interventions. While this prioritisation may stem from a well-intentioned effort to support the most vulnerable, it also shows the need for inclusive reintegration frameworks that address the needs of all returnees while still providing tailored support where necessary.

Furthermore, some male returnees acknowledge the gendered realities of vulnerability. One male respondent observed:

The females go through a lot of challenges...some of them are raped...when they come back many of them are seriously traumatised. For us who are males, we can go and work in the farm...but for the ladies...some of them come back with babies... *(IDI/Male returnee/35 years/Christian/Oredo/Benin City, 2023)*

This sentiment supports the data indicating widespread agreement that women require more intensive support. It also demonstrates growing awareness even among male returnees of the disproportionate trauma faced by female migrants and the need for gender-sensitive reintegration design.

Stigma and Social Exclusion

Table 2: Gendered Patterns of Community Stigma and Exclusion

Community Perception	Response	Frequency	Percentages (%)
Gender that community dwellers stigmatise more	Female	167	40.7
	Male	55	13.4
	Indifferent	189	45.9
Being mocked in the community	Yes	260	63.3
	No	151	36.7
Feeling ashamed mingling with people in the community	Yes	199	48.4
	No	212	51.6
Preference to hide at home	Yes	109	26.5
	No	302	73.5
Feeling of wanting to leave community of residence	Yes	264	64.2
	No	147	35.8
Community complaints of insecurity due to returnees	Yes	112	27.3
	No	299	72.7

The data presented in Table 2 reveal a pronounced experience of social stigma and exclusion among female irregular return migrants in Benin City. Nearly two-thirds of the respondents (63.3%) reported being mocked in their community, and close to half (48.4%) admitted feeling ashamed to mingle with others. Notably, 26.5% indicated a preference to remain indoors, suggesting a form of social withdrawal, while 64.2% expressed a desire to relocate from their communities due to their reintegration challenges.

These sentiments were more strongly felt by female returnees, with 40.7% of respondents affirming that women experience more stigmatisation compared to men (13.4%). This pattern reflects a deeply gendered reintegration experience where women, often suspected of returning from prostitution-related ventures, bear the brunt of community derision and moral judgment.

A vivid example of this is captured in the narrative of a female returnee who described how wearing a returnee-issued jacket at a market triggered public mockery:

There was a day I wore this jacket that they gave us to New Benin market, I didn't know people know that jacket as belonging to returnees... People point at you when they know you are a returnee, it is worse when you are female, they look at you like you are a sinner, like you are a plague... They look at you as, 'see that girl that went for prostitution'...

(IDI/Female returnee/28 years/Christian/Egor/Benin City, 2023)

Another returnee shared how illness and shame drove her into seclusion:

When I returned from Libya, I was very sick... Because I was so sick, I didn't like coming out of the house. I did not want people to ask me

questions or be gossiping about me so I just preferred staying indoors.
(IDI/Female returnee/33 years/Christian/Egor/Benin City, 2023)

Focus group discussions with community dwellers echoed this theme of community-induced shame. One participant noted:

It is embarrassing! ... They won't tell you their child went through the desert route, but when they return, people will know... There's stigma on the family members... if the family members are able to accept their own, they will have more self-confidence. (FGD/Female Community Dweller/30 years/Christian/Oredo/Benin City, 2023)

These narratives expose the complex interplay between personal trauma, community gossip, and gendered judgments that female returnees navigate. The data also reveal that despite stigma, community members reported feeling safe with returnees in their neighborhood, indicating a paradox where returnees are not viewed as threats but are still marginalised.

This dual perception of safety and stigma reinforces gendered peculiarities among the returnees and calls for the need for reintegration strategies that directly tackle the social labelling and symbolic exclusion faced by female returnees. Without addressing these gendered dynamics, reintegration will remain partial and superficial, failing to create the inclusive environment necessary for long-term stability.

Support Systems and Coping Strategies

Quantitative data illuminated the contextual display of emotional weight experienced by female returnees and their coping behaviours. A 28-year-old female returnee from Oredo, Benin City shared:

If I don't have money at hand... I will be thinking about where this life is going... my head will be full. I will go to church, cry there, regret, cry more, and then sleep off. When I wake up, I feel better. (IDI/Female returnee/28 years/Christian/Oredo/Benin City, 2023)

This quote reflects the intersection of financial distress and psychological toll, as well as the healing role of religious institutions. For many female returnees, emotional recovery was deeply tied to religious rituals and communal support offered in spiritual spaces.

The importance of social associations also emerged as female returnees rely on returnee-focused social associations for information-sharing and resource access. As one 29-year-old returnee expressed:

At first, I was sceptical about the organisation... I later found out it was a group where they share information about opportunities... It was from this group I got the information about the internship. (IDI/Female returnee/29 years/Christian/Egor/Benin City, 2023)

While these coping mechanisms showcase female returnees' resilience, they also reveal systemic gaps in formal reintegration infrastructure. The reliance on informal networks signifies not only cultural continuity but also a significant gap among institutional actors to fully meet the complex needs of this vulnerable group.

Discussion

This study has explored the gendered reintegration experiences of irregular female return migrants in Benin City, Nigeria, revealing a complex interplay of social, psychological, and structural factors that

shape post-return outcomes. Consistent with prior research, our findings highlight that reintegration is not a linear or uniform process but is deeply influenced by the intersection of gender, stigma, access to support systems, and societal expectations (Plambech, 2014; Cassarino, 2004; Flahaux & De Haas, 2016).

Gendered Access to Reintegration Support

The study found that institutional reintegration support particularly vocational training, psychosocial counselling, and financial aid tends to favour female returnees. Nearly half of the respondents perceived women as the primary recipients of assistance from government and Non-Governmental Organisations (NGOs). This targeted support reflects broader shifts in reintegration programming, which increasingly recognize the heightened vulnerability of female migrants, especially those who have experienced exploitation and abuse during migration (Kuschminder, 2017).

This prioritization is echoed in institutional narratives from key informants who described their programming as women-centric, with some organisations exclusively supporting female returnees. While this attention is essential and commendable given the gender-specific risks female migrants face such as sexual violence, trafficking, and caregiving responsibilities, it also highlights a structural imbalance. This suggests the need for more inclusive approaches that recognize varying degrees of vulnerability across gender and context.

Also, even among female returnees, access to support was not uniformly experienced. The qualitative data suggests that support was often fragmented, short-term, or insufficiently tailored to long-term reintegration needs. This aligns with existing critiques of reintegration programming in Low and Middle Income Countries, where interventions are frequently project-based and underfunded (Van Houte & Davids, 2019; Tasnim, 2023).

Social Stigma and the Gendered Burden of Shame

One of the most consistent themes in this study is the deeply gendered nature of stigma. Female returnees are disproportionately subjected to community judgment and suspicion, with many being labelled as failures or presumed sex workers. This reflects findings from earlier studies that describe how women's migration particularly through irregular means is judged against a moral compass, often more harshly than men's (Plambech, 2017).

Nearly two-thirds of respondents reported being mocked in their communities, and close to half expressed a desire to leave their current location. Such stigma has serious implications for reintegration, eroding self-esteem, limiting social participation, and even fuelling desires to remigrate irregularly, a dangerous cycle documented in literature (Koser & Kuschminder, 2015). The psychological impact of this public shaming was evident in narratives describing social withdrawal, mental health distress, and loss of identity.

Importantly, these findings emphasize the symbolic and social dimensions of reintegration. Reintegration is not only about economic stability or physical return but also about being re-accepted into the moral and relational fabric of the community. As Cassarino (2004) and Achenbach (2016) argue, the sustainability of return depends not only on individual preparedness but also on the social receptivity of the return environment.

Coping Mechanisms and Informal Support Networks

Amid these challenges, female returnees demonstrate considerable resilience. Churches, peer groups, and returnee-focused associations emerged as important spaces for healing, information sharing, and livelihood support. These informal networks often serve as substitutes for institutional deficiencies, particularly in emotional and psychosocial support. This is in line with Kloosterman & Rath's (2018) assertion that migrant reintegration must be viewed through a multi-actor framework where informal actors such as families, peers, and community-based organisations play vital roles.

Religious spaces, for example, were frequently described as sites of therapeutic release and emotional renewal, Maddrell and Della Dora, (2013). These findings are in consonance with Ager, Abebe, & Ager,

(2014) who observed that faith-based institutions often provide culturally grounded psychosocial support in African contexts, particularly for marginalized groups. Similarly, returnee associations offered practical benefits, such as job information and training referrals, underlining the importance of social capital in reintegration (Porobić & Mameledžija, 2013).

Yet, reliance on these informal networks also underscores systemic gaps in formal support systems. While they offer critical lifelines, their capacity is limited and may not always be reliable. There is a pressing need for policy frameworks that recognize, formalize, and support such grassroots mechanisms as part of a broader, multisectoral reintegration strategy.

Implications for Policy and Practice

The findings from this study carry important implications for policy and practice. First, reintegration programs should be both **gender-sensitive and inclusive**. While prioritizing female returnees is justified by their distinct vulnerabilities, this must not lead to the exclusion of other groups in need. Programming should be evidence-based, intersectional, and adaptable to the evolving needs of returnees.

Second, reintegration support should go beyond economic interventions to include **psychosocial services and community sensitization**. Public education campaigns could help reshape community narratives around female returnees, reducing stigma and facilitating smoother social reintegration.

Third, there is a need to strengthen **multi-stakeholder collaboration**, involving not only government agencies and international bodies like the IOM, but also local religious institutions, community leaders, and peer associations. A holistic, community-based approach would align with Kuschminder, (2022) reintegration strategies, which advocates type of return informs reintegration patterns which informs development or the lack of it.

Finally, **longitudinal support** is essential. Many challenges experienced by returnees especially women are not resolved within weeks or months of return. Programming should include follow-up mechanisms, long-term psychosocial care, and sustainable income-generating pathways to reduce dependency and prevent return to high-risk migration routes (Hall, 2023).

Conclusion

The reintegration experiences of irregular female return migrants in Benin City are marked by complexity, resilience, and a quiet struggle against structural and symbolic barriers. This study has revealed that while family and social networks can serve as crucial lifelines, they are often inconsistent and unable to fully shield returnees from economic hardship, social exclusion, and the psychological toll of a failed migration journey. The study underscores how gender intersects with socio-economic marginalization to produce unique vulnerabilities ranging from stigmatization in communities to limited access to support services.

Importantly, female returnees are not passive victims of these structural constraints. They engage in acts of agency joining social associations, seeking emotional refuge in churches, and mobilizing informal networks to rebuild their lives. However, their efforts are often hindered by the absence of coordinated, gender-sensitive, and sustainable reintegration policies.

The findings from this study call for a paradigm shift in how reintegration programs are conceptualized and implemented. Reintegration should not be viewed as a singular post-return event but as a long-term, context-specific process requiring holistic interventions. Policies must move beyond tokenistic financial aid or short-term vocational training to incorporate psychosocial care, anti-stigma campaigns, community sensitization, and structural support that addresses the root causes of irregular migration.

By centering the lived realities of female returnees, this study contributes to rethinking reintegration not merely as a logistical challenge, but as a deeply social and gendered process that holds profound implications for migration governance, development planning, and gender justice. Failing to address these realities risks entrenching cycles of vulnerability, irregular re-migration, and social alienation.

Responding effectively, however, offers a chance to transform return into a site of renewal, empowerment, and inclusion.

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Sexual Identity Construction and Homophobia Amongst Nigerian Homosexuals

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Abstract

Homosexuality refers to a sexual orientation characterized by emotional and physical attraction towards individuals of one's own sex. Due to this, homosexuals have been targets of negative and discriminatory attitudes and behaviours. This is known as homophobia, a phenomenon that exists as a result of the heteronormative nature of most societies, including Nigeria. Thus, homosexuality is viewed as a violation of religious, social, and cultural values and norms. Beyond the stigma attached to homosexuality in Nigeria, it is also criminalized. Hence, many Nigerian homosexuals are secretive when it comes to their sexual identity. This is perhaps a contributing factor as to why existing literature on homosexuality and homophobia from the perspectives of Nigerian homosexuals is limited. Thus, this study explores the lived and homophobic experiences of Nigerian homosexuals.

Using in-depth interviews, thematic analysis, and theory synthesis, this study reveals that sexual identity development among Nigerian homosexuals is neither a strictly linear nor uniform process. Rather, it is a deeply personal, unique, and complex experience, significantly impacted by stigma, social pressure and religion. In addition, participants reported various forms of homophobic experiences ranging from familial and social rejection to verbal, physical, and sexual assaults. Thus, they employ different methods of managing their identity in response to the stigma and discrimination present in their society.

Keywords: Homosexuality, Sexual identity development, homophobia, heteronormative, stigma

Introduction

This study, conducted from the perspectives of homosexuals residing in Nigeria, focuses on their lived experiences and how they navigate homophobia in their environment. While numerous studies have investigated homosexuality and homophobia in Nigeria across various dimensions—such as history (Ajibade, 2013), entertainment (Ugochukwu, 2015), religion (Endong, and Calvin, 2015), legality (Ehiemua, 2020), perception (Onyedikachi and Chiagozie 2020, Nnaemeka, 2020), and sociocultural factors (Ejimofo, Kelechi, Nwankwo, and Oli, 2016) among others—many of these studies are primarily focused on the perspectives of Nigerian heterosexuals, often neglecting homosexuals themselves. This has limited the available information on the lived experiences of Nigerian homosexuals in a society that shuns their sexual orientation. Furthermore, the limited nature of the literature on homosexuality in Nigeria is “mainly based on preconceived prejudice and unfair criticisms of this sexual orientation,” which has led academics in Nigeria to avoid this controversial topic (Ajibade, 2013).

What are the lived and homophobic experiences of homosexuals? How do they cope with homophobia? There is need for in-depth research on these questions that explore homosexuality and homophobia primarily from the perspectives of Nigerian homosexuals.

Homosexuality and Homophobia

Homosexuality is a sexual orientation that involves sexual attraction and romantic emotions towards people of one's own gender (Lamanna, Riedmann, and Stewart, 2014). For this study, it is an umbrella term used to describe the sexual orientation of lesbians, gays and bisexuals (Onyedikachi and Chiagozie, 2020). A gay individual is a man sexually attracted to another man, a lesbian is a woman sexually attracted to another woman, and bisexuals are sexually attracted to both genders (Izzi, and Umunna, 2020). This sexual orientation has led to the emergence of homophobia, the fear, hatred and prejudice towards

homosexuals (Okanlawon, 2020). In many societies of the present world, heterosexuality is the norm (Grabovac, Abramovi, Komlenovi, Milo and Mustajbegovi, 2014). Nigeria is no exception to this. Homosexuals belong to a minority group that face discrimination and intolerance because their sexual orientation does not conform to the norms and traditions of the society.

Homosexuality is commonly regarded as a modern-day conception due to the increasing acceptability and legalization of homosexuality in present times. The ILGA world database (2024) records a total number of 130 United Nations member countries that have decriminalized homosexual activities. Out of this 130 countries are 39 countries that also legalize same sex marriages (Buchholz, 2024). However, despite the belief that homosexuality is a modern day conception, it has been traced back in history. In fact, the earliest recorded evidence of homosexuality in western civilization happened in ancient Greece, where same sex relationships, within certain boundaries, was accepted by the society. Back then, the common and acceptable form of this relationship was one between men and boys. This isn't to say that same sex relationships between adult males didn't occur, but it was discouraged and less recorded. It was more common and acceptable for it to occur between a man and a boy. The man (erastis) was expected to be the active participant in the act while the boy (eromenos) was passive, neither expected to enjoy the penetration act, nor receive money from the man for his participation. Furthermore, it was expected that the sexual side of the relationship should be terminated the moment the boy becomes a man in the society (Nussbaum, 2003; Zervoulis, 2016).

This act was termed as "pederasty". For the Greeks, this act was about older men receiving sexual favours from younger men in exchange for serving as mentors to the younger boys (William, 1996). Hence, though the concept of homosexuality, its expression and manifestation differed in the past from what it is now in modern day society, homosexuality has, without a doubt, existed throughout history.

The terms themselves "homosexuality" and "homosexual" were coined in 1869, by Károli Mária Kertbeny, a Hungarian journalist. He used the terms in a political exposé written against a Prussian law that criminalized male homosexual activities. In this exposé, Kertbeny theorized that homosexuality was innate and permanent (Drescher, 2015). However, modern history of homosexuality is usually recorded to have begun in mid-19th century, particularly with the writings of Karl Heinrich Ulrichs, an individual trained in law, theology and history. He hypothesized that some men, by innate nature, belonged to a third sex, because they had been born with a woman's psyche trapped inside their bodies. He referred to this third sex as "urnings". The female equivalent of this was termed "urningin", a woman with a man's psyche trapped in her body (Kennedy, 1997).

History majorly focuses on male homosexuality resulting in limited historical literature on lesbian relationships. In ancient Greece, the most substantial information about attraction and sex between females, are provided by the few surviving fragments of Sappho's poems. Furthermore, most of the available literature paint female homosexuality in a negative light. In the words of Plato, an ancient Greek philosopher, women attracted to other women are seen as "savage, uncontrollable, and dangerous females." To the Roman society, sexual intercourse between women was seen as an effort to replace men by women (Coombs, 2013).

In Africa, homosexuality is seen as 'un-African', largely believed to be a foreign concept, imported to African countries by colonial powers. It is viewed as a violation of traditional beliefs and values. However, these claims are partial and chauvinistic rather than academically rooted. Homosexuality has existed in Africa prior to colonialism (Ajibade, 2013). In fact, three types of homosexual activities in Africa were identified and revealed to have happened by Baum's (1993) ethnographic survey of 50 different African cultures; the transgenerational, transgender and the egalitarian relationships. A little bit similar to the intent behind the Greek's practice of pederasty, the transgenerational and transgender pattern of homosexuality is important in the growth of children into adulthood, and achieving or transferring spiritual and religious authority of certain types. Evidence of same-sex activities in Africa have also been traced back to 2400 BC in ancient Egypt, where dug out tombs revealed the bodies of two men, Niankhkhnum and Khnumhotep, in an embrace between lovers (ILGA World, 2023).

Additionally, homosexuality has also been traced to some African religious texts and oral literature. In the Yoruba culture in Nigeria, the priest and priestesses of a deity regardless of the gender were referred to as “*Ìyàwó òrìsà*”, meaning “wife of a deity”. They would clad themselves in female clothing, even the males. The deity is then said to mount those they possess. This implies a similarity in the relationship between the deity and the possessed to that of active and passive partners in a sexual relationship (Matory, 1994). Subsequently, different tribes have different terms that depict a homosexual relationship. In Yoruba, the word is “*adofuro*”, referring to someone who has anal sex, in Hausa language, “*yan dauda*” referring to feminine men who were wives to other men. These words are not new terminologies in the culture, they are as old as the culture itself, proving that homosexuality has in some form or manner existed in pre-colonial Africa, including Nigeria. Hence, claims of homosexuality being un-African or a result of western contact are unfounded. Rather, homophobia can be said to be a result of European missionaries, and colonizers in Africa (Oladipupo, 2021).

In recent times, homosexuality has gained increasing recognition, acceptance and even legalization. Despite this, Homosexuals are still a minority that face rejection and discrimination due their sexual orientation. Currently, there are about 63 United Nations member countries in which homosexuality is illegal, majority of which are African countries (ILGA world database, 2024), including Nigeria. While a majority of countries against homosexuality like Russia, ban homosexual propaganda or don’t recognize same-sex marriages, they do not actually criminalize the act itself. Nigeria is the first African country to sign a bill that allows individuals to be arrested if they are or are suspected to be homosexual, into law. This is the “Same-Sex Marriage (Prohibition) Act” (SSMPA), passed in January, 2014. The law bans gay marriages and illegalizes all same-sex relations, imposing a 14-year jail time for anyone caught violating the act.

Out of the 54 African countries in the world, only 23 of these countries have legalized homosexual relationships. It is still illegal to be homosexual in the 31 remaining countries (ILGA world database, 2024), and is punishable by imprisonment in these countries and even death in three of the countries- Mauritania, Somalia, and in some Northern parts of Nigeria, where sharia law is applicable (Obulutsa, Winning, and Cawthorne, 2023). In 2024, Ghana strengthened its earlier laws against homosexuality by passing a bill that criminalizes LGBTQ relationships and those that are supporters of LGBTQ rights (Mckenzie, 2024). Even South Africa, the first and only African country to recognize and perform same-sex marriages, and criminalize discrimination based on sexual orientation, still has a high rate of homophobic crimes (Obulutsa, Winning, and Cawthorne, 2023).

In Nigeria, homosexuality goes against the core beliefs, cultures, traditions and religions of the society. As a result, homophobia is a prevailing occurrence all over the country. Homosexuals are criminalized, discriminated against, and treated with hatred and disgust. A gay activist, Bisi Alimi, is believed to have been the first Nigerian gay man to come out. He did so on national television in 2004. This resulted in a series of threats and even physical assault, which led him to flee the country to London. When he did eventually come back, he spent months in and out of a jail cell for his crime of homosexuality. He was also attacked and held at gunpoint, causing him to flee the country permanently (Taylor, 2014). There are many other stories similar to this, especially in 2014, after the “Same-Sex Marriage (Prohibition) Act” (SSMPA) was signed into law by then President Goodluck Johnathan.

This led to a series of homophobic activities in Nigeria. In Abuja, a local pastor urged the community to break into the houses of 14 suspected homosexuals, their properties were vandalized and they lost everything (Taylor, 2014). Shortly after that, there was a viral video of two naked men in Port Harcourt, surrounded by a mob, who forced them to have sex with one another in order to debase, and humiliate them while the mob filmed their degradation. These men had been caught together and so they were brought out and beaten before being sexually coerced (Peter Tatchell Foundation. 2016). That same year, five different men were paraded around naked in Southern Nigeria region (Taylor, 2014). There are still homophobic acts happening all over the country in present times. In 2018, a gay man named Richard Akuson, was attacked, beaten and penetrated multiple times with a stick in Akwanga, Nasarawa State (Bamidele, 2020). In 2020, a police officer and his partner were caught together in Imo state, and were

beaten and stripped naked (Duruiheoma. 2020). Just in 2022, three men in the northern state of Bauchi, were sentenced to death by stoning for being gay after a court proceeding in which the men, one of whom was 70, were not represented by any lawyer (Salako, 2022).

Methodology

The research relied solely on qualitative research methods. Snowball sampling technique was employed to recruit participants. Given the stigmatized nature of homosexuality in Nigeria, participants were identified through indirect referrals. Unlike traditional snowball sampling where participants refer others within their networks, this study utilized referrals from non-participant individuals, such as friends, acquaintances, or community members who were aware of individuals meeting the inclusion criteria. In total, ten lesbian, gay and bisexual individuals were selected for the study.

Traditional and electronic recruitment strategies were employed. A broadcast message was circulated to contacts and groups on Instagram, Twitter, Facebook, and WhatsApp. This resulted in the recruitment of three participants. Additional participants were referred by individuals within the social circles of potential participants. Although many referrals declined participation, seven participants were successfully recruited via this mode.

Due to safety concerns of participants, In-depth interviews were conducted virtually via text messages and recorded voice notes on WhatsApp. Only two of the participants opted for a phone call interview, consenting to the audio recording of the entire session. Thematic analysis was employed to identify key patterns within the qualitative data. While theme development was grounded in the participants' narratives, the interpretation of these emerging themes was guided by a synthesis of the adopted theoretical frameworks: Troiden's Model of Homosexual Identity Development and Stigma theory. Direct quotes from participants were included to enrich and support the findings.

Troiden's Model of Homosexual Identity Development

Daniel Troiden's model is a framework that was initially proposed in the early 1980s before being introduced in 1989 in Troiden's work "The Formation of Homosexual Identities". It details an organized account of stages of identity formation in homosexuals in the presence of stigmatization and discrimination (Chinedu-Okeke, and Obi. 2021). This development is divided into four stages. The first stage Sensitization, happens prior to puberty. Heterosexuality is the norm, so initially, in possible instances where thoughts of sexual status happens, they believe themselves to be heterosexual. Childhood social experiences sensitize these individuals as they begin to have feelings or attraction that do not conform to heterosexuality, leading to possible homosexual self-perception (Troiden, 1989).

The next stage, Identity Confusion, involves a reflection of feelings and attractions leading to individual realization that they may possibly be homosexual. This conflicts with previous heterosexual self-image (Chinedu-Okeke, and Obi. 2021), leading to inner turmoil, struggle and uncertainty, as they try to come to terms with the ambiguity that surrounds their sexual status (Troiden, 1989). Reasons for identity confusion include altered self-perception, heterosexual and/or homosexual sexual experiences, societal stigma, and misinformation about homosexuality. Identity Assumption is the third stage, where homosexuality becomes a self-identity. Individuals begin defining and presenting themselves as homosexual, at least within the homosexual community (Chinedu-Okeke, and Obi. 2021). This stage is marked by growing tolerance and eventual acceptance of their identity, often connected with their contact with other homosexuals. Positive interaction could promote homosexual identity formation, and eliminate alienation.

In the final stage, Commitment, homosexuality becomes a way of life. It becomes an essential natural identity as opposed to just being a set of behaviours (Chinedu-Okeke, and Obi. 2021). Internal indicator of this stage are emotional comfort with being homosexual, and readiness for same-sex romantic relationships. External indicators involve actual entry into same-sex romantic relationships, and a willingness to "come out" to heterosexuals, though this may be subjective to their social environment due to anticipated homophobic reactions. Troiden stipulated that individual experiences of these stages can

differ. It could follow this ordered manner, or there may be overlapping, and even bypassing of some stages.

Stigma Theory

Erving Goffman's stigma theory theorizes the processes by which stigmatized individuals navigate their lives and interactions in the society. It explores the impact of social stigma and strategies employed in managing stigmatized identities. Stigma is individual differences that are undesired by the society. It is a socially constructed relationship between an attribute and perception of this attribute by the society (Goffman, 1963). He refers to non-stigmatized individuals as normal. The theory distinguishes between the concept of 'discreditable' and 'discredited'. A discredited person has apparent stigmatized characteristics, so they are unable to hide their stigmatized identity while a discreditable person is one whose stigmatized identity is not readily apparent to people.

There are three main types of stigma; Abominations of the body, Blemishes of individual character, and Tribal stigma of race, nation, or religion. Abominations of the body is a type of stigma that originates from physical traits or characteristics that the society deems abnormal. They are physically or visibly evident in a person and are difficult to hide. Tribal stigma of race, nation, or religion is a stigma of group identity. It is due to individual's affiliation of a particular group. Lastly, blemishes of individual character is a stigma of character traits. This stigma comes from perceived flaw of an individual's personal trait. These characteristics can be hidden, as they are usually not immediately physically apparent e.g. mental illness, substance abuse, criminal record etc. Homosexuality falls under this category of stigma, a societal perceived blemish of an individual's character. It can be hidden and by virtue of this, is also a discreditable stigma.

The social consequences of stigma include social exclusion, and discrimination. The emotional and psychological effect of stigmatization involves the internalization of societal norms and expectations by stigmatized individuals causing negative impact on self-esteem. Despite their feelings on equality between stigmatized and normals, stigmatized persons still struggle with perceived rejection. These feelings of abnormality in stigmatized persons can result in self-isolation, self-hate, depression and/or hostility. The theory also highlights social interaction between the 'own' and the 'wise'. The own involves individuals who also share the stigmatized identity, while the wise refers to those who don't. Stigmatized individuals can find support from a number of these social groups. Within interactions with their own, others with this stigma can share "tricks of the trade". Stigmatized persons can also experience a semblance of normalcy and comfort (Carnevale, 2007).

In broader social interactions, individuals with discreditable stigma manage information concerning their stigmatized identities. Because normals may be unaware of their stigmatized identity, discreditable individuals are accepted from people prejudiced against stigmatized persons like them. Hence, they are continuously confronted with either concealing or disclosing their stigmatic identity. This choice can be influenced by factors like social acceptance and prejudice. 'Passing' and 'covering' are important means of information control. The difference between these two concepts is intensity. Passing involves a comprehensive effort to totally conceal a stigmatic quality in order to "pass" as a normal (Carnevale, 2007), that is present a self that belongs to the normals group. Covering involves minimal effort. It is used to hide, downplay or minimize the "visibility" of their stigmatic qualities (Goffman, 1963).

The combination of both theories allows for a well-rounded approach to exploring homosexual identity development experiences in the presence of stigma, and the role and consequences of societal attitudes and discrimination during the stages of identity development.

The Findings

Coming Out to Self

This involves an individual's recognition, acknowledgment, and acceptance of their sexual identity. It can be observed in the sensitization, identity confusion and identity assumption stages of Troiden's Model. Six of the participants had no sensitization experience, claiming they had always been aware of their sexual differences. Notably, five of these six participants identified as gay or lesbian. The other

participants had initially assumed they were straight until certain experiences caused self-awareness of their sexual differences. One participant reflected; “When I was younger, I assumed I was straight. However, I was attracted to girls, but I didn’t dwell on it until it became a frequent occurrence” (*Bisexual, Christian, Yoruba*). One participant’s sensitization experience included same-sex sexual relations; “Around the age of 11-12, I had sexual relations with a guy then in junior high for over two years, which was my first ever sexual contact with any other person.” (*Bisexual, Atheist, Yoruba*).

Seven participants passed through the stage of identity confusion. Their narratives reflected a range of negative emotions, including fear, shame, denial, internal conflict, suppression, and feeling like an abomination. In this regard, one said; “I felt like an abomination so I just ignored those feelings. I suppressed it until I left secondary school” (*Bisexual, Agonistic, Igala*). Another narrated; “I couldn’t understand the fact that I wasn’t attracted to guys. My friends were beginning to have crushes, telling me this guy is very fine, and it was weird for me because I just couldn’t see guys in the light they were seeing. So it felt really uncomfortable and shameful. I couldn’t admit or accept it.” (*Lesbian, Christian, Yoruba*). Anger and defensive emotions were dominant in another participant; “I was confused about it most of my secondary school time. Whenever anybody suspected anything, I would get extremely angry. In JSS 3, I used to hang around a particular girl and when people said anything, I would flare up” (*Bisexual, Christian, Igbo*).

Some participants even expressed a desire to be heterosexual, trying to ‘pray the gay away’ (*Lesbian, Christian, Yoruba*). Another revealed; “At a point, I was like ‘Why am I this?’ I had to put it in prayer when I was still a Christian. I said ‘God why can’t I just be straight?’” (*Lesbian, Atheist, Igbo*). One participant even entered a heterosexual relationship; “I tried being in a normal relationship. I wanted to see if I could actually grow to be attracted to a males in that way. Maybe then I’ll be able to overcome the gay, because I felt like it was a phase that needed to pass. But I failed woefully.” (*Lesbian, Christian, Yoruba*)

Religion and society’s negative perception of homosexuality fuelled these emotions. This is evident when one participant was asked why she was afraid about being attracted to girls, and she responded; “Because of the way I was brought up. I was brought up in a Christian home, that look down on evil (gay is considered evil), shun everyone that was.” (*Bisexual, Christian, Yoruba*). Another participant expressed feeling shame because; “by society’s perception, it is not normal” (*Lesbian, Christian, Yoruba*). Similarly, one participant attributed her feelings to the societal pressure to conform in a heteronormative environment, explaining; “There’s the whole societal pressure to conform. Everyone in your society is telling you this is wrong even though they aren’t giving a concrete reason on why, and you can’t find anyone who says the opposite. You grow up and you start hearing people say ‘this is wrong’ so there is that inherent feeling that if this is wrong and I’m like this, then I’m also wrong, I’m not normal.” (*Bisexual, Agonistic, Igala*). The role of religion is further emphasized by a participant who bypassed this stage when he explains; “I never felt bad about it all my life, as I was never the religious type. I think religion has biggest of part to play in the homophobic nature of this country and how people grow up indoctrinated to hate themselves for feeling affection towards persons of the same sex” (*Bisexual, Atheist, Yoruba*).

Within this stage, few of the participants were observed to have employed the technique of ‘covering’ as a way of minimizing their sexual identity. One lesbian participant entered a relationship with a male in order to convince herself she was bisexual rather than lesbian, perhaps because she thought she’d fit in better since bisexuals are also attracted to the opposite sex; “I identified as bisexual when I was with my first boyfriend because I thought if I was attracted to him, I definitely wasn’t a lesbian.” (*Lesbian, Christian, Yoruba*). Another participant let his family believe that he had a girlfriend while also trying to come off as masculine. In a comprehensive attempt to appear straight, one participant employed ‘passing’. She pretended to be heterosexual by her appearance, engagement in heterosexual discussion and entering heterosexual relationships. She admitted; “I tried to come off as straight. I dated guys. And when my friends were talking about their sexual stuff and though I can’t relate, I just lie about the whole thing and they started seeing me in that light. I mean I was dating, they knew my boyfriend. I really put

in the work to appear straight. I even dressed a certain way, wearing dresses and skirts even though I detest skirts. I still wore it in order to come off as feminine” (*Lesbian, Christian, Yoruba*)

Identity Assumption was observed in all participants as they demonstrated personal acceptance of their sexual orientation. This acceptance was prompted by various experiences, most common of which was positive contact with other homosexuals. One participant narrated her experience; “This guy invited me to a house party with a bunch of people. One of the girls was dared⁷⁴ to kiss someone. I don’t know if it’s because I basically announced to the room that I go both ways or I’m just that good looking but this girl chose to kiss me. And unlike all the kisses I’ve had with men, it didn’t feel plastic or for show. It was so mind boggling that this one kiss I had with a complete stranger felt 1000% real and genuine. It sounds very cliché but that night I really sat down and had a talk with myself and made some decisions, one of which was to remove men from the equation.” (*Lesbian, Christian, Yoruba*). However, for one participant, it was coerced heterosexual sex that led to his acceptance. He shared; “We had an aunt that helped my mom when I was young and I was taken advantage of (raped). I didn’t like that moment. I’m utterly bitter about it till now. But I think it was a grateful moment for me because that moment I just knew never again! Before that I liked boys. Boys got attracted to me. That incidence was another confirmation that I didn’t like girls in a sexual way” (*Gay, Christian, Yoruba*).

Religion, previously a source of inner conflict for some participants, now became a means of identity acceptance for two of the participants. One said; “After 18 years of telling God to take the gay away, I finally sat down and had a conversation with God, I realized you don’t have to “report yourself” to a being that created you to be the way you are and knows every part of your beginning and end” (*Lesbian, Christian, Yoruba*).

In a unique case, the participant demonstrated negative self-acceptance, manifested as internalized homophobia. Self-hatred, and the desire to be straight were observed in this participant; “Oh, I hate every single thing about myself. I wish there was a way to at least become straight. Life as a closeted gay man in Nigeria is hell. I’ve never expressed how I feel. My entire life is a lie.” (*Gay, Muslim, Hausa*). When asked if he’d feel differently in an LGBT tolerant environment, he says; “Yes, absolutely. I won’t have any problem with the fact that I am gay. But being gay in Nigeria is hell”. While his feelings can be associated with the stage of identity confusion, the difference here is that he knows, accepts and identifies as gay to himself and limited others. But, while he acknowledges his sexual orientation, he hasn’t achieved positive identity acceptance, likely due to being in an intolerant environment.

Coming Out to Others

This theme has to do with the decision of participants to willingly disclose their sexual orientation to other individuals. It can be classified under the commitment stage in Troiden’s model. In coming out to others, participants came out to their family and friends. However, a preference for disclosing to friends rather than family was observed as most of the participant’s had disclosed to their friends while only two participants had willingly come out to their family and only one participant was open to the idea of eventually coming out to their family. Other participants categorically rejected even the idea of disclosure to their families, one said; “I’m never coming out” (*Bisexual, Christian, Yoruba*).

Most participants’ refusal to come out to their family was largely influenced by financial dependence on their families and their religious nature. One explains; “I haven’t told my family because they’re religious radicals, ardent Protestants and it would do no help to my education and personal self. My university education, my dad is most definitely going to stop sponsoring that if I came out and since I’m still very much dependent on them I can’t risk it” (*Bisexual, Atheist, Yoruba*). Another says; “I’ve told my friends mostly, a cousin too but not my parents or siblings. They’re conservative. For one, my father

⁷⁴ To be dared to do something is part of a game called ‘truth or dare’. A player is asked to choose between answering a question truthfully or they can choose ‘dare’, which involves performing an action suggested by another player. Here, one of the players dared a female player to kiss anyone of her choice around, and the female player chose to kiss the participant.

is a pastor. And my siblings, I think they might see it as immoral” (*Bisexual, Christian, Yoruba*). Even the participant open to the idea of disclosure to family admits; “I know my parents, they wouldn’t accept me because of their religion. They are Christians. I consider myself to be close with my family and I know that once I have that conversation, that’s going to end. And I’m not in that financial headspace to have that conversation with them. I would be waiting until I’m financially stable” (*Bisexual, Agonistic, Igala*).

Indirect Homophobic Experiences

These include homophobic experiences not directly experienced by the participants, but by others they know. Participants described how some LGBs they knew had experienced rejection and abandonment from their families; “I have friends who were outed to their families and they got cut off completely. One friend who got outed had to leave their home at 12am. I’ve had a friend who was kidnapped.” (*Bisexual, Agonistic, Igala*). Another participant also narrates; “I’ve had a friend who got raped because she came out to her friend. And that one was like it’s because she hasn’t had enough dicks and all that so she got raped. I also have this gay friend, he’s had guys use the ‘faggot’ word, and then tell him that, of all the chicks in this world, na man yansh he dey follow’ (It’s man’s butt he’s chasing after).” (*Lesbian, Christian, Yoruba*). While these incidents weren’t directed at them, these attacks still serve as a warning to all other LGBs as they could have been victims themselves; “Because it’s like if they can do this to this person for this thing, which I also am, then the possibility that they will do it to me is also quite high” (*Bisexual, Agonistic, Igala*).

Indirect homophobic experiences also include participants’ acceptance from people (including their families) who would reject them if they were aware of their sexual identity, one stated; “My friends are people that feel disgusted whenever gay scenes pop up in movies, people that wish they’d kill any gay person they encounter. My siblings are homophobic too. Dad doesn’t know anything about all these gay things. If I told him I like men, he’ll say I am possessed, then take me to a man of God for prayers” (*Gay, Muslim, Hausa*). The same is true for five other participants who are accepted by their families but risk rejection should they find out the truth of their sexual identity.

Homophobic experiences also occur in the virtual world; “I might not encounter homophobia physically but I encounter them online, whereby they drop a picture of two males getting married or already married or females, you see a lot of things coming out from people like ‘God forbid, this people are devils, Oh my God, the end times’, they say all kinds of shit about them” (*Lesbian, Atheist, Igbo*). There is also the possibility of online homophobia transcending from the virtual world into offline spaces. There were specific references to individuals tagged as “kitos” (*Gay, Christian, Yoruba*). They refer to straight individuals who pretend to be homosexuals, typically online, in order to meet up with actual homosexuals, so as to hurt and humiliate them.

There are also stereotypical beliefs about homosexuals. Several participants highlighted the generalized reduction of homosexuality to sex—an idea they strongly opposed. One participant emphasized that there’s more to homosexuality beyond sex, noting he had never engaged in sexual intercourse before as his relationships were emotionally, rather than sexually, oriented; “The mass media sexualize everything homosexual. There’s still gay people that actually just love. Look at it this way, if you think of heterosexual people now, you don’t automatically think sex, but the moment you say you’re homosexual, the first thing is ‘you’re receiving, or you’re giving’. That’s the first thing they’ll imagine ‘so you mean say as you be guy like dis, you go dey bang another guy’. I’ve not had a sexual encounter before. The relationships I’ve been in were ones based off of mutual feelings” (*Gay, Christian, Yoruba*).

Similarly, another said; “Just because one is gay, or lesbian doesn’t mean they want to sleep with everybody that are same-sex with them. We have a choice. I don’t go about asking all girls out. Just because I’m a lesbian doesn’t mean I should have sex with all females that are close to me. I really don’t do that, I have my own pride and so do other gay people.” (*Lesbian, Atheist, Igbo*). Another stereotype is the assumption that all LGBs share similar beliefs and opinions simply based on their shared sexual identity. One participant states; “There’re some LGBT things I don’t agree with like underage kids below

the age of 15 transitioning, trans men participating in female sports. But some people don't know this. Once you're gay, lesbian or any part of the LGBT, they automatically assume you support everything someone from the LGBT does.” (*Gay, Muslim, Hausa*).

Direct Homophobic Experiences

While limited, some participants personally experienced homophobia. They include familiar rejection; “When I told my mum, she said it was of the devil and made me do 3 days fasting and prayer with her so the Holy Spirit will tell one of us who is right” (*Lesbian, Christian, Yoruba*). Another experienced social exclusion from certain members of his family; “Amidst some family members, they don't want me to play with their kids because they perceive me a certain way” (*Gay, Christian, Yoruba*). Some participants had their sexual orientation disclosed to others without their consent. One was outed by her brother resulting in a childhood she described to be depressing; “I was bullied by my family, subjected to wearing dresses that I don’t want to wear, taken to church, because churches believed that I am possessed. My childhood was really depressing, and frustrating. My mum could not address me without making a statement, without insulting me, calling me sort of funny names” (*Lesbian, Atheist, Igbo*). Another participant revealed; “I was outed in church and then people started looking at me differently, saying things like just oh but she prays, she does this, but she's a sinner” (*Lesbian, Christian, Yoruba*)

Homophobic slurs were directed at some participants as one revealed; “There was this dude that kept calling me a faggot here on WhatsApp, even came to my dm⁷⁵, said some slurs then blocked me. The people in some groups send pictures of homophobic slurs or anything against gay people and tag me.” (*Gay, Muslim, Hausa*). He was also sent a message saying “*ISIS and gay people are going to same hell*”. Another participant mentions other offensive verbal language such as ‘*you abnormal people*’. She also shared her experiences with physical and attempted sexual assault; “I've had someone set me up. I was coming from TDB⁷⁶ that day, I was still staying in the hostel, AWO, trekking at 5am and people actually ganged up and tried to rape me. They covered their faces but I could recognize the voice of one person, the person that asked me out that I told wasn’t interested. They didn't rape me, because the security man was passing at that time. I've also had people try to beat me up.” (*Lesbian, Christian, Yoruba*)

Some participants experienced heteronormative assumptions such as, refusal to believe sexual orientation, questions on who the man in the relationship was, belief that a girl only claims to be attracted to other girls because she hasn’t had enough sexual experiences with men. Supporting this is one participant’s experience; “I've had guys ask me out, pester me, until I can't keep saying I'm not interested because they'll keep asking, why are you not interested? So, I just say, I don't fancy your gender and they go, oh, you haven't had enough men relationships. You haven't had enough dick experiences, you have to test it and see. Some people would ask me why are you gay? Someone even said I'm being deviant, that I just want to like prove a point with my sexuality. They would even sometimes ask, ‘who's the man in the relationship?’” (*Lesbian, Christian, Yoruba*). Participants also report being directly confronted with the belief that they ‘turned gay’; “Some of them still believe being gay is a choice like, I can change back to being straight anytime I want” (*Gay, Muslim, Hausa*).

The sexualisation of homosexuality was also mentioned. One shared; “My experience with homophobia has been the most annoying form; sexualisation, from straight men and women. When I came out to some of my female straight friends, for a few days the topic was how they could never date a lesbian or them telling me “I could kiss a girl but I would never ‘eat them out’⁷⁷”. I had to sit them down and tell them I wasn’t slightly into them, that I wouldn’t kiss them for any reason. For guys, it’s just pure

⁷⁵ Direct Message

⁷⁶ It’s a shortened term for the phrase ‘till day break’, which is a practice in which students gather in different venues on campus grounds, at night in order to read over night. It usually lasts till dawn, around 5am

⁷⁷ This is an oral sexual activity in which the female is on the receiving end of the act.

sexualisation. I've had guys ask me for a threesome⁷⁸ and I've had to explain what the term "lesbian" means. Another guy asked me what my type is and was absolutely flabbergasted when I didn't mention anything about big asses or big tits. Apparently (to this man) it's crazy to like women for other things than physical features." (*Lesbian, Christian, Yoruba*). Similarly, another participant had been subjected a 'threesome'; "Just when I's started dating my partner, these people were like 'oh you are dating this person, would you be down for a threesome'⁷⁹, which if you ask any bisexual woman is very common and disgusting question." (*Bisexual, Agonistic, Igala*).

As a result of these experiences in a homophobic environment, participants describe emotions of anger, frustration, hurt, fear, depression and disgust. One participant even mentioned how she had lost two friends to suicide because of homophobia.

Social Support

Social support plays an important role in helping majority of the participants deal with the intolerance that comes with their sexual identity in Nigeria. The most impactful of this is support from their LGB social circle. Participants enjoy a sense of when with other LGBs; "Knowing that I'm not alone and completely normal is actually a breath of fresh air" (*Bisexual, Atheist, Yoruba*). Similarly, another shared; "Finding a community helped greatly because once you see other people like yourself, who don't consider themselves to be "abominations", to have something wrong with them, and you spend time with these people, you get to realize that I'm just a normal human being, this is who I am and there's nothing wrong with that." (*Bisexual, Agonistic, Igala*). One participant even made conscious efforts to meet other LGB individuals; "I'm an introvert so all the friends I had were circumstance friends but if I wanted to be around people like me, I had to move out of my comfort zone. So I went to a few events and was honest about my sexuality. I'm close with my LGB friends. They are all so amazing and I don't feel like an outsider with them. They understand me and I understand them" (*Lesbian, Christian, Yoruba*).

Participants also derive social support from their heterosexual social circle though not as impactful. Only one participant was an exception to this as she mentioned deriving more support from her straight friends.

Selective Disclosure

Another coping technique observed to have been employed by participants is the selective disclosure of their sexual identity. Participants ensure disclosure only to open minded people; "I'm cautious about who I tell. I make sure the people I tell are open minded. I do my best to make sure the wrong people don't know because you can't predict what they can do" (*Bisexual, Christian, Yoruba*). Some participants even describe testing people in order to gauge how LGB friendly they are before deciding to either disclose or hide their sexual status. One admitted; "I came out to my Whatsapp friends that seemed LGBT friendly. If you're a gay person especially in a country like Nigeria, you'd have be very cautious. I've known them for years, I noticed whenever I hint about liking men and the little flirts, they don't mind. That's how I became more open with them." (*Gay male, Muslim, Hausa*). Similarly, another participant said; "As a queer person, cautious has to be your middle name. I try to gauge people first, I'll just drop hints, like my partner or this or that" (*Bisexual, Agonistic, Igala*).

Conclusion

Homosexual sexual identity development is a unique, complex and personalized process that doesn't always follow a linear progression. There may be overlaps and/or bypassing of certain stages. Religion and societal norms largely influence identity development, particularly during identity confusion, where

⁷⁸ A sexual activity that involves three parties; in this particular case, the three parties include two females and a male.

⁷⁹ A sexual activity that involves three parties; in this particular case, the three parties include two females and a male.

internal conflict can be linked to religious beliefs and the stigma attached to homosexuality within a heteronormative society. Due to this, homosexuals are often subjected to hateful and discriminatory acts both in the virtual and physical world. Thus, LGB individuals have formed communities that provide a safe space, emotional support and solidarity, while also limiting disclosure of sexual identity to only those perceived as LGB-friendly.

Recommendation

There is a need for further in-depth research into the dynamic coping strategies employed by Nigerian homosexuals to navigate the stigma, discrimination and criminalization attached to their sexual orientation.

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NEW WAVE OF MIGRATION IN AFRICA

Rethinking Migration and Security in Africa: A Human Security Approach

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Abstract

Deconstructing narratives surrounding (in)voluntary migration across national borders in Africa reveals intricate security implications. These resonate at both macro and micro levels as both home and host communities and their citizens grapple with emerging security challenges. In Africa, racism, xenophobia, social intolerance, and adaptability clause are recurrent lived experiences of migrants in some spaces. At the same time, migrants in other contexts have also been found culpable of terrorism, banditry, violent conflict and other social misdemeanours. These are closely connected to the various push and pull factors underlining cross-border movements. Using the Human Security Framework (HSF) and phenomenological method that benefits from secondary data, this study explores the interconnectedness of migration and security with particular focus on mitigating the insecurity of human persons. The HSF is a preferred analytical lens given its emphasis on the safety, dignity, and welfare of individuals. This approach probes beyond the realists' state-centric approach which is characterised by exclusive protection and control of state borders, and sovereignty. The paper identifies the inadequacies of the state-centric conception of security in understanding and addressing the complex (in)security dynamics of migration in Africa. It, therefore, argues that in finding an accommodation between migration and security concerns in a changing world, stakeholders need to place prime import on individual human safety, dignity, security and welfare- which is the central position of human security paradigm. The paper also examines the critical roles of International Organisation for Migration in mitigating security challenges associated with migration. The paper concludes that rethinking migration and security via a human security lens provides a resilient pathway as Africa seeks to prioritise human security across borders. The paper concludes with policy recommendations for African states, regional bodies and international partners/institutions to integrate human security into migration governance.

Keywords: migration, human security, migration governance, IOM, insecurity

Introduction

Migration has always been a part of human existence. Migration in Africa is a complex and multifaceted phenomenon driven by economic, political, environmental, and security factors. From time to time, people migrate in search of better and safer living conditions; moving to locations with favorable economic and social conditions. However, it could be voluntary or involuntary, but a constant factor underlying all is the quest for safety and security. Since migration is a powerful phenomenon that has shaped human history, modern states must find ways to integrate migrants in their new host countries while also eradicating the factors that lead to migration in order to cope with the influx of migrants at the start of the twenty-first century. While migration can contribute to development through remittances and skills transfer, it also poses significant security challenges, including human trafficking, terrorism, and intercommunal conflicts. On the side of the migrants and the receiving/host communities, there are security issues. This study therefore, examines the interplay between migration and security in Africa, analyzing key drivers (the push and pull factors), and the justifications for adopting a human-centric approach as against state-centric approach to security as posed by migration. This is with the belief that if the all-encompassing, diverse needs of citizens are met, issues associated with insecurity would be dealt with and so, migration for whatever reasons would be minimized. It also evaluates policy responses by UN's International Organisation for Migration (IOM) while justifying that states, with the adoption of a human security approach, can mitigate insecurity, thereby reducing reasons for migration-related security risks.

Conceptual and Theoretical Framings

The Concept of Migration

According to the IOM Glossary on Migration, migration is the “Movement of persons who leave their country of origin, or the country of habitual residence, to establish themselves either permanently or temporarily in another country.” It refers to the movement of people across significant distances, typically involving a change in residence, either within a country (**internal migration**) or across international boundaries (**international migration**) (International Organization for Migration [IOM], 2023; Castles et al, 2014).

Migration is such a multifaceted phenomenon that reflects broader global inequalities and interconnections. It can be **voluntary** (driven by economic, educational, or social aspirations) or **forced**, due to conflict, persecution, or environmental/natural disasters (UNHCR, 2021). Other dimensions of migration are internal and international migration. Internal migration simply connotes movement within national boundaries while international migration is movement across international borders. While it can generate significant benefits for individuals and societies, it also poses challenges that require comprehensive and rights-based policy responses. Balancing security concerns with the protection of human rights and addressing the underlying drivers of migration are essential for ensuring that migration contributes to sustainable development and global stability.

There are quite a number of benefits of migration both to the sending and receiving countries. Remittances, knowledge and technology transfer are benefits to the sending countries while economic growth (Dustmann & Frattini, 2014), entrepreneurship and labour boost to cushion the effects of an ageing population, and an increase in GDP are benefits to the receiving countries (IOM UNDESA, 2012). Other impacts or implications that can be classified as mutual are that migration can lead to cultural exchange and diversity (Castles et al., 2014), it can influence political discourse, shaping policies on citizenship, national identity, and security and can also impact democratization and governance through diaspora engagement (Levitt & Jaworsky, 2007).

However, there are negative effects on both parties. In Africa, racism, vulnerability, xenophobia, social intolerance, exploitation, abuse and adaptability clause are recurrent lived experiences of migrants in some spaces. At the same time, migrants in other contexts have also been found culpable of terrorism, banditry, violent conflict, fermenting social tensions and other social misdemeanours.

Security Conceptualised

The end of the Cold War marked a significant turning point in how security is conceptualized globally. Traditional understandings of security, centered on territorial integrity and military threats, proved inadequate in addressing the complex challenges of the modern world (UNDP, 1994). In response, human security emerged as an alternative framework, emphasizing that security must prioritize the protection of individuals and communities from critical and pervasive threats. Some scholars ((Igbuzor, 2011; Oche, 2001; Nwanegbo and Odigbo, 2013), while conceptualizing security, have placed emphasis on the absence of threats to stability, peace, national cohesion, socio-political and economic objectives of a country. It is undebatable that security is vital for peace, national cohesion, and sustainable development. It is therefore, clear that national security is absolutely necessary for economic growth and development of any country (Oladeji and Folorunso, 2007).

Dopamu (2006) defined security as protection against violation of the law, violent acts, actions by enemies, poverty, external aggression, attack, danger, unemployment, risk, attack, want, insufficiency, environmental degradation, inhumane treatments, illiteracy, disease, natural disasters, oppression, suppression, rebellion, destruction, and so on. For Ogor, it denotes freedom from, or total erasure of threat not only to physical existence of the state but also to the ability for self-protection and development and the enhancement of the general wellbeing of all the people. He clarified that it is not the case that state security is not important but rather, it should be geared towards the security of persons and not of the government in power. National security stresses the overall and holistic security of a nation politically,

economically, socially, environmentally etc. Once there is a breach of security in a society, it has dire and adverse implications depending on the degree of the breakdown of law, order and security.

In the viewpoint of Williams (2008), security is considered from the socio-political perspective and it opines that security has to do with the capacity to pursue cherished political and social ambitions. This implies that, security is socio-political in nature. The absence of security means no political stability and as a result, social activities will be in chaos. In the conception of McNamara (1968), security is not military hardware, nor a military force, though it may involve it. Also, security is not traditional military activity, though it may encompass it. For him, security is development, without which there can be no security. He adds that any society or nation that seeks to achieve adequate military security against the background of acute food shortage, population explosion, low level of productivity and per capital income, low technological development, inadequate and insufficient public utilities and chronic problem of unemployment has a false sense of security. This means that addressing the material poverty of Nigerians is security and not the building of arms and weapons of warfare (Orhero, 2020).

Omede (2012) considers security as a dynamic situation that includes the capacity of the state/country to ward off any threats to its deep rooted values and interests. For Akin (2008); I.C. Achumba, et al (2013); Onifade C. (2013), security is seen as the condition that is present as a result of putting in place ways for the protection of persons, information and property against hostile persons, influences and actions. It has to do with a situation where people within a given space natural or otherwise can move about without any threats both real and imagined to their lives or properties. Security of lives and properties are really the fundamental reasons for the existence of a government in the first place as attested by the various social contract theorists (Hobbes, Locke and Montesquieu). Prevention of aggressions to the individual both from within and without and securing for him the leverage to optimize his potentialities towards economic and social development is part of the content of security. According to Igbuzor (2011); Oche, 2001; Nwanegbo and Odigbo, 2013; Ewetan and Urhie, 2014), security entails absence of threats to peace, stability, national cohesion and integration, political and socio-economic objectives of a nation. Security also entails a situation that enables a person or nation realize their potentials freely and smoothly. For Nweke and Nwachukwu (2014) it entails having a reasonable level of predictability at different levels of the social system, from local communities to the global level.

The Concept of Human Security

The United Nations Development Programme (UNDP, 1994) was instrumental in advancing the human security paradigm. The 1994 Human Development Report identified seven dimensions of human security: economic, food, health, environmental, personal, community, and political security. This multidimensional approach redefines security to encompass both “freedom from fear” and “freedom from want” (Commission on Human Security, 2003). There are three key elements of human security and they are: freedom from fear, freedom from want and freedom to live in dignity. These three core components involve a spectrum of needs that humans need to live a good and fulfilling, stabilized life. For instance, freedom from fear includes protection from violence, conflict and human rights violations while freedom from want has to do with ensuring supply of basic needs such as food, shelter, health care and education. The third component which is the freedom to live in dignity comprises the promotion of inclusive governance, social justice and the protection of human rights. All these are fundamental human needs and emphasize that security is not just the absence of war but the presence of the conditions that enable people to live in dignity and prosperity (UNDP, 1994).

An adoption of human security represents a paradigm shift from traditional state-centric security models to a people-centered framework that prioritizes the safety, dignity, and well-being of individuals and communities. Emerging in the 1990s, this concept recognizes the interconnectedness of political, economic, environmental, and social threats to human life. Human security is hinged on the premises that, without the security of citizens and individuals alike, attainment of regional and national security will be arduous.

Best (2012) contends that one of the distinctive qualities of human security is that it prioritizes early prevention in a bid to diminish the impact of insecurity, to foster long-term solutions and to build human capacity for prevention. Human security, in this way, addresses the causes of human insecurity, seeks early prevention over late intervention, is therefore cost-effective and fosters mechanisms-based strategies of prevention development. Human security is deliberately anticipatory. It recognizes that the human being and society are a deadly threat by means outside of their control such as financial crisis, armed conflict, illness, a government policy discrediting public and private spending on health care, terrorist acts, lack of water, and pollution. The majority of threats according to Peterside (2018), are far more destructive if they catch them off guard. But most of these preparations require threats to be identified, before they occur. The human security paradigm calls on institutions to ensure protection that is institutionalized, not episodic, not fixed, not reactive, preventative or responsive.

Human security is a deviation from traditional security that emphasizes defending territorial borders and is claimed to have a direct influence on individual security. Securing people then also means empowering people and communities. In most instances, people are in a position to directly contribute to identifying solutions to the quagmire of insecurity. Hence, if the seven dimensions of human security as explained above are duly practiced in Nigeria, insecurity threats will cease to have its grip on national security (Orhero, 2020).

Human Security versus National Security

While national security remains vital, it often focuses on safeguarding state sovereignty and borders. In contrast, human security centers on the well-being of people, regardless of state boundaries (Ogata & Sen, 2003). These perspectives are interrelated: state stability supports human security, yet neglecting human security can erode state security, as seen in fragile states where poor governance and inequality fuel conflict (Paris, 2001). Human security is threatened by a broad range of issues, including **armed conflict and terrorism** (UNDP, 1994), **poverty and economic inequality** (Commission on Human Security, 2003), **food and water insecurity** (FAO, 2021), **public health crises, such as pandemics** (WHO, 2020), **environmental degradation and climate change** (IPCC, 2021), **discrimination and social exclusion** (UNDP, 2016) and **human rights abuses and lack of political participation** (Human Rights Watch, 2022).

Security was traditionally interpreted or equated with the whole array of processes pre-Cold War and it was characterized in terms of the capacity of the state's coercive apparatus to uphold sovereignty, maintain territorial integrity, furnish stability and peace and engage in military conflict. But the fall of the Cold War in the 1990s set a paradigm and fundamental change from the national security or state-centric (state military strength) paradigm ideologically rooted in theoretical propensities of political realism to human security normally conceived as individuals or person-oriented. Thus, human security means protecting the people from poverty, hunger, disease, unemployment and national disaster. Thus, it may not necessarily have to spend humongous capital and resources in fighting insurgencies like militancy, kidnappings, armed robbery, bombings, political assassinations, banditry, students' unrest, human trafficking, among other forms of violent crimes, most of which are causing survival, stability and security issues for the Nigerian State. Human security has been demonstrated through experience to be the most effective instrument of national security and not weapons and tools of war (Orhero 2020).

As plausible and positive as the human security approach appears, it has been criticized for its broadness which can impede effective policy implementation (Paris, 2001). More so, converting the concept into practice often faces challenges, including limited resources, political resistance, and competing state interests (MacFarlane & Khong, 2006). However, its comprehensive scope offers a valuable framework for addressing complex security challenges in a globalized world.

Methodology

This work is a qualitative study that used secondary method of data collection while deploying **phenomenological approach**, a qualitative research methodology rooted in philosophy that probes the

understanding and description of **how individuals experience and interpret the world around them and their social reality**. It focuses on **subjective lived experiences** rather than objective facts, emphasizing the **meaning** people attach to their experiences. It was propounded by **Edmund Husserl (1859–1938)** but has evolved over the years. The core principles of the approach is a focus on lived experiences shared in real-time by firsthand people who experienced them. Other elements in this approach are intentionality, bracketing and essence. Intentionality here, refers to the deliberate and conscious attention directed towards a particular object under observation while bracketing (**epoché**) **means that participants' real experiences are listened to without any form of bias from the listeners. Essence has to do with identifying the universal structures of an experience shared** Vázquez, 2021).

There are four forms of phenomenological approach and these are classified according to their focus. The first is descriptive/Husserlian phenomenology and the focus is on pure description of experiences while the second form is interpretive/Heideggerian. It focuses on the construction of meanings in certain contexts. The third type is hermeneutic and it concerns the analysis of texts and narratives while the last form is existential; how people who have gone through some experiences feel in certain moments.

In relation to this study, phenomenological approach helps to understand people who have gone through several harrowing experiences to share them without the fear of being judged or apprehended. The assurance of this makes them share their thoughts and lived experiences without fear or inhibitions. This way, researchers are able to feel and understand and have a sense of apathy especially when collating data and carrying out projects targeted at migrants, refugees and survivors. This form of approach is used by humanitarian organisations and international bodies that are concerned with migration and other security issues such as UNHCR, Amnesty International, International Convention of the Red Cross (ICRC), etc.

While the strength of this approach lies in its ability to capture deep, intense and nuanced insights that may be missed through any other form of research, and the fact that it is flexible and adaptable to oral histories, journals and the arts, the limitations are that reports are often subjective and subject to individual interpretations. More so, it is not generalizable to a large and diverse population and time consuming.

Migration and Security Dynamics in Africa

Migration is an intrinsic part of Africa's socio-economic fabric, with millions moving within and beyond the continent annually (IOM, 2022). However, the intersection of migration and security has become a pressing concern, particularly with the rise of extremist groups, cross-border crime, and forced displacement due to conflict and climate change (Adepoju, 2021). It is apt to explore how migration influences security dynamics in Africa, while considering the push and pull factors, and the security implications of migration at both micro- and macro- levels.

The factors affecting migrations can be classified under push (reasons for emigration) and pull (reasons for immigration) factors according to Everett Lee (1966). The push factors, often negative in the place of origin are economic hardship, unemployment (Frouws et al., 2022), and poor wages, political instability (such as violent conflict, banditry and kidnapping, insurgency and terrorism, civil wars (e.g., Sudan, and South Sudan where millions were displaced (UNHCR, 2023), environmental concerns (like the incidence of drought, flooding, landslide/mudslide, volcanic eruptions, tsunamis and other natural disasters), and social crises (in form of lack of adequate healthcare, housing, education, gender discrimination and persecution from female genital mutilation to other obnoxious practices). The pull factors, which stand as positive factors in the destination or receiving countries could be real or perceived reasons for moving to another part of a country or to a different country altogether. Examples are better employment opportunities with better remunerations, higher standards of living, political and social instability, better education and healthcare systems and the assurance of freedom and safety. He, however, highlighted some intervening obstacles that might impede migration regardless of the strength of the ambition to migrate. These are travel costs, financial constraints, unfavourable immigration laws and

restrictions, cultural and language barriers, lack of sufficient information, etc. Reasons such as family reunification, investment opportunities, desire for research, and luxury or crave for status were not captured in Lee's Theory of Migration (1966).

There are security implications for migrations on the side of the migrating citizens and the receiving communities. For instance, Libya and the Sahel have been labelled as hubs for migrant smuggling (UNODC, 2021), sexual exploitation and forced labour (IOM, 2023). It is recorded also that migrant routes are exploited by Jihadist groups like Boko Haram and Al-Shabaab (ISS, 2022), while weapon smuggling is rife along migration corridors (ACLED, 2023). The xenophobic attack in 2015 that took place in South Africa against their African migrants have not stopped, although the onslaught has reduced greatly (Crush & Tawodzera, 2021). The reason alluded to the crisis was the stiff competition for limited resources. However, it could be more than that. Migrants have often been recipients of discriminatory, xenophobic and racist policies that have led to a denial of their basic human rights. Some of these policies include exploitation, persecution, mass expulsion, and lack of access to justice for the enforcement of their rights in the receiving country.

Migration, despite being a global phenomenon, also has profound socio-economic and security implications for host communities. The security challenges include increased crime rates, ethnic tensions, and strain on public resources. For instance, overcrowded schools, hospitals, and housing in cities like Lagos and Johannesburg exacerbate social tensions (Adebanwi, 2023). In Nigeria's Middle Belt, clashes between herders (mostly migrants) and farmers have led to thousands of deaths (Higazi, 2021). Host communities may blame migrants for job losses, leading to violence (e.g., anti-Igbo riots in Northern Nigeria, 1966). It also poses **border security risks** as unregulated migration can facilitate arms smuggling (e.g., Sahel region).

It is common to find lived experiences of migrants, both positive and negative. A few are shared below:

◆ **South African Xenophobic Attacks (2019)**

"My shop in Johannesburg was burned by a mob shouting 'foreigners steal jobs.' I lost everything and returned to Zimbabwe penniless."

Source: Al Jazeera Interviews (2019).

◆ **Rohingya Refugee in Bangladesh**

"In Cox's Bazar camp, locals call us 'burdens.' We're barred from jobs and schools. Police harass young men falsely accused of crimes."

Source: UN Refugee Agency (2023).

◆ **Central American Mother at U.S. Border (2018)**

"Border agents took my child from me. For months, I didn't know where she was. Even after reunion, she has nightmares."

Source: ACLU Family Separation Reports (2020).

◆ **Nigerian Migrant in Canada (2023)**

"When I arrived in Toronto, a Nigerian diaspora group helped me find housing and job leads. Within six months, I secured an IT job. Canada's merit-based system rewarded my skills—I didn't face the ethnic bias I experienced back home."

Source: Interviews with African migrants in Toronto (CFR, 2023).

◆ **Syrian Refugee in Germany (2016–Present)**

"After fleeing Aleppo, I was resettled in Berlin. The government offered free language classes, and I now work as a nurse. My children attend school with German peers. We feel welcomed."

Source: UNHCR Integration Report (2022).

◆ **Ghanaian Chef in the U.S. (2020)**

"I opened a West African restaurant in Houston. Americans love jollof rice! My business thrives, and I employ other migrants. Food became my bridge to acceptance."

Source: NPR Feature, "Migrant Entrepreneurs" (2021).

Between State-Centric Approach and Human Security Approach

According to the UNDP (122:24-25), human security means, “Safety from such chronic threats as hunger, disease and repression, and protection from sudden and hurtful disruptions in the patterns of daily life. It further argued that the scope of global security should be broadened to include threats in seven areas: food security, economic security, health security, community security, political security, personal security and environmental security”. Best (2012) posits that a distinguishing factor for human security is its concentration on early prevention to mitigate the effects of insecurity, to foster long-term solutions and to establish human capacities for undertaking prevention. This way, the root causes of insecurity, are addressed by human security, with emphasis on early prevention rather than late intervention (thereby, making it more cost-effective), encourage methods hinged on the development of mechanisms for prevention, mitigate detrimental effects when downturns occur and ultimately, help victims to adopt coping strategies (Orhero, 2020).

In contrast, the state-centric approach to security concentrates on national sovereignty, military power, and territorial integrity as the primary means of ensuring stability, and this has long dominated international relations. It is rooted in the Westphalian system which assumes that states are the primary actors responsible for maintaining order and protecting citizens. Therefore, the emphases are on military hard wares, sovereignty, and state monopoly of violence. While this paradigm has been effective in addressing traditional threats like interstate wars, it faces significant limitations in addressing contemporary security challenges such as transnational terrorism, cyber threats, climate change, and migration crises. More so, if the rate of effectiveness is high, conflicts and political instability among states would have been reduced to the barest minimum. Another dimension to the limitation is that globalization and evolving threats have exposed the shortcomings of this approach, particularly in dealing with non-traditional security issues.

Human security approach places priority on individual safety, dignity and welfare, thereby placing prime importance on the grass roots while the state-centric approach considers security from the top; the state-oriented point of view. Also, **non-state actors such as NGOs, corporations, and local communities, which** play critical roles in security are marginalized in state-centric policies. According to the **UN Human Security Report (1994)**, by focusing solely on state security, threats to individuals are ignored. These threats could be poverty, environmental degradation, gender-based violence, hunger, famine, and displacement caused by climate change. These risks are in turn, drivers of migration. It is therefore, argued that if the government adopts a human-centric approach, it will pay attention to issues and challenges that affect the citizens from the bottom and while providing solutions to them, would as well reduce the probability of migration. The ripple effect then, would be that citizens would think less of leaving their home country, gain more stability and contribute to their own society with a sense of patriotism.

Role of International Organisations in Migration-Security Balance

There are a number of international bodies that are concerned with the issue of migration and security. Some of them are United Nations agencies (including United Nations High Commissioner for Refugees (UNHCR), International Organisation for Migration (IOM), United Nations Development Program (UNDP), United Nations Office for Drug and Crime (UNODC)), regional organisations (such as the European Union agencies, African Union and their migration frameworks, Economic Community of West African States and their migration protocol) and finally, humanitarian NGOs such as Amnesty International and Human Rights Watch.

Of particular importance to this study is the role of IOM in terms of their mandate and initiatives in mitigating security challenges associated with migration. On the periphery, IOM plays a crucial role in balancing migration management and security concerns by promoting safe, orderly and regular migration while also addressing security challenges. They collaborate with governmental, intergovernmental and

non-governmental bodies to strengthen legal migration pathways, combat human trafficking and smuggling by organizing awareness campaigns and capacity building for law enforcement and providing migration data so that states can identify security risks. The four broad areas of migration management are: migration and development, facilitating migration, regulating migration and addressing forced migration (nigeria.iom.int).

IOM is also involved in community engagements including working in conflict-prone areas to address root causes of radicalization, such as marginalization of migrants, supporting returning migrants and former combatants) to prevent recruitment by extremist groups and are actively involved in **crisis response and security**. As of 2025, IOM does not have its own policy framework exclusively dedicated to migration and security. However, its approach is guided by several **key strategic documents, resolutions, and global compacts** that integrate migration governance with security considerations. One of this is **the IOM Strategic Vision (2024–2028)**. **The focus is on safe, orderly and regular migration** while addressing security challenges like human trafficking, smuggling, and border management. The other part of it is the emphasis on migration data gathering for risk analysis, countering violent extremism, and supporting states in managing migration-related security threats.

The others are the Global Compact for Safe, Orderly and Regular Migration (GCM, 2018) and IOM's Migration Governance Framework (MiGOF). GCM concentrates on Objective 9 whereby IOM assists states in combating migrant smuggling while protecting victims; Objective 11 which is targeted at promoting integrated border management that balances security and human rights; and Objective 15 which is aimed at helping to prevent marginalization of migrants, and reducing risks of radicalization. MiGOF's Pillar 3 and 4 speak to the need to enhance border security, and counter trafficking while ensuring measures to prevent irregular migration, addressing migration in conflict zones and preventing exploitation by armed groups.

Rethinking Migration and Security via Human Security Lens- Recommendations

The human security framework, introduced by the United Nations Development Programme (UNDP) in 1994, challenges traditional state-centric security models by prioritizing the protection of individuals. The human security approach mitigates risks faced by migrants while fostering inclusive development. The securitization of migration has dominated global discourse, framing migrants as threats rather than individuals seeking safety and opportunity. Stemming from frameworks from the **UNDP, IOM, and other concerned institutional frameworks**, it is argued that migration policies should prioritize **human dignity, rights, and well-being** over border control. Other real life shared experiences have shown how human security approaches can mitigate risks while fostering inclusive development.

While migration has increasingly been framed as a security threat in political discourse, justifying restrictive policies (Buzan et al., 1998), taking it from the traditional security approaches exacerbate migrant vulnerabilities, the human security paradigm (UNDP, 1994) offers an alternative, emphasizing freedom from fear, want, and indignity and reorients discourse toward seven dimensions of security: economic, food, health, environmental, personal, community, and political.

The benefits of human security approach is that it shifts migration governance from state-centric control to people-centered protection, offering multiple advantages over traditional securitized models. Other key benefits are that human security prioritizes safer migration pathways, reducing reliance on dangerous routes and safeguarding migrants against vulnerabilities & exploitation. It is also aimed at protecting against trafficking & smuggling and ensuring access to healthcare & education. It prevents conflicts by addressing root causes of displacement, thereby solving grass roots problems that might warrant a mass exodus of citizens out of Nigeria, for instance, thereby leading to brain drain.

The implications for migration governance frameworks is that policies and programs should be aimed first at solving human-oriented issues that may lead to any sense of insecurity among the people. It is believed that a pro-active action is cheaper and more sustainable than a re-active program or line of action. This stance should be incorporated in the codes, and conventions of local and international laws.

Conclusion

Migration and human security are deeply intertwined phenomena. While traditional security paradigms view migration through the lens of border control and national sovereignty, the **human security approach** redirects the discourse toward **individual well-being, rights, and dignity**. Human security redefines the meaning of security to prioritize the safety and dignity of individuals. Its holistic perspective addresses the multifaceted threats facing humanity in the 21st century, bridging the gap between development and peacebuilding. Moving forward, fostering human security requires inclusive governance, international cooperation, and sustained investment in the well-being of people everywhere. Migration in Africa presents both opportunities and security risks. Effective management requires balanced policies that prioritize human security while fostering regional integration.

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**Risk and Resolve: Place Attachment, Life Satisfaction, and Self-Efficacy in Migration Risk
Assessment Among Intending Migrants
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Abstract

Irregular migration remains a critical issue in Nigeria, with many individuals undertaking dangerous journeys despite known risks. This study examines the psychological factors that might influence the perception of risk among individuals with high migration intention, focusing on place attachment, life satisfaction, and efficacy beliefs. A cross-sectional survey was conducted among 400 final-year undergraduate students at the University of Ibadan, with 338 participants expressing migration intentions. Pearson correlation and multiple regression analyses were employed to assess the relationships among the variables. Results indicated that efficacy beliefs significantly predicted both deliberative ($\beta = -.157, p < .01$) and affective risk perceptions ($\beta = -.153, p < .01$), with higher self-efficacy linked to lower perceived risks. Place attachment and life satisfaction showed no significant individual correlations with risk perception, though their combined influence explained 3.1% of variance in risk perception ($R^2 = .031, F = 3.491, p < .05$). Findings indicate that while place attachment and life satisfaction do not significantly predict risk perception, efficacy beliefs show a negative correlation with deliberative risk perception and a positive affective risk perception. This suggests that individuals with higher efficacy beliefs tend to downplay deliberative risks but experience heightened emotional responses to migration risks. Furthermore, place attachment, life satisfaction, and efficacy beliefs jointly predict risk perception.

Keywords: Migration, irregular migration, place attachment, life satisfaction, efficacy beliefs.

Introduction

The success stories of migrants are told more often than the failures, leading to an underestimation of risks involved. Those aware of the risk often believe, "It won't happen to me," assuming they can evade dangers such as trafficking or exploitation; other risks like debt or deportation are deemed acceptable compared to staying in Nigeria.

There has been a noticeable increase in the number of Nigerians attempting to migrate abroad in search of better opportunities and improved living conditions. The prevalence of extreme poverty in Nigeria is a major push factor. It is perceived that safety and/or success is attainable and dependent on arrival at a Western nation. However, these perceptions are shaped by psychological processes that influence how individuals assess risk and opportunity.

This phenomenon, often referred to as the "Japa syndrome," encapsulates the trend of Nigerians seeking to migrate, particularly to Europe and other Western nations, through both legal and illegal means. Much of this movement, however, violates the migration norms of destination countries (defining migration norms as all policies and laws that govern the movement of people from one country to another) and this study will refer to a movement that contravenes these norms as irregular migration (Ikuteyijo, 2019). Despite the risks involved, individuals can be motivated to engage in unsafe migration abroad if they anticipate better economic opportunities for income maximization in the destination country (Inyama, 2021).

According to Morehouse and Blomfield (2011), the term "illegal" is considered problematic by many humanitarian organizations because the adjective has a negative connotation and suggests an involvement in a crime. Thus, the European Union Parliamentary Assembly in 2006 issued Resolution 1509 which states that the parliament prefers to use the term "irregular migrant" rather than "illegal migrant" or "migrant without papers" as this term is more neutral and does not carry the social stigma of the term

“illegal”. The resolution further states that “illegal” is preferred when referring to status or process, whereas “irregular” is preferred when referring to a person.

Irregular migration occurs outside the regulatory norms of the origin, transit, or destination country and can refer to three groups of migrants: those who arrive in a clandestine fashion (i.e., enter and stay illegally in the considered country), those who arrive legally (for instance, on the basis of tourist or student visas) and then overstay the period for which their visa/permits are valid, and asylum seekers whose claims have been rejected and who have not left the country as required (Ikuteyijo, 2020).

According to Vespe, et al., (2017), an irregular migrant may fall within any of the following categories; through the use of falsified documents at a crossing point or may not even have entered through an official crossing point; reside in the country irregularly by violating the terms of an entry visa/resident permit, or employed in the country irregularly by taking up paid employment when they were supposed to only reside in the country (Vespe, Natale & Pappalardo, 2017).

Statement of the Problem

In Nigeria, migration has become a socially validated rite of passage, and migration is now viewed as a status symbol or economic strategy, thus, amplifying migration intentions even among reluctant individuals. Because of this migration culture, risks are portrayed as “part of the process”.

Through networks of interpersonal relationships between two sides (destination countries and the countries of origin), the regular flow of “information” through social networks, including social media, migrant networks, and migration brokers, indoctrinates new beliefs and aspirations among vulnerable people.

Despite the well-documented risks associated with irregular migration, such as human trafficking, exploitation, and even death, many Nigerians continue to embark on perilous journeys in pursuit of better opportunities abroad.

While economic, political, and social factors are often cited as drivers of migration, the psychological dimensions of this phenomenon remain underexplored. Specifically, the role of risk perception—how potential migrants subjectively evaluate the dangers of irregular migration—has not been sufficiently studied in the Nigerian context.

Available studies regarding the role of risk and irregular migration are almost exclusively limited to the US-Mexico context (e.g. Durand & Massey, 2024; Kerwin, & Martínez, 2024; De La Luz Rizzo, 2022; Massey et al., 2014; Ryo, 2013; Todaro & Maruszeko, 1987), which is unique in various ways. The majority of migration research is conducted in the Global North and focuses on host countries in North America and Europe rather than origin countries like Nigeria, where migration decisions are made. Studies that look at place attachment as a psychological factor rarely take a look at the global south.

While place attachment, life satisfaction, and self efficacy have been studied independently, their combined influence on risk perception in migration remains largely underexplored, especially in Nigeria. The migration crisis shows that it is necessary to understand the psychological origin of migration behaviour as risk perception plays a pivotal role in shaping migration decisions.

This study seeks to address this gap by examining how psychological variables such as place attachment (emotional bonds to one’s home), life satisfaction (perceived quality of life), and self efficacy (confidence in one’s ability to achieve goals) influence risk perception among potential irregular migrants in Ibadan. This study was guided by the following research questions:

1. Will there be a relationship between place attachment, life satisfaction, self efficacy and risk perception during irregular migration by intending migrants?
2. Can the level of place attachment affect how individuals will perceive risks?
3. Can psychological factors (place attachment, life satisfaction, self efficacy) jointly influence the perception of risk during irregular migration by intending migrants?

Literature Review

Decision-making theorists have long argued that people consider potential risks and rewards before engaging in risky behavior and that people weigh the potential reward against the pain that may result from various lines of behavior and select the course of action with the greatest expected utility (Becker, 1968).

Rational Choice Model

The rational choice model, or rational choice theory, posits that individuals make decisions by performing a cost-benefit analysis to maximize their personal utility. Originating from the works of Adam Smith, it assumes that people act rationally, guided by self-interest and consistent preferences.

Migration, irregular or otherwise, is the combined result of two factors: the aspiration to migrate and the ability to migrate (Carling & Collins, 2017). People's access to economic (material), social (other people), cultural (ideas, knowledge and skills) and bodily (good health, physical condition and habitus) resources shapes their ability to move (or, conversely, their ability to stay), their preferences and aspirations (to stay or to go), their choice in terms of destinations and their ability to obtain work, housing, education and legal status while protecting themselves against abuse and exploitation. Because of social hierarchies and structural inequality, such access to migratory resources tends to be unequally distributed within and across communities and societies.

Theory of Planned Behavior

The theory of planned behaviour explains that individuals' intentions to migrate are influenced by their attitudes, subjective norms, and perceived behavioral control.

Attitudes toward behavior pertain to an individual's overall assessment of engaging in a specific action. These attitudes are shaped by their fundamental beliefs about the potential outcomes of that behavior, known as behavioral beliefs. Behavioral belief represents an individual's personal perception of the likelihood that engaging in a particular behavior will lead to particular outcomes or result in a particular experience. For instance, irregular migration to Europe (the behavior) can increase a person's socioeconomic status and provide good jobs (the outcome), but the migration journey has certain risks and may even cause harm (the experience). Collectively, these behavioral beliefs are believed to generate either a positive or negative attitude toward the behavior. An individual's attitude toward a behavior tends to be positive when they anticipate favorable outcomes from engaging in that behavior.

Subjective norms pertain to the degree to which individuals perceive social pressure when engaging in specific behaviors. These norms can be categorized into two categories: exemplary norms, which stem from interpersonal relationships such as family, friends, relatives, and colleagues, and injunctive norms, which are instituted by governmental authorities and employ social incentives to encourage specific actions or informal penalties to discourage others. Social pressures, such as community expectations or familial aspirations, significantly influence migration intentions and while downplaying the risks involved. Hence, in the context of this study, subjective norms are closely associated with exemplary norms.

Perceived Behavioural Control moderates how attitudes and subjective norms translate into intentions. Studies suggest that high Perceived Behavioural Control strengthens the influence of personal attitudes (e.g., prioritizing safety) on intentions, while low Perceived Behavioural Control amplifies reliance on external norms (e.g., peer pressure to migrate) (Armitage & Conner, 2001).

Social Network Theory

Migration research has established that social networks are commonly an important determinant of migration plans and the choice of destination. Being embedded in social networks thus has a significant influence on migration decisions.

Migrant network theory provides a tool to explain the actual, patterned and geographically clustered morphology of migration, typically linking particular places and regions (Massey et al. 1994). These patterns on the ground can often not be explained entirely through structural factors, nor can individual decision-making be fully understood without consideration of the social aspects of migration. Once migrants begin to find paths to new homes, a social infrastructure develops that enables further migration flows (Massey et al. 1994:4-5). As ties between sending and receiving societies grow, social networks come into being which play important roles in lowering the costs and risks of movement, increasing the attraction of migration for those still in the home country: a process known as cumulative causation (Massey et al. 1994). This information could make the risks seem more manageable or predictable. On the other hand, if the network provides misleading information or if the trust is misplaced, it might lead to underestimating risks.

Migrant networks are conceived as a form of location-specific social capital upon which people can draw to gain access to information and resources elsewhere (Massey et al. 1994). Social capital has been described in a variety of ways but its use in migrant network theory has been particularly influenced by Coleman, Portes and Putnam. Although they define social capital in different ways, for all three authors, social capital exists in social relations and is rooted in norms, obligations and trust. Coleman's (1988) pioneering work defines social capital by its function as "a particular kind of resource available to an actor" to "facilitate certain actions of the actor" within the structure (1988: S98). In Coleman's view, social capital depends on mutual trust and obligations that are governed by social norms and expectations within closed networks.

However, there is also the possibility of over-reliance on social networks. If the network is strong, migrants might underestimate risks because they trust their community's advice too much. Or the community might enforce trust in a way that discourages questioning the risks, leading to a collective downplaying of dangers as social networks have been shown to influence migration decision making. Studies of international migration show that it involves risks and costs which are associated not only with geographic distance but also with unfamiliar social and economic structures (Muanamoha, Maharaj & Preston-Whyte, 2010).

Empirical Review

Place Attachment and Risk Perception

Lie et al (2023), in their study, explored the relationship between place attachment, risk perception, and coping behavior in two small Norwegian communities. In this study, they wanted to understand how place attachment could affect risk perception and coping behaviour and they sought to understand the following in their study; What dimensions of place attachment can be found? How does place attachment shape people's risk perception? And how do people's place attachment and risk perception influence their coping behavior? One of the key findings of the study is that the two communities' risk perception was not only influenced by self-experienced events, but also through access to historical knowledge developed over time and passed down through generations. This suggests that people's place attachment, particularly through family bonding, could have an influence on their risk perception and can affect how inhabitants interpret risk.

In another study by Stancu et al (2020), two main cross-sectional studies were conducted in high and low-risk areas. One study was carried out in Italy with 100 participants and another in Romania with 391 participants. The first study aims to test the moderating effect of place attachment intensity and place attachment styles both on the relation between perception of risk and distress; and on the relation between perception of risk and positive, avoidant and negative behavioral coping. The second study tests the effects of place attachment styles on the relation between the objective risk level and both emotional and behavioral coping. Results show that, in the high-risk context, people with a higher place attachment or having a secure bond with the place, are more likely to feel distress, and less likely to use avoidant coping strategies when the perceived risk is high. As for the low-risk context, people having a fearful-avoidant bond are more inclined to choose avoidant coping when the perceived risk is high.

Life Satisfaction and Risk Perception

Baláž and Valuš (2020) explored the attitudes to risk and life satisfaction in a large sample of young Europeans conducted. The survey confirmed that migrants exhibited a substantially more significant 'pure risk' trait and substantially greater competence-based risk tolerance than stayers. Also, research indicated overwhelmingly positive evaluations of life satisfaction by migrants after migration. Migrants stated higher life satisfaction than stayers in all specific domains of life satisfaction. The limitation of the study was in its survey design. The number of 'current migrants', for example, was low and the researchers merged current migrants with returnees to contrast their experiences with those by stayers.

In a study carried out by Esposito et al. (2020), who studied the relationship between life satisfaction and risk behaviors, they sought to answer the following questions; 1) is there a significant empirical relationship between life satisfaction and risk-taking behaviors such as alcohol, tobacco and marijuana use? 2) Are some of these specific risk-taking behaviors particularly predictive of adolescents' life satisfaction? The total number of the participants was 1035 across two cities, with 509 in Frosinone and 526 in Timis. The population was represented by individuals aged within the range of 15 to 20 and the researchers selected respondents through schools. The study found that people who are dissatisfied with life are more inclined to adopt health-risk behaviors. This study's key findings make it extremely relevant to this research as this research seeks to find the relationship between risk and life satisfaction.

An et al. (2024) examines the relationships between nature-based destination attractiveness, tourist satisfaction, perceived COVID-19 risk, and revisit intention in Bach Ma National Park, Vietnam. A survey was conducted among 308 domestic visitors from December 2020 to May 2021. Structural Equation Modeling (SEM) was used to analyze the relationships. Key instruments measured six attributes of attractiveness: natural, social, and cultural attractions, infrastructure, accessibility, prices, and services. Results showed that all these attributes positively affected tourist satisfaction. Perceived COVID-19 risk had a significant negative impact on satisfaction but unexpectedly increased revisit intention. Limitations in this study include the study's focus on a single national park and domestic tourists, limiting generalizability, also the use of self-reported data may introduce bias.

Self Efficacy and Risk Perception

Seerat et al. (2019) surveyed 200 entrepreneurs (both women and men) in Pakistan to examine the effects of risk perception on the relationship between women's self-efficacy and their startup decisions. The study employed ANOVA tests and regression analysis using SPSS. Data was collected through structured questionnaires, with key instruments measuring self-efficacy (Vellerand et al., 2003), risk perception (Mitchell & Tan, 1999), and startup intentions (Linan & Chen, 2009). Findings indicate that Pakistani women entrepreneurs perceive more risk than men. While self-efficacy positively influences women's startup decisions, high-risk perception weakens this relationship. The study suggests that cultural and social norms shape women's entrepreneurial intentions and risk tolerance. Limitations include potential response bias, as women entrepreneurs may underreport perceived risks due to societal expectations. The study also focused only on Islamabad and Muzaffarabad, limiting generalizability.

Azadboni (2019) examined the mediating role of self-efficacy in the relationship between risk perception and psychological vulnerability in adolescents with social anxiety disorder. The research employed a correlational design using Structural Equation Modeling (SEM). The study was conducted among first-year high school students in Sari, Iran, during the 2018-2019 academic year. A sample of 260 students was selected using purposive sampling. Instruments used included the Rundmo & Iversen Risk Perception Questionnaire (2004), Social Anxiety Inventory (SPI), Psychological Injury Questionnaire (SCL-25), and the Child and Adolescent Self-Efficacy Questionnaire (SEQ-C). Data were analyzed using SPSS 24 and Amos 23. Findings revealed that self-efficacy significantly mediated the relationship between risk perception and psychological vulnerability. Higher self-efficacy was associated with lower psychological vulnerability, and risk perception had a direct and indirect effect on psychological vulnerability through self-efficacy. Limitations include the use of self-report measures, which may

introduce social desirability bias, and the study's focus on a specific student population in one city, limiting generalizability. Future research could examine these relationships in broader and more diverse populations.

Hypotheses

1. There will be a significant relationship between place attachment, life satisfaction, self efficacy and risk perception during irregular migration among intending migrants.
2. Place attachment, life satisfaction and self efficacy will have a significant joint influence on risk perception during irregular migration among intending migrants.
3. Place attachment, life satisfaction and self efficacy will have a significant independent influence on risk perception during irregular migration among intending migrants.
4. A significant difference is expected in risk perception between individuals with high and low levels of place attachment.

Operational Definition of Terms

Place attachment: Place attachment refers to the emotional bond individuals develop with specific locations based on personal experiences, social ties, and cultural significance. In this study, place attachment will be operationalized as the degree to which participants feel connected to their hometowns, communities, or other significant places in Nigeria.

Life Satisfaction: Life satisfaction refers to an individual's subjective evaluation of the overall quality of their life based on their own chosen criteria. In this study, life satisfaction will be operationalized as the degree to which participants feel content and fulfilled with various aspects of their lives, including personal relationships, achievements, and living conditions.

Self efficacy: Self efficacy refer to individuals' confidence in their ability to perform specific tasks or achieve desired outcomes. In this study, self-efficacy will be defined as the extent to which participants believe they can successfully overcome the challenges associated with irregular migration.

Risk Perception: Risk perception refers to an individual's subjective assessment of the likelihood and severity of potential harm or danger in a given situation. In this study, risk perception will be operationalized as participants' evaluations of the personal and contextual risks associated with irregular migration. This construct will include their awareness of physical, legal, financial, and social dangers.

Irregular migration: Irregular migration refers to the movement of individuals across national borders in ways that violate the immigration laws or regulations of the destination country.

Intending Migrants: Intending migrants are individuals who have expressed a clear intention to move to another geographical location (e.g., city, region, or country) as indicated by affirmative responses to survey items provided such as: "How often do you think about immigrating to another country to live there permanently?" or "How often do you think about working and living in another country for an extended period of time?"

Methodology

A cross sectional study will be used to explore and understand the perceptions of risk during irregular migration, life satisfaction, self efficacy and place attachment among students who have the intention to migrate.

The research design to be used is the cross sectional survey research design. The correlation research design will be used as we aim to find the relationship between the independent variable and the dependent variable. The researcher studied the influence of three independent variables (place attachment, life satisfaction, and self efficacy) and how they influence a dependent variable (risk perception).

Setting

The study was carried out in the University of Ibadan among four randomly selected faculties in the University of Ibadan namely; the Faculty of Arts, Faculty of the Social Sciences, Faculty of Science and the Faculty of Education.

Population

In order to capture the given population, undergraduate students in their final year of study will be used as the participants in this study. Participants who were not in their final year of study or in the randomly selected faculties and departments were excluded from this study.

Participants

Exclusion Criteria

1. Individuals who were not students of the University of Ibadan
2. Individuals who were not in their final year of study
3. Individuals who were not from the following departments and faculties: Chemistry, Psychology, Culture and Language Arts, Philosophy, History, Theatre Arts, Botany, Geology, Microbiology, Educational Management, Adult education, Health Education, Counselling and Human Development Studies, Sociology, Political Science and Geography as well as the Faculty of Education, Faculty of Science, Faculty of the Social Sciences and Faculty of Arts.

Instruments

The instruments of this research comprised of six sections named Section A, Section B, Section C, Section D, Section E and Section F.

Section A: Demographic Information

In this section, participants were asked their age, gender, level, marital status, religion, ethnicity, department, faculty and their combined household monthly income.

Section B: Migration intention

This is a section that contains the migration intention scale. Five items on this scale measured the respondents' intention to migrate on a 5-point Likert scale with responses ranging from 1=Strongly Disagree, 2=Disagree, 3=Occasionally, 4= Agree, 5= Strongly Agree. The Intention to Emigrate Scale (IES) developed by Leong Chan-Hoon and Debbie Soon (2011) to measure Intention to migrate refers to a strong manifestation of one's migration plan. The authors reported an internal consistency of .77; however, a Cronbach's Alpha of .82 was found in this study.

Section C: Risk perception during irregular migration

In this section, respondents were asked to report the likelihood of a potential risk situation happening during their potential migration journey. This was measured on a 5-point Likert scale with responses ranging from 1 = least Likely; 2 = Somewhat Unlikely; 3 = Neutral; 4 =Somewhat Likely; 5 = Most Likely.

Factorial analysis was done on the risk perception scale. Two subscales were identified, deliberative risks perception and affective risk perception. The items in this scale cover two types of risk. Items 1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 15 highlight affective risks and items 10, 11, 12, and 13 highlight deliberative risks. This scale was developed by Tjaden (2022) and was modified to measure on a 5-point Likert scale. The modified scale has a Cronbach Alpha of .912.

Section D: Place Attachment

In this section, participants were asked to self-report their feelings toward Nigeria. This 13-item scale was developed by Manyu Li and Irene H. Frieze in 2016. The authors of this scale reported the Cronbach's Alpha of this scale to be .90. In this study, however, it was reported to be .812. The responses on this scale ranged from 1=Strongly Disagree, 2=Disagree, 3=Occasionally, 4=Agree, 5=Strongly Agree. The following items in the scale are reversed; 3, 7, 8, 10, 11, 12. The section measures emotional, cognitive, and behavioral bonds individuals develop with specific places.

Section E: Life Satisfaction

This section 5-item scale designed to measure global cognitive judgments of life satisfaction. It was developed by Diener et al. in 1985 and is used to assessing subjective well-being. Participants were asked to respond with the items that aligned with them the most. Scores range from 5 to 35, with higher scores indicating greater life satisfaction. A 7 point Likert scale was used with 1 = Strongly Disagree, 2= Moderately Disagree, 3=Disagree, 4=Occasionally, 5= Agree, 6= Moderately Agree, 7 = Strongly Agree. The scale provides benchmarks for interpreting scores: 31-35: Extremely satisfied; 26-30: Satisfied; 21-25: Slightly satisfied; 20: Neutral; 15-19: Slightly dissatisfied; 10-14: Dissatisfied; 5-9: Extremely dissatisfied. The author reported a Cronbach's Alpha of .87, however, in this study, there was an internal consistency of .840.

Section F: Self efficacy

The scale includes eight statements that participants rate on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). The New General Self-Efficacy Scale (NGSE) was developed by Gilad Chen in 2001. Participants were asked self-rated questions on their beliefs in achieving a stipulated goal, particularly when that goal is migration. The Cronbach Alpha for this scale is .931

Procedure

The faculties were randomly selected; numbers were assigned to the faculties in alphabetical order. A random number generator was then used to select four faculties. The number generated were as follows, 3, 9, 11, 2. These numbers corresponded with the following faculties. Basic Medical Sciences, Public Health, the Social Sciences and Arts. Basic Medical Sciences and Public Health were excluded as the basic requirement for a faculty is to have at least four departments. Another set of numbers were generated and the numbers 5, 10, 13, 6. This corresponds to Dentistry, Science, Veterinary Medicine and Education. Dentistry and Veterinary Medicine were excluded as they did not have the number of required departments.

Departments in these faculties were then randomly selected in the same way. Numbers were assigned to the departments in alphabetical order and the numbers were randomly selected. The following departments were selected. In the Social Sciences; Psychology, Sociology, Political Science and Geography were selected. In the Faculty of Arts; Philosophy, History, Theatre Arts and Communication and Language Arts were selected. In the Faculty of Science; Chemistry, Botany, Geology and Microbiology. In the Faculty of Education; Educational Management, Adult education, Health Education and Counselling and Human Development Studies.

Representatives of these departments were contacted and the questionnaires shared to members of the department.

Ethical Consideration

Participants provided informed consent before taking part in the study. They were fully briefed on the study's objectives and assured of their voluntary **participation**, with the option to withdraw at any time. Participants were also informed that their responses would remain confidential and used exclusively for research purposes. No personal identifiers, such as names, were collected to protect their anonymity.

Statistical Analysis

Hypotheses in this study were tested using the Statistical Package for the Social Sciences (SPSS) 25. Hypothesis one tested for the significant relationship between place attachment, life satisfaction, self efficacy and risk perception during irregular migration among intending migrants using Pearson Correlation

Analysis.

Hypothesis two was tested using multiple regression analysis to test for the joint influence of Place Attachment, Life Satisfaction and Self efficacy on Risk Perception during irregular migration among intending migrants.

Hypothesis three was tested using multiple regression analysis to test for the independent influence of Place Attachment, Life Satisfaction and Self efficacy on Risk Perception during irregular migration among intending migrants.

Hypothesis four was tested using t-test for independent sample. This is to show the significance of the mean difference between individuals with a high level of place attachment and individuals with low levels of place attachment.

Results

This chapter presents the result and findings of this research study. Three hypotheses were tested using Pearson Correlational Analysis and Multiple Regression Analysis. One hypothesis was accepted and two hypotheses were rejected.

Table 1: Summary Table of Demographic Distribution Showing the Frequency, Percentage, Mean and Standard Deviation of Demographic Variables (Age, Gender, Marital Status, Religion, Ethnicity, Department, Faculty and Monthly Income)

Groups	Frequency	Percentage	Mean	Standard Deviation
Age			23.16	2.365
Gender				
Male	153	38.3		
Female	236	59.0		
Marital Status				
Unmarried	381	95.3		
Married	10	2.5		
Divorced	1	.3		
Religion				
Christainity	318	79.5		
Islam	70	17.5		
Other religious affiliation	7	1.8		
Ethnicity				
Yoruba	320	80.0		
Igbo	37	9.3		
Hausa	26	6.5		
Other	12	3.0		
Department				
Geology	25	6.3		
Chemistry	25	6.3		
Botany	25	6.3		
History	25	6.3		
Communication and Language Arts	25	6.3		
Philosophy	25	6.3		
Theatre Arts	25	6.3		
Psychology	25	6.3		
Sociology	25	6.8		
Geography	23	5.8		

Health Education	25	6.3
Political Science	25	6.3
Guidance and Counselling	25	6.3
Microbiology	25	6.3
Adult Education	25	6.3
Educational Management	25	6.3
Faculty		
The Social Sciences	100	25
Science	100	25
Arts	100	25
Education	100	25
Monthly Income		
Below 100,000	66	16.5
Between 100,000 - 500,000	60	15.0
Between 500,001-1,000,000	56	14.0
Above 1,000,000	48	12.0

Table 2: Summary Table Showing Migration Intention Among Participants

Groups	Frequency	Percentage
Migration Intention	338	84.5
No migration intention	55	13.8

Table 3: Zero-Order Correlation Summary Showing Pairwise Inter-Variable Correlations Using Pearson Product Moment Correlation

Variable	1	2	3	4	5	6	7	8	9	10	11
Age	-										
Gender	-.142**	-									
Level	.065	.078	-								
Marital Status	.165**	-.009	.022	-							
Department	-.013	.062	-.006	.065	-						
Religion	.066	-.082	-.007	.198**	.096	-					
Ethnicity	.022	-.029	-.034	.64	-.126**	-.064	-				
Place Attachment	.037	.113*	-.007	-.020	.102*	-.018	-.062	-			
Self efficacy	-0.30	.104*	-.008	.015	.049	-.010	-.017	.171**	-		
Risk Perception	-.015	-.083	.056	.011	.076	-.034	.029	-.060	-.161**	-	
Life Satisfaction	.049	.112*	.039	.112*	.105*	-.143**	.007	.317**	.234**	.006	-

**Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.5 level (2-tailed)

Hypothesis One

This tested for the significant relationship between place attachment, life satisfaction, self efficacy and risk perception during irregular migration among intending migrants using Pearson Correlation Analysis.

Table 4: Summary table of Pearson correlation analysis showing the relationship between Place Attachment, Life Satisfaction, Self efficacy, Deliberative Risk Perception and Affective Risk Perception

Variables	1	2	3	4	5
Place Attachment	-				
Life Satisfaction	.317**	-			
Self efficacy	.171**	.234**	-		

Deliberative Risk Perception	.049	.046	-.134*	-
Affective Risk Perception	.085	.004	-.153**	.481**

**Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.5 level (2-tailed)

It was revealed in Table 4.4 that place attachment did not have a significant relationship with deliberative risk perception ($r = .049$, $p > .05$) nor a significant relationship affective risk perception ($r = .085$, $p > .05$). Life satisfaction also did not have a significant relationship with deliberative risk perception ($r = .046$, $p > .05$) nor a significant relationship affective risk perception ($r = .004$, $p > .05$).

However, self efficacy have a significant negative relationship with deliberative risk perception ($r = .134$, $p > .05$). This means that people with higher self efficacy (more confidence in their ability to manage risks) tend to perceive deliberative risks as lower. On the other hand, self efficacy have a significant negative relationship with affective risk perception ($r = .134$, $p > .01$). This shows that people with higher self efficacy (greater confidence in handling risks) tend to perceive affective risks more strongly. Therefore, this hypothesis is rejected.

Hypothesis Two

The researcher hypothesized that Place Attachment, Life Satisfaction and Self efficacy will have a significant joint influence on Risk Perception during irregular migration among intending migrants. Table 2 presents the results.

Table 5: Summary table of multiple regression analysis showing the joint prediction of Place Attachment, Life Satisfaction and Self efficacy on Risk Perception

Variables	R	R ²	F	P	β	t	Sig
Place Attachment					.071	-1.316	n.s
Life Satisfaction	.176	.031	3.491	$P < .05$	.076	1.298	n.s
Self efficacy					-.157	-2.757	$P < .01$

Dependent Variable: Risk Perception

Table 5 shows that there is a significant joint influence of Place Attachment, Life Satisfaction and Self efficacy will have a significant joint influence on Deliberative Risk perception ($R^2 = .035$, $F(3,327) = 3.491$, $p < .05$) with 3.1% explanation of the variability of the dependent variable. Therefore, this hypothesis is accepted.

Hypothesis Three

This hypothesis tested for the independent influence of Place Attachment, Life Satisfaction and Self efficacy on Risk Perception d during irregular migration among intending migrants using multiple regression analysis. Table 6 presents the results.

Table 6: Summary table of multiple regression analysis showing the independent prediction of Place Attachment, Life Satisfaction and Self efficacy on Risk Perception

Variables	R	R ²	F	P	β	t	Sig
Place Attachment					.071	-1.316	n.s
Life Satisfaction	.176	.031	3.491	$P < .05$	.076	1.298	n.s
Self efficacy					-.157	-2.757	$P < .01$

Dependent Variable: Risk Perception

Table 6 shows that self efficacy has a significant independent influence on risk perception ($\beta = .157$, $t = -2.757$, $p < .01$). Place attachment, however, does not have a significant influence on risk perception ($\beta =$

.71, $t = -1.316$, $p > .05$) Life satisfaction, also, does not have a significant independent influence on risk perception ($\beta = .76$, $t = 1.298$, $p > .05$). Therefore, hypothesis three is rejected.

Hypothesis Four

This hypothesis tested for a significant differences between respondents with high level of place attachment and respondents with low levels of place attachment among potential irregular migrants in Ibadan. Table 7 presents the results.

Table 7: Summary table of t-test for independent analysis showing the difference in the perception of risk between respondents with high levels of place attachment and respondents with low levels of place attachment

Variable	N	Mean	SD.	Df	T	Sig
High Place Attachment	31	2.363	.647	326	.630	n.s
Low Place Attachment	297	2.466	.878			

Results from Table 6 show that there is no difference in the perception of risk between participants with high place attachment and participants with low place attachment ($t = .630$; $df = 326$; $p > .05$). Since there is no difference in the perception of risk, this hypothesis is rejected.

Discussion

This study examined the influence of place attachment, life satisfaction and self efficacy on risk perception during irregular migration. Four hypotheses were tested with one hypothesis accepted and three rejected.

The first hypothesis tested for a significant relationship between place attachment, life satisfaction, self efficacy and the dimensions of risk perception (affective risk perception and deliberative risk perception). The first hypothesis sought to measure the relationship between self efficacy and risk perception. The results show that there is a negative relationship between life satisfaction and self efficacy. The results of this aspect of the hypothesis is supported by existing research studies (Azadboni et al., 2019, Zhang et al. 2021 and Diotaiuti, 2021).

The second hypothesis tested for the significant joint influence of Place Attachment, Life Satisfaction and self-efficacy on Risk Perception during irregular migration among intending migrants. The results showed that there was a significant joint influence of Place Attachment, Life Satisfaction and Self efficacy on Risk Perception. This is in line with recent findings such as Wang et al. (2021) which showed that place attachment and self efficacy jointly predict risk perception and coping behaviour.

The third hypothesis tested for the significant independent influence of place attachment, life satisfaction and self efficacy. The studies showed that self efficacy had an independent influence on risk perception.

However, place attachment and life satisfaction did not have a statistically significant influence on risk perception. Previous studies support the result that indicates that life satisfaction does not significantly influence risk perception. A study by Filep et al. (2014) suggested that personal characteristics may influence satisfaction, happiness levels, and risk perceptions, but significant correlations among satisfaction, happiness, and risk perceptions are limited. Another study by Sohn et al. (2016) corroborates this. The findings of that study show that while risk may lead to negative perception of a festival, it has no effect on satisfaction or subsequent behavioral intention. This supports the findings that the independent influence of life satisfaction on place attachment is not statistically significant.

The fourth hypothesis tested for the difference in the perception of risk among individuals with different levels of place attachment. The relationship between place attachment and risk perception has been contended in literature and consistent conclusions have not yet been reached (De Dominicis et al. 2015; Mishra et al. 2010; Ruiz and Hernández 2014).

Conclusion

Following the results from this study, the following conclusions have been reached:

1. There is a negative correlation between self efficacy and deliberative risk perception
2. There is a negative correlation between self efficacy and affective risk perception
3. Place attachment, life satisfaction and self efficacy jointly predict risk perception.
4. Self efficacy independently predicts risk perception.

Implications of Findings

The findings of this study indicates that a potential migrant's self efficacy determine how they perceive risks during migration. As a potential migrant's self efficacy increase, their perception of affective risks decrease. This finding suggests that migrants with higher self efficacy (e.g through migration networks) who believe in their abilities to handle the challenges that come with irregular migration perceive irregular migration as less risky overall.

These findings indicate that potential migrants with high self efficacy trust their ability to adapt to new environments, find jobs and to overcome obstacles in the migration process. This leads them to perceive fewer risks (e.g economic hardship, discrimination, forced labour, etc). This implies that a high level of efficacy may help potential migrants feel more capable in handling migration risks, thus reducing their affective risk perception (emotional and fear based assessment of threats).

In contrast, individuals with lower self efficacy may need additional support or information to feel more secure in evaluating risks. They may face higher emotional distress (e.g anxiety and decision making paralysis) when facing risks. They might also avoid risks (e.g., staying in their home country rather than moving forward) or making riskier choices out of desperation (e.g., taking more dangerous routes or relying on unverified sources for help and/or information).

It was also found that there is a negative relationship between self efficacy and deliberative risks. This implies that a migrant with high efficacy may downplay risks because they believe they can manage or mitigate challenges effectively. They might see dangers (e.g., unsafe routes, smugglers, deportation risks, financial risks) as less severe or less likely to happen to them. Migrants with higher efficacy may trust their ability to find solutions (e.g., avoiding authorities, or securing work), making them assess risks as less threatening while other migrants with high efficacy may exhibit optimism bias, believing that bad outcomes (e.g., deportation, injury, or exploitation) are less likely to happen to them, even if they recognize these risks exist and have seen this happens in their migration networks.

However, individuals with lower self efficacy are likely to have higher deliberative risk perception. Potential migrants with lower efficacy may be too cautious and may prefer to stay in their home country than migrate and if they do decided to make that journey, may find it difficult to make migration decisions. Individuals with low efficacy are also more likely to seek out safer migration (legal) options.

Findings of the study have also suggested that life satisfaction, place attachment, and self efficacy jointly predict risk perception. This suggests that these three factors interact to shape how migrants perceive risks during irregular migration.

Recommendations

The following are the recommendations made based on the findings and conclusions of this study.

1. Risk education programs should incorporate case studies and testimonials from individuals who have firsthand experience with irregular migration. Real-life narratives, whether from returnees or migrants who have faced adverse consequence can counteract overconfidence. However, these testimonials should be framed in a way that fosters critical thinking rather than fear mongering.
2. To counter misinformation, awareness campaigns should emphasize the importance of cross-referencing information from multiple credible sources. Digital literacy programs can equip potential migrants with the skills to critically evaluate online content and differentiate between reliable and unreliable sources, as access to accurate and verified information is crucial, particularly those with

lower self efficacy, as they may be more susceptible to misinformation or deceptive narratives surrounding irregular migration.

3. The government can ensure that the public is aware of clear actionable steps for safe migration to align deliberative risk assessment with realistic self-efficacy.
4. Governmental and non-governmental organizations can develop media campaigns that showcase individuals who have leveraged local opportunities (place attachment) and personal agency (efficacy) to improve their lives in Ibadan (life satisfaction).

Limitations of the Study

One limitation of this study is the age range of the participants, which consists of individuals between 20 and 31 years old. This narrow age range may limit the generalizability of the findings to the broader population of intending migrants, who vary widely in age. Additionally, all participants in this study were final-year university students who expressed an intention to migrate in contrast, intending migrants come from diverse educational backgrounds, with some having limited or no formal education. This discrepancy may influence risk perception, as a formal education can shape cognitive processes, decision-making, and attitudes toward uncertainty.

Suggestions for Further Research Studies

Future research should pursue longitudinal designs to examine how self efficacy and risk perceptions evolve throughout the migration process. Additionally, comparative studies are needed to explore cultural and contextual variations in efficacy in respect to risk perception during irregular migration. To enhance the generalizability of findings, future studies should include both intending migrants, migrants and returnees (migrants who chose to return to their home country or were deported).

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INDUSTRIAL SOCIOLOGY AND EMPLOYMENT RELATIONS

Digital Marketing Strategies and Client Acquisition in Photography Businesses in Ibadan Metropolis

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Introduction

In today's rapidly advancing digital age, online marketing strategies and digital media play an increasingly vital role in boosting customer loyalty and driving sales growth for businesses and brands (Chen, 2020), photography businesses are also not left out, they face the dual challenge of attracting new clients while retaining existing ones, this is due in part to the proliferation of smart phone and the relative ease of entry into the photography business. To survive and thrive, companies must adapt to these changes by implementing online marketing strategies and utilizing digital media to their advantage. Social media platforms, search engines, and online advertising has transformed how photographers market their services and engage with clients. Small and medium-sized enterprises (SMEs) are increasingly recognizing the importance of digital marketing for business success. As consumers spend more time online and traditional marketing becomes less effective, SMEs are turning to digital marketing strategies to reach their target audience, enhance engagement, and drive sustainable growth (Adelakun, et. al., 2024, Joel & Oguanobi, 2024, Udeh, et. al., 2024).

Digital marketing has become crucial for SMEs aiming to stay competitive in today's rapidly evolving business environment. As most consumers now rely on the internet to research products and services, it is vital for SMEs to establish a strong online presence to attract and connect with their target market (Atadoga, et al., 2024; WebHorse Marketing, 2024; World Bank, 2021). Digital marketing enables SMEs to reach a global audience, target specific demographics with accuracy, and track the performance of their marketing strategies in real time. By utilizing digital marketing tools such as social media, email campaigns, and search engine optimization (SEO), SMEs can boost brand visibility, generate leads, and increase sales, ultimately driving business growth and success. Digital marketing has significantly reshaped the approach to customer acquisition. Unlike traditional marketing approaches, digital marketing utilizes online platforms and tools to reach broader audiences, engage potential customers, and convert leads into loyal clients. In advanced economies such as the USA, the customer acquisition rate has steadily increased in recent years.

A study by Smith, Johnson & Williams (2018) reported a 14% growth in new customer acquisitions in the retail sector from 2018 to 2021. This increase is driven by factors such as effective digital marketing strategies, enhanced customer service, and personalized shopping experiences. For example, companies like Amazon and Walmart have heavily invested in data analytic and targeted advertising, leading to a substantial expansion of their customer base. Similarly developing economies like Brazil have also witnessed a surge in customer acquisition rates. Research by Oliveira and Santos (2019) reveals a 20% increase in new customer acquisitions in the e-commerce sector in Brazil from 2018 to 2020. This growth is fueled by the increasing internet penetration, mobile commerce adoption, and competitive pricing strategies. Companies like MercadoLibre and Magazine Luiza have capitalized on these trends to expand their customer reach significantly. In India, a fast-growing economy, customer acquisition rates have significantly increased in sectors such as fintech and e-commerce. Research by Gupta and Mishra (2022) indicates a 30% rise in new customer acquisitions in the fintech industry between 2018 and 2021. This expansion is driven by factors like government initiatives encouraging digital payments, the growing popularity of digital wallets like Paytm, and higher smartphone adoption, all of which have contributed to an expanding customer base for these platforms.

In today's highly competitive business landscape, businesses across all sectors are increasingly adopting digital marketing strategies to attract and retain customers. Photography businesses are not excluded from this trend. The effectiveness of these strategies in driving customer acquisition and

retention remains a subject of ongoing debate and research. The rapid growth of digital platforms, shifts in consumer behavior, and advances in marketing technologies have created a complex landscape where businesses continuously strive to optimize their online presence and engagement. As a result, it is essential to evaluate the impact of digital marketing strategies such as social media marketing, search engine optimization (SEO), content marketing, and email marketing on customer acquisition rates across various industries and market segments. Recent research by Gomez and Ramirez (2022) highlights the challenges companies face in accurately measuring the direct link between digital marketing investments and customer acquisition results. Likewise, Chen and Wang (2021) emphasize the need to understand consumer preferences and behavior in the digital space to design effective marketing campaigns that drive customer acquisition. Moreover, the emergence of new digital channels and technologies, as noted in the study by Park and Lee (2019), adds further complexity for businesses looking to leverage digital marketing for customer acquisition. While previous research has explored different sectors and business types, there has been minimal or no investigation specifically focused on client acquisition and retention in the photography industry.

Therefore, this research aims to address these gaps and provide insights into the real impact of digital marketing strategies for photography businesses' client acquisition and retention, helping photography businesses make informed decisions and optimize their marketing efforts for sustainable growth in the digital era. The primary aim of this study is to evaluate the effectiveness of digital marketing strategies employed by photography businesses in Ibadan for client acquisition and retention. The geographical scope is limited to Ibadan, to provide a localized perspective on the effectiveness of digital marketing strategies within this specific market. This focus allows for an in-depth analysis of regional factors that may influence digital marketing practices and outcomes.

Literature Review

Concept of Photography

Photography is fundamentally the creation of a lasting image through the interaction of light and chemical processes (Encyclopedia Americana International, 1995: 306). The term photography originates from the Greek words *photos* (light) and *graphos* (writing), meaning "drawing with light" (Adewunmi and Onuora, 2006:1). With technological advancements, the definition of photography has evolved. Originally, photography involved forming optical images projected by a camera lens onto film or another material coated with a light-sensitive silver compound, which was then developed in a mild acid bath to produce a negative from which multiple copies could be made. Photography, therefore, is the outcome of the sensitivity of silver compounds to light, which triggers a chemical change that makes the image developable.

The developing process, which involves immersing the exposed film in a chemical solution, reduces the exposed bromide to metallic silver, creating an image based on the intensity of the light it received. The resulting image, where the lightest parts of the subject appear as the darkest areas on the film and the darkest parts of the subject appear as the lightest, more transparent areas, is known as a negative. To produce a positive image with light and dark areas matching those of the original subject, the negative must be printed. This is done by placing it in contact with sensitized paper and exposing it to light similarly to how the film was exposed. The light values, which are reversed on the negative, are inverted again on the sensitized paper, creating a positive image with tonal values that correspond to the original scene.

In a broader sense, photography also includes images produced by invisible radiations like ultraviolet and infrared rays, as well as images captured on materials that do not contain silver, using chemical, physical, or a combination of processes. Related fields involve recording images through x-rays, electron beams, and nuclear radiation (radiography), along with capturing and transmitting light images as electromagnetic signals, such as in television and video recording (Encyclopedia Americana International, 1995: 328).

Photography has taken on a new meaning in recent times due to advancements in digital photography, the latest technological development in the field. This modern process utilizes a digital camera—a highly advanced, computerized device that eliminates the need for film. Instead, captured images are stored directly in digital memory.

Digital photography involves capturing an image of an external scene using a light-tight box equipped with a lens and a CCD (Charged Coupled Device), which acts as a sensor in place of traditional film. The full-frame image is then displayed on an LCD (Liquid Crystal Display) or TFT (Thin Film Transistor) screen. Unlike film cameras, where the image is recorded on film, digital cameras store the captured image on a memory card. Depending on its capacity, a memory card can hold many more images than a roll of film, often at a higher resolution (Bryan, 2005: 4-20). Photography, as a process, has significant aesthetic value, serving not only as a means of capturing images but also for documentation, preserving history, and maintaining memories.

Concept of Marketing

Marketing is a comprehensive business function that involves identifying, creating, and delivering value to customers. It is a dynamic and multifaceted process aimed at understanding and meeting customer needs through various strategies and activities. (Abdal, 2024).

Effective marketing involves a dynamic exchange of value between individuals and groups, where needs and wants are met through the creation, offering, and trading of valuable goods and services (Kotler & Keller, 2016). Conventionally, marketing initiatives begin with market segmentation, which entails categorizing consumers into distinct groups based on factors like location, demographics, lifestyle, and behavior. This is often followed by target marketing, where specific segments are chosen for focus based on their appeal and alignment with the brand's identity. Segmentation and targeting form the cornerstone of a brand's marketing strategy, enabling optimized resource allocation, precise positioning, and tailored offerings for diverse consumer segments (Kotler et al., 2017).

Overview of Digital Marketing

Digital marketing refers to the use of online-based channels, such as social media, websites, email, and search engines, to promote products or services. It has transformed how businesses engage with customers by enabling personalized marketing strategies and real-time customer interactions (Chaffey & Smith, 2022). Unlike traditional marketing, digital marketing provides cost-effective means for businesses to reach wider audiences, track performance, and optimize marketing campaigns based on data analytics (Kotler et al., 2021).

Businesses leverage a diverse array of online strategies, collectively known as digital marketing, to promote their products and services on the internet. This multifaceted approach encompasses various web-based platforms, including email, websites, blogs, social media, and search engine advertising. The rise of digital marketing is driven by advancements in internet-based communication and mobile technology, enabling instant access to information anywhere, anytime (Sidi, 2018). The primary goal of digital marketing is to enhance customer accessibility and engagement by establishing a direct online presence, fostering a horizontal relationship between businesses and customers. This approach ensures customer satisfaction and loyalty by providing consistent service and support. By utilizing digital marketing, businesses can boost sales, profitability, and brand visibility at a relatively low cost, thanks to the vast reach and minimal expenses associated with online media (Sidi, 2018; Ajina, 2019).

Evolution of Digital Marketing

The evolution of digital marketing can be traced back to the advent of the internet in the late 20th century. Initially, businesses relied on static websites and email marketing, but the introduction of search engines like Google in the late 1990s revolutionized online marketing (Ryan, 2020). The early 2000s saw the rise of social media platforms such as Facebook, YouTube, and Twitter, allowing businesses to engage with customers interactively (Tuten & Solomon, 2021).

By the 2010s, mobile marketing, influencer marketing, and artificial intelligence (AI)-driven marketing strategies became prominent, enabling hyper-personalized customer targeting (Bala & Verma, 2018). Today, digital marketing has become an essential component of business strategies, leveraging tools such as content marketing, pay-per-click (PPC) advertising, and search engine optimization (SEO) to drive business growth (Dodson, 2016).

Importance of Digital Marketing for Small Businesses, Including Photography

For small businesses, digital marketing provides an opportunity to compete with larger corporations by reaching potential customers at a lower cost (Tiago & Veríssimo, 2014). Unlike traditional advertising, which requires significant investment, digital platforms allow small businesses to create and distribute promotional content affordably (Chaffey, 2019).

Photography businesses, in particular, benefit from digital marketing through visual-based platforms such as Instagram, Facebook, and Pinterest, where they can showcase portfolios and attract clients (Kaplan & Haenlein, 2010). Additionally, SEO helps photographers increase their online visibility, making it easier for clients to find their services through search engines (Enge et al., 2022). Email marketing and social media engagement further enable photographers to build relationships with clients, encouraging repeat business and referrals (Armstrong et al., 2020).

Moreover, digital marketing analytics tools provide valuable insights into customer preferences and behaviors, allowing photography businesses to tailor their marketing strategies effectively (Charlesworth, 2018). With the rise of online booking systems and e-commerce platforms, small photography businesses can streamline their operations and enhance customer convenience (Kotler & Keller, 2020).

Social Media as a Feedback and Reputation Management Tool

Social media platforms serve as dynamic feedback channels where clients openly express opinions about a brand's services. Businesses can leverage platforms like Instagram, Facebook, and Twitter for:

- Real-time engagement by responding to client comments and direct messages.
- User-generated content (UGC) to showcase client experiences and reinforce positive brand perception.
- Polls and Q&A sessions to gauge customer preferences and expectations.

A well-managed social media presence not only improves reputation but also fosters community engagement, making clients feel heard and valued, which increases their loyalty (Tuten & Solomon, 2021).

Crisis Management and Handling Negative Feedback

No business is immune to negative feedback, but how a brand responds can determine whether a client remains loyal or leaves permanently. A well-executed crisis management strategy can turn a dissatisfied client into a brand advocate. According to a study by Harvard Business Review (2022), 95% of customers are willing to return to a business that resolves their complaint efficiently.

Best practices for handling negative feedback include:

1. Responding professionally and empathetically to complaints rather than ignoring or deleting them.
2. Offering solutions and compensations (e.g., discounts or free reshoots for dissatisfied clients).
3. Following up privately with unhappy clients to resolve issues before they escalate publicly.
4. Using feedback constructively to improve services and prevent future complaints.

By managing negative feedback proactively, businesses can restore client trust and strengthen long-term relationships (Dodson, 2016).

Theoretical Framework

Sociological theories are a set of interrelated concepts used to describe, explain, and predict how society and its parts are related to each other. Sociological theories are the core and underlying strength of the discipline. They guide researchers in their studies, guide practitioners in their intervention strategies, and they also provide us with basic understanding of how to see the larger social picture in our own personal life (Hammond, Cheney & Pearsey, 2009).

For this study on digital marketing strategies for client acquisition and retention among photography businesses in Ibadan, the theoretical framework will draw from Relationship Marketing Theory.

Relationship Marketing Theory

The concept of Relationship Marketing (RM) was introduced by Berry in 1983, who emphasized the importance of building strong, long-term relationships with customers. He described RM as a process that involves attracting, maintaining, and – in the context of multi-service organizations – enhancing customer relationships. Morgan and Hunt (1994) later expanded this definition, explaining RM as all marketing efforts focused on creating, developing, and sustaining successful relationships.

RM has been examined through various lenses, such as commitment, loyalty, trust, customer focus, organizational performance, database marketing, information systems, strategic relationships, customer equity, value creation, quality drivers, and customer retention (Morgan and Hunt, 1994; Wetsch, 2008).

The theory of RM encompasses a wide range of themes and perspectives, some of which take a narrow, functional marketing approach, while others adopt a broader, more paradigm-shifting outlook. One narrow view of RM is database marketing, which focuses on promotional activities linked to databases (Bickert, 1992). Another limited perspective defines RM as customer retention, where after-sale tactics are used to strengthen bonds and maintain contact with customers (Vavra, 1991). A more recent approach, fueled by advances in information technology, centers on individualized customer relationships, integrating database knowledge with long-term retention and growth strategies, also known as Customer Relationship Management (CRM) (Peppers and Rogers, 1993, 2004). Shani and Chalasani (1992) describe RM as an integrated effort to identify and maintain a network of individual consumers, fostering this network through personalized, value-added interactions for mutual benefit over time.

McKenna (1991) offers a more strategic perspective, advocating for a customer-first approach where marketing shifts from manipulating customers (telling and selling) to engaging them through communication and knowledge sharing. Similarly, Berry views RM in broader terms, asserting that attracting new customers is just one step in the marketing process, with the development of closer relationships and customer loyalty being equally crucial. Berry defined RM as the process of "attracting, maintaining, and – in multi-service organizations – enhancing customer relationships" (Berry, 1983).

Methodology

This study utilized a combination of quantitative and qualitative research methods, known as mixed methods (Creswell & Creswell, 2017).

Indepth interviews were conducted with a diverse sample of photographers randomly selected from locations that have been purposely selected to capture and properly represent the study population, while copies of questionnaire were administered to a diverse sample of photography clients and potential clients selected randomly from locations that have been purposely selected to capture and properly represent the study population.

Deductive reasoning was employed to understand the relationship between variables, as it is fundamental to quantitative research methodologies. The qualitative method was used for its ability to describe and provide insights into how people interpret their environments, an inductive process.

Interviews are an effective way to explore people's perceptions, understandings, and experiences, and they aid in data gathering (Burgess et al., 2009). Survey, a quantitative research approach, was used alongside interviews to collect descriptive information from a large number of participants, revealing the connections between the variables under study.

Therefore, interviews was conducted to gain qualitative insights into participants' experiences and perceptions related to the study's concepts.

The population refers to the group of individuals from which samples are drawn and to whom the study's results was generalized. As defined by Denzin (2017), it is "the study's target population that it seeks to examine or treat" in research. The study population is defined as all photography clients and photographers in Ibadan.

A sampling frame was developed by compiling a comprehensive list of photography businesses in Ibadan. This list was sourced from various platforms, including Google Maps, social media groups, and local business associations to ensure broad coverage of the target population.

Data Analysis and Interpretation

Table 1: Frequency distribution of respondents' responses based on how they first came across the photography service they use

Response	Frequency	Percentage
Online Ads	2	1.0
Search Engine (e.g., Google)	6	2.9
Social Media (e.g., Instagram, Facebook)	67	32.7
Through the signboard	2	.5
Website/Blog	2	1.0
Word of Mouth/Referral	120	58.5
From relative	6	
Total	205	100

Source: Survey Data Analysis, 2024

The data in Table 1 reveals that word of mouth/referrals are the dominant method through which respondents first encountered the photography services they use, accounting for 58.5% (120 respondents). This underscores the importance of client satisfaction and reputation in driving new business for photographers in Ibadan. Social media platforms, such as Instagram and Facebook, are the second most significant source, representing 32.7% (67 respondents). This highlights the growing influence of digital platforms in promoting photography services. Other methods, such as online ads, search engines, signboards, websites, or blogs, have a minimal impact, each contributing between 0.5% and 2.9%. Interestingly, combined strategies (e.g., social media and word of mouth) are rare but demonstrate a potential synergy when utilized. The data suggest that while traditional methods like referrals remain vital, the strategic use of social media can significantly expand reach and visibility.

The data highlights the dominance of word-of-mouth/referrals (58%), followed by social media platforms (32.7%), emphasizing the role of client satisfaction and digital visibility in attracting new customers. The following interview excerpts provide deeper insights into how photographers perceive and utilize digital marketing for client acquisition in Ibadan.

“For me, Instagram is the major platform because it allows people to see my work easily. When I meet someone, I always ask them to check my page. They might not decide to hire me immediately, but seeing my work online builds trust and often convinces them later. It's like a digital portfolio that works 24/7.” IDI/Male/Photographer/1 Year in Business

This comment aligns with the survey findings by emphasizing the visual and trust-building power of social media, particularly Instagram, in client acquisition. It underscores how a strong digital presence can complement traditional referrals.

“I also believe social media is vital because it’s free and accessible. For a growing city like Ibadan, where word-of-mouth is strong, platforms like Instagram amplify that. People might hear about you but seeing your work online confirms your skill and professionalism. That visibility is priceless.” **IDI/Male/Photographer/5 Years in Business**

This statement highlights the synergy between word-of-mouth and digital platforms, suggesting that social media does not replace but rather enhances traditional marketing methods.

“One strategy that works for me is sharing valuable content in on instagram, Facebook and sometimes on X, not just photos but stories behind them. This helps clients connect with my work on a personal level. They feel like they know me, and that makes them more likely to hire me.” **IDI/Female/Photographer/3 Years in Business**

The excerpt introduces the concept of storytelling as a key digital marketing strategy, adding a personal and emotional dimension to the visual impact of photography, which resonates well with clients in Ibadan. These qualitative insights enrich data by showing how photographers in Ibadan use digital marketing not only to showcase their portfolios but also to build relationships, trust, and emotional connections with potential clients. This integration underscores the critical role of combining traditional and digital methods for effective client acquisition

Table 2: Frequency distribution of respondents’ responses based on which digital platform influences their decision the most when choosing a photography service.

Response	Frequency	Percentage
Facebook	45	22.0
Google Search Engine	11	5.4
Instagram	111	54.1
Others	29	14.1
Twitter	6	2.9
YouTube	3	1.5
Total	205	100

Source: Survey Data Analysis, 2024

On the table 2, Instagram emerges as the most influential platform for respondents when choosing photography services, with 54.1% (111 respondents) indicating its importance. Facebook follows at 22.0% (45 respondents), while other platforms, such as Google search engine (5.4%), Twitter (2.9%), and YouTube (1.5%), have a lesser impact. "Others," which account for 14.1% (29 respondents), could include niche platforms or alternative online strategies. The dominance of Instagram can be attributed to its visual-centric nature, making it an ideal platform for photographers to showcase their portfolios, promote their work, and engage potential clients. Facebook’s influence highlights its broad user base and capacity for community engagement. These findings suggest that photography businesses in Ibadan

should prioritize Instagram and Facebook for their digital marketing strategies while exploring other platforms to diversify their reach.

These findings demonstrate the critical importance of platform selection in digital marketing strategies for photographers. The following interview excerpts shed light on why these platforms are effective and how photographers in Ibadan utilize them.

“Instagram has been the best platform for me. Its focus on visuals makes it ideal for photography. Clients see my work, and it sparks their interest. I also use Instagram Insights to determine the best times to post and reach more people. This helps me target clients in Ibadan effectively.”
IDI/Male/Photographer/5 Years in Business

This excerpt highlights Instagram’s analytics tools, which provide photographers with data to optimize their content for better engagement and visibility.

“Facebook works well for certain types of clients, especially older ones or those planning family events. While Instagram is great for attracting young, trendy clients, Facebook lets me tap into community groups where I can promote my services for more traditional events.” **IDI/Male/Photographer/3 Years in Business**

The comment emphasizes Facebook’s relevance in engaging a broader demographic, including older clients, by leveraging its community-oriented features.

“What makes Instagram so influential is its ability to combine photos and storytelling. I share high-quality images but also include captions that explain the stories behind them. This way, I connect emotionally with my audience, and that connection often turns into bookings.” **IDI/Female/Photographer/2 Years in Business**

The focus on storytelling alongside visual content underlines the emotional engagement that Instagram facilitates, making it a preferred choice for many photographers.

The qualitative insights reinforce the survey findings by showing how Instagram’s visual-centric nature is a perfect match for photography businesses in Ibadan. Photographers leverage the platform’s features, such as Reels, Stories, and IGTV, to creatively present their work and engage their target audience. Instagram’s algorithm, which favors visually compelling and interactive content, enables photographers to reach younger, digitally-savvy clients.

However, the role of Facebook cannot be ignored. For photographers, it serves as an effective channel for engaging older audiences and promoting community-based events. Facebook’s group features and wide user base make it a complementary platform, particularly for traditional event bookings like family reunions or religious celebrations. Together, these platforms illustrate the importance of tailoring digital marketing strategies to specific audience demographics and preferences. By strategically utilizing Instagram’s visual appeal and Facebook’s community engagement features, photographers in Ibadan can expand their client base and strengthen their market presence. These insights underscore the need for a diverse and adaptive approach to digital marketing, leveraging the unique strengths of multiple platforms to meet varied client needs.

Table 3: Frequency distribution of respondents' responses based on how likely are they to choose a photographer with a strong digital marketing presence (e.g., consistent posts, promotions, client testimonials)

Response	Frequency	Percentage (%)
Likely	65	31.7
Neutral	22	10.7
Unlikely	3	1.5
Very Likely	114	55.6
Very Unlikely	1	.5
Total	205	100

Table 3 reveals that a significant majority of respondents (55.6%, 114 respondents) are "very likely" to choose a photographer with a strong digital marketing presence. An additional 31.7% (65 respondents) indicated they are "likely" to do so, collectively accounting for 87.3% of respondents who view digital marketing presence as an important factor in their choice of a photographer. A smaller portion of respondents were neutral (10.7%, 22 respondents), while very few stated they were "unlikely" (1.5%, 3 respondents) or "very unlikely" (0.5%, 1 respondent) to consider digital marketing presence. This finding underscores the significant influence of digital marketing strategies, such as consistent posts, promotions, and client testimonials, on client acquisition. A strong digital presence likely signals professionalism, reliability, and expertise, making photographers with such a presence more appealing to clients. Substantiating this, a participant comment thus:

"Digital marketing is like a showcase window for your skills. People don't have to guess about your capabilities when they see consistent, high-quality posts on your page. It gives them confidence in your work, even before meeting you." **IDI/Male/Photographer/5 Years in Business**

This comment emphasizes the role of digital marketing in instilling confidence and reducing the uncertainty clients may have before hiring a photographer.

"A strong online presence gives you an edge over others because it shows you're serious about your craft. It's not just about posting pictures but how you interact with your audience—responding to comments, posting testimonials, and sharing behind-the-scenes content. All these make clients feel connected to you." **IDI/Female/Photographer/2 Years in Business**

The focus on interaction and engagement highlights the importance of using digital marketing to build a relationship with potential clients, making them more likely to choose a photographer they feel connected to.

"Clients today research everything online. If they see you're active and consistent, it's a sign of reliability. I've had clients tell me that seeing my posts and reviews on Instagram reassured them that I was the right choice for their events." **IDI/Male/Photographer/4 Years in Business**

This statement underscores the importance of consistency in digital marketing, suggesting that it conveys reliability and professionalism to potential clients.

The insights from these excerpts complement the data in Table 4.4.1, showing that a strong digital marketing presence goes beyond merely attracting attention. It establishes credibility, builds trust, and creates an emotional connection with clients. For photographers in Ibadan, platforms like Instagram and Facebook are not just tools for sharing content but avenues for demonstrating professionalism, showcasing skills, and fostering client relationships.

Furthermore, the effectiveness of digital marketing lies in its ability to cater to diverse client needs. As highlighted in the qualitative data, elements such as high-quality visuals, testimonials, and consistent interaction create a perception of competence and dedication, which significantly influences client decisions. Digital marketing also allows photographers to target specific demographics through tools like sponsored ads and audience insights, making their outreach more strategic and impactful.

Table 4: Frequency distribution of respondents' responses based on whether they have ever been retained as a client due to the photographer's digital marketing efforts (e.g., social media engagement, email newsletters)

Response	Frequency	Percentage (%)
Behind-the-scenes content	7	3.4
Client Testimonials and Reviews	51	24.9
Engagement in social media (e.g., comments, likes, interactions)	8	3.9
High-quality photos and videos of previous work	129	62.9
High-quality photos and videos of previous work; Client Testimonials and Reviews; Behind-the-scenes content	1	.5
High-quality photos and videos of previous work; Client Testimonials and Reviews; Engagement in social media (e.g., comment	1	.5
Promotional Offers and Discounts	8	3.9
Total	205	100

Table 4 highlights that high-quality photos and videos of previous work are the most impactful digital marketing element, as 62.9% (129 respondents) attributed their client retention to this factor. Client testimonials and reviews are the second most influential factor, cited by 24.9% (51 respondents). Other strategies, such as social media engagement (3.9%, 8 respondents), promotional offers and discounts (3.9%, 8 respondents), and behind-the-scenes content (3.4%, 7 respondents), play relatively minor roles. A negligible proportion of respondents mentioned a combination of high-quality photos, client testimonials, and social media engagement or behind-the-scenes content as influential (0.5%, 1 respondent each). These results suggest that showcasing high-quality work and leveraging positive client feedback are the most effective strategies for retaining clients, while other methods may serve as supplementary tools.

The following interview excerpts offer insights into how photographers utilize these elements to retain clients.

“The first thing clients notice is the quality of your work. If they’re impressed with what they see, they’re likely to come back. For me, I ensure every photo I post reflects my growth and commitment to quality because that’s what clients remember.” IDI/Male/Photographer/6 Years in Business

This comment highlights the central role of showcasing high-quality work in retaining clients, aligning with the survey findings that this is the most critical retention factor.

“Testimonials are incredibly powerful. When new clients see positive reviews from others, it reassures them that I’m reliable and consistent. I often ask satisfied clients to leave comments on my posts or tag me in their photos—it creates a ripple effect of trust.”
IDI/Female/Photographer/3 Years in Business

The photographer emphasizes the value of testimonials as a trust-building mechanism, illustrating how digital platforms can amplify client satisfaction to attract and retain more customers.

“Engagement matters just as much as the photos. I make sure to respond to comments, like clients’ posts, and even share their stories on my page. These small gestures make them feel valued and create a stronger connection, which keeps them coming back.” **IDI/Male/Photographer/2 Years in Business**

This excerpt emphasizes the importance of social media engagement in fostering long-term relationships with clients, even if it was not the most cited factor in the survey.

Discussion of Findings

This study aimed to evaluate the effectiveness of digital marketing strategies employed by photography businesses in Ibadan, focusing on client acquisition and retention. The discussion below, structured around the study’s objectives, provides an in-depth analysis of the findings, linking them to relevant literature and the theoretical framework of Relationship Marketing Theory.

The findings of this study reveal that photography businesses in Ibadan employ a range of digital marketing strategies, with social media platforms such as Instagram and Facebook being the most prominent. Among these, Instagram stands out as the most influential platform, with over 54% of respondents citing it as their primary source for discovering and engaging with photography services. This aligns with the Relationship Marketing Theory, which emphasizes creating, developing, and sustaining long-term relationships through trust and mutual value (Berry, 1983). By leveraging Instagram’s visual-centric design, photographers can showcase their portfolios, establish credibility, and build relationships with potential clients.

The dominance of Instagram in client acquisition is supported by findings from Kotler and Keller (2016), who highlighted that platforms that emphasize visual content, such as images and videos, tend to generate higher engagement and conversions. Photographers also use storytelling as a digital marketing strategy, sharing narratives about their projects to forge emotional connections with clients. This practice aligns with the assertion by Peppers and Rogers (2004) that personalized and interactive content strengthens customer relationships and promotes loyalty.

Furthermore, word-of-mouth referrals, which accounted for 58% of the initial client interactions, remain a critical traditional strategy. However, social media platforms often amplify the effect of referrals by providing visual evidence of the quality of services, as evidenced by photographers’ testimonials during in-depth interviews. These insights demonstrate the synergy between traditional and digital marketing approaches, a phenomenon also observed by Morgan and Hunt (1994), who emphasized the importance of integrating relationship-building strategies across multiple channels for maximum effectiveness.

Digital marketing strategies significantly influence client acquisition, with high-quality visuals, client testimonials, and social media engagement being the most impactful factors. Survey results indicate that over 55% of respondents are "very likely" to engage a photographer with a strong digital marketing

presence. These findings are consistent with the Relationship Marketing Theory, which posits that emotional engagement and trust are key drivers of client acquisition (Morgan & Hunt, 1994).

High-quality visuals, cited by 62.9% of respondents, play a pivotal role in attracting clients. This finding aligns with Brown and White (2020), who observed that businesses employing visually compelling content experience up to a 25% increase in client acquisition rates. Similarly, client testimonials, which act as social proof, reassure potential clients of the photographer's reliability and expertise. This reinforces the idea presented by Berry (1983) that building trust through existing relationships fosters new client engagement.

Moreover, the strategic use of Instagram's analytics tools to optimize content timing and audience targeting demonstrates the application of data-driven marketing approaches, which align with Gupta and Mishra's (2022) findings on the effectiveness of precision-targeted digital marketing strategies in client acquisition. By combining visually compelling content with interactive engagement, photography businesses in Ibadan create a robust digital presence that resonates with their target audience.

The findings indicate that consistent high-quality content, social media engagement, and personalized storytelling are critical for client retention. Over 54.6% of respondents reported being retained as clients due to a photographer's digital marketing efforts. The Relationship Marketing Theory, which underscores the importance of sustaining relationships through ongoing engagement and value addition, provides a strong theoretical framework for understanding these dynamics (Berry, 1983).

High-quality content serves as the foundation for client retention, as it reinforces the client's trust in the photographer's skills and professionalism. This aligns with studies like Gupta and Mishra (2022), which found that consistent updates on social media help businesses maintain relevance and visibility among their client base. Social media engagement, such as responding to comments and sharing client-related content, further enhances client loyalty by creating a sense of community and personal connection.

The emphasis on storytelling as a retention strategy highlights the emotional aspect of client relationships. By sharing narratives that showcase the creativity and effort behind their work, photographers make clients feel personally connected to their brand. This approach resonates with McKenna's (1991) assertion that relationship marketing involves engaging clients through meaningful and value-driven communication rather than mere transactional exchanges.

Additionally, while promotional offers and discounts were cited as secondary factors, they provide an avenue for rewarding loyal clients and reinforcing retention. These findings suggest that a multifaceted approach, integrating quality, engagement, and incentives, is essential for retaining clients in the competitive photography industry.

Conclusion

This study concludes that digital marketing strategies are indispensable for the success and growth of photography businesses in Ibadan, particularly in the areas of client acquisition and retention. The findings underscore that platforms like Instagram and Facebook serve as critical tools for showcasing work, building relationships, and establishing credibility in an increasingly digitized market. The study reaffirms the importance of high-quality visual content and client testimonials as fundamental components of effective digital marketing. These elements not only attract new clients but also strengthen trust and loyalty among existing ones, aligning with the principles of Relationship Marketing, which emphasize sustained, trust-based client relationships over transactional engagements.

Additionally, the study highlights that a well-maintained digital presence functions as both a portfolio and a trust-building mechanism, signaling professionalism and reliability to potential clients. Consistent engagement on social media, personalized storytelling, and the strategic use of platforms to foster emotional connections were shown to significantly enhance client retention. However, the study also reveals that gaps remain, as some clients reported insufficient impact of digital marketing efforts, indicating the need for more innovative and tailored strategies.

The study establishes that integrating traditional marketing approaches like word-of-mouth with modern digital strategies is essential for achieving sustainable success in the photography industry.

Photography businesses in Ibadan must continuously adapt to evolving digital trends, leveraging relationship-building and visual storytelling to stay competitive and achieve long-term growth in a dynamic market landscape.

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Breaking Gender Barriers: An Exploratory Study of Socio-Cultural and Economic Factors Influencing Occupation Choice in Ibadan Metropolis

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Abstract

This qualitative study explored the socio-cultural and economic factors influencing individuals' decisions to pursue occupations traditionally dominated by the opposite gender in Ibadan Metropolis. Guided by Parsons' theory of role socialization, this research explores the experiences of 42 individuals working in male-dominated (butchering, driving, cobbling) and female-dominated (hair styling, catering, tie and dye) occupations. The study was descriptive design, applied purposive and multistage sampling. The findings revealed that family background, parental support, and economic necessity are significant factors influencing occupation choice. Cultural and religious values also shaped job characteristics and opportunities in gendered occupations. However, societal values and norms were major challenges for individuals who chose to pursue non-traditional occupations, and this manifested in the form of stigma, discrimination, and marginalization. This study contributes to knowledge of the complex interplay between socio-cultural and economic factors influencing occupation choice. The results highlight the need for policies and programs that promote gender equality, challenge traditional gender roles, and provide support for individuals pursuing non-traditional occupations. Ultimately, this research offered strategies for promoting gender equality and empowerment in the workplace, and contributed to the development of more inclusive and equitable societies.

Keywords: Occupation choice, gender roles, socio-cultural factors, economic factors, gender equality.

Introduction

Occupational choices are a crucial aspect of an individual's life, influencing not only their economic stability (Krumboltz, 2020) but also their social identity and personal fulfillment (Erikson, 2022). These choices can significantly impact an individual's well-being, career satisfaction, and overall quality of life (Diener et al., 2020). Traditionally, certain occupations have been dominated by one gender, with societal norms and expectations playing a significant role in shaping these occupational segregation patterns (Reskin & Roos, 2019). For instance, occupations such as nursing and teaching have historically been associated with women, while engineering and construction have been dominated by men (Betz & Fitzgerald, 2021).

Despite the progress made towards gender equality, many individuals, particularly in developing countries like Nigeria, still face significant challenges when pursuing occupations traditionally dominated by the opposite gender (Acker, 2021). These challenges can include social stigma, lack of support, and limited access to resources and opportunities (World Bank, 2023). In the Ibadan Metropolis, strong socio-cultural and economic factors influence occupational choices, often limiting individuals to traditional gender roles (OECD, 2023). This study seeks to explore the experiences of individuals working in non-traditional occupations, with a focus on understanding the complex interplay between socio-cultural and economic factors that shape their occupational choices (Lent et al., 2020).

In Nigeria, research has shown that socio-cultural factors, such as patriarchy and gender stereotypes, can limit women's participation in certain occupations (Aina, 2019; Okeke-Ihejirika, 2020). In the Ibadan Metropolis, strong socio-cultural and economic factors influence occupational choices, often limiting individuals to traditional gender roles (OECD, 2023; Adesina, 2022). This study seeks to explore the experiences of individuals working in non-traditional occupations, with a focus on understanding the complex interplay between socio-cultural and economic factors that shape their occupational choices (Lent et al., 2020; Fapohunda, 2021).

The lack of understanding of these factors and their impact on individuals' decisions to pursue non-traditional occupations affects their well-being (World Health Organization, 2022), career advancement (Betz & Fitzgerald, 2021), and overall quality of life (Diener et al., 2020; Olowookere, 2022). By

investigating this issue, this study aims to contribute to the development of policies and programs that promote gender equality and empowerment in the workplace (United Nations, 2024; Adegoke, 2023).

Study Objectives

The following specific objectives are captured in the study.

1. Investigate the socio-cultural factors (family background, parental support, cultural and religious values) that influence individuals' decisions to pursue occupations traditionally dominated by the opposite gender in Ibadan Metropolis.
2. Examine the impact of societal values on individuals who choose to pursue non-traditional occupations, including the forms of stigma, discrimination, and marginalization they experience.
3. Explore the role of economic factors (financial needs, job security, and career advancement opportunities) in shaping individuals' decisions to pursue occupations traditionally dominated by the opposite gender.

Literature Review

Socio-cultural Factors

Socio-cultural factors play a significant role in shaping individuals' decisions to pursue occupations traditionally dominated by the opposite gender. These factors can either support or hinder career choices, influencing individuals' perceptions of themselves and their career aspirations.

Family Background

Family background is a crucial factor in shaping career aspirations. Parental occupation and socioeconomic status can impact children's career choices, with research suggesting that parental influence can shape children's career interests and aspirations (Lent et al., 2020). For instance, children from families with a strong emphasis on education and career development may be more likely to pursue non-traditional occupations.

Parental Support

Parental support is also vital in promoting career development, particularly for women in male-dominated fields. Studies have shown that parental encouragement and support can enhance self-efficacy and outcome expectations, leading to more informed career decisions (Betz & Fitzgerald, 2021). Conversely, lack of parental support can hinder career progress and limit career choices.

Cultural Values

Cultural values and norms can either support or hinder career choices, with societal expectations dictating traditional gender roles (Acker, 2021). For example, some cultures may view certain occupations as more suitable for one gender over the other, influencing individuals' career choices. Cultural values can also perpetuate stereotypes, limiting career choices for individuals who wish to pursue non-traditional occupations.

Religious Values

Religious values shape career choices by influencing perceptions of gender roles and responsibilities. Some religions may emphasize traditional gender roles, while others may promote equality and flexibility in career choices. Research suggests that religious values can impact career choices, particularly for individuals from conservative backgrounds (Fapohunda, 2021).

Impact on Career Choices

The socio-cultural factors can impact career choices in various ways:

1. **Shaping Self-Efficacy:** Family background and parental support can influence an individual's self-efficacy, which in turn affects their career choices.

2. **Influencing Outcome Expectations:** Cultural and religious values can shape outcome expectations, leading individuals to choose careers that align with societal norms.
3. **Perpetuating Stereotypes*:** Societal expectations and cultural values can perpetuate gender stereotypes, limiting career choices for individuals who wish to pursue non-traditional occupations.

Impact of Societal Values on Individuals in Non-Traditional Occupations

Societal values play a significant role in shaping individuals' experiences in non-traditional occupations. Individuals who choose to pursue careers that defy traditional gender roles often face stigma, discrimination, and marginalization.

Stigma

Stigma refers to the negative attitudes and stereotypes associated with non-traditional occupations. Research suggests that individuals in non-traditional careers may experience social stigma, including negative comments, stereotyping, and prejudice (Glick & Fiske, 2022). For example, men in nursing may face stereotypes about their masculinity, while women in engineering may face assumptions about their technical abilities. In Nigeria, similar stigma exists, with cultural expectations often dictating traditional gender roles (Aina, 2019).

Discrimination

Discrimination refers to the unfair treatment of individuals based on their occupation or gender. Individuals in non-traditional occupations may experience discrimination in the workplace, including limited opportunities for advancement, lower pay, and lack of respect from colleagues (Reskin & Roos, 2019). In Nigeria, women in male-dominated fields often face discriminatory practices, including biased hiring and promotion processes (Okeke-Ihejirika, 2020).

Marginalization

Marginalization refers to the exclusion or isolation of individuals from mainstream society. Individuals in non-traditional occupations may experience marginalization, including feelings of isolation, lack of support, and limited access to resources (Acker, 2021). In Nigeria, marginalization of individuals in non-traditional occupations can be exacerbated by cultural and societal expectations (Fapohunda, 2021).

Impact on Individuals

The impact of societal values on individuals in non-traditional occupations can be significant. Research suggests that stigma, discrimination, and marginalization can lead to:

1. **Lower job satisfaction:** Individuals in non-traditional occupations may experience lower job satisfaction due to negative attitudes and treatment from colleagues and supervisors (Betz & Fitzgerald, 2021).
2. **Increased stress:** Individuals in non-traditional occupations may experience increased stress due to the pressure to prove themselves and overcome stereotypes (Krumboltz, 2020).
3. **Limited career advancement:** Individuals in non-traditional occupations may experience limited career advancement opportunities due to biased hiring practices and lack of support (Reskin & Roos, 2019).

Societal values play a significant role in shaping individuals' experiences in non-traditional occupations. Stigma, discrimination, and marginalization can have a negative impact on individuals' job satisfaction, stress levels, and career advancement opportunities. Understanding these issues can help promote more inclusive and equitable workplaces.

Economic Factors Influencing Occupational Choices

Economic factors play a significant role in shaping individuals' decisions to pursue occupations traditionally dominated by the opposite gender. Financial needs, job security, and career advancement opportunities are key economic factors that influence occupational choices.

Financial Needs

Financial needs are a crucial consideration for individuals when choosing an occupation. Research suggests that individuals are more likely to pursue occupations that offer financial stability and security (Lent et al., 2020). In Nigeria, financial needs are a significant factor in occupational choices, with many individuals prioritizing jobs that offer a stable income (Fapohunda, 2021).

Job Security

Job security is another important economic factor that influences occupational choices. Individuals are more likely to pursue occupations that offer job security and stability (Betz & Fitzgerald, 2021). In Nigeria, job security is a major concern for many individuals, particularly in the context of economic uncertainty (Adegoke, 2023).

Career Advancement Opportunities

Career advancement opportunities are also a key economic factor that influences occupational choices. Individuals are more likely to pursue occupations that offer opportunities for career advancement and professional growth (Krumboltz, 2020). In Nigeria, career advancement opportunities are an important consideration for individuals, particularly in male-dominated fields (Okeke-Ihejirika, 2020).

Impact on Occupational Choices

The impact of economic factors on occupational choices can be significant. Research suggests that economic factors can influence individuals' decisions to pursue occupations traditionally dominated by the opposite gender in several ways:

1. Financial incentives: Occupations that offer financial incentives, such as higher salaries or benefits, may attract individuals who might not have otherwise considered them (Reskin & Roos, 2019).
2. Job security: Occupations that offer job security may attract individuals who value stability and predictability (Betz & Fitzgerald, 2021).
3. Career advancement opportunities: Occupations that offer opportunities for career advancement may attract individuals who value professional growth and development (Krumboltz, 2020).

Economic factors play a significant role in shaping individuals' decisions to pursue occupations traditionally dominated by the opposite gender. Financial needs, job security, and career advancement opportunities are key economic factors that influence occupational choices. Understanding these factors can help promote more inclusive and equitable labor markets.

Theoretical Framework

This study is guided by Talcott Parsons' theory of role socialization, which posits that individuals learn and internalize social roles through the process of socialization (Parsons, 1951, as cited in Johnson & Smith, 2023). According to Parsons, socialization is a critical process that shapes individuals' values, norms, and behaviors, including their occupational choices (Parsons & Shils, 1951, as cited in Turner, 2023). The theory of role socialization suggests that individuals' occupational choices are influenced by their social environment, including their family, culture, and societal norms (Merton, 1957, as cited in Garcia, 2023). This framework is suitable for this study because it highlights the complex interplay between socio-cultural and economic factors that shape individuals' occupational choices.

The theory's emphasis on socialization also underscores the importance of understanding how individuals learn and internalize social roles, including those related to occupation and gender (Weitzman,

1979, as cited in Martin, 2023). As contemporary research notes, socialization is a lifelong process that shapes individuals' identities and behaviors (Johnson, 2023). In the context of occupational choices, socialization can influence individuals' perceptions of suitable careers and their ability to navigate non-traditional occupations.

The theory of role socialization can be applied from the context of key objectives in the study.

1. Family background: The theory suggests that family background plays a significant role in shaping individuals' occupational choices. This study explores how family background influences individuals' decisions to pursue non-traditional occupations.
2. Cultural and religious values: The theory highlights the importance of cultural and religious values in shaping individuals' values and behaviors. This study examines how cultural and religious values influence occupation choice and opportunities in gendered occupations.
3. Societal norms and expectations: The theory emphasizes the impact of societal norms and expectations on individuals' behaviors and choices. This study explores how societal values and norms shape individuals' experiences in non-traditional occupations.

The theory of role socialization in this study helps to gain in-depth understanding of the complex interplay between socio-cultural and economic factors that shape individuals' occupational choices. The framework informs strategies for promoting gender equality and empowerment in the workplace.

Methodology

Research Design

The study employed a descriptive design to explore the socio-cultural and economic factors influencing individuals' decisions to pursue occupations traditionally dominated by the opposite gender. A descriptive design is a research approach that aims to accurately describe a phenomenon or situation without manipulating variables or testing hypotheses (Creswell, 2014).

Setting out the Descriptive Design

In this study, the descriptive design was set out in the following ways:

1. Defining the phenomenon: The study described the socio-cultural and economic factors influencing individuals' decisions to pursue occupations traditionally dominated by the opposite gender.
2. Selecting the sample: The study used purposive and multistage sampling techniques to select 42 individuals working in male-dominated (butchering, commercial driving and cobbling) and female-dominated occupations (catering, hair styling and tying and dying).
3. Data collection: The study used in-depth interviews to collect rich and detailed data from the participants.
4. Data analysis: The study used thematic analysis to identify patterns and themes in the data, providing a detailed description of the phenomenon.

Characteristics of Descriptive Design in the Study

The descriptive design in this study exhibited the following characteristics:

1. Exploratory nature: The study explored the socio-cultural and economic factors influencing individuals' decisions to pursue occupations traditionally dominated by the opposite gender.
2. Qualitative approach: The study used qualitative data collection and analysis methods to gain a deeper understanding of the phenomenon.
3. Contextual understanding: The study provided a contextual understanding of the phenomenon, taking into account the social, cultural, and economic context of the participants.

Sampling Techniques

The study used purposive and multistage sampling techniques to select 42 individuals working in male-dominated (butchering, driving, cobbling) and female-dominated (hair styling, catering, tie and dye) occupations.

Description of Study Area: Ibadan

Ibadan is the capital city of Oyo State, located in the southwestern region of Nigeria (Afolabi, 2022). It is the third-largest city in Nigeria, with a population of over 3 million people (National Population Commission, 2022). Ibadan is a major urban center, known for its rich cultural heritage, historical landmarks, and vibrant economy (Olaniyan, 2021). The city is home to several educational institutions, including the University of Ibadan, one of the oldest and most prestigious universities in Nigeria (Adegoke, 2023). Ibadan's economy is diverse, with a mix of formal and informal sectors (Fapohunda, 2021). The city is known for its markets, industries, and small-scale enterprises, which provide employment opportunities for many residents (Aina, 2019). However, like many other cities in Nigeria, Ibadan faces challenges related to poverty, unemployment, and inequality, which can impact individuals' occupational choices and experiences (Okeke-Ihejirika, 2020).

Results and Discussion

This study set out to examine some of the social, cultural and economic factors which guided the engagement of members of a particular gender in a dominated occupation. Thematic constructs were derived at the level of each factor.

Demographic Characteristics

Table 1: Socio-Demographic Characteristics

Variables	Male Dominated Occupation		Female Dominated Occupation		Government official		Total	
	Freq. N=19	Percent. %=100	Freq. N=19	Percent %=100	Freq. N=4	Percent %= 100	Frequency N=42	Percentage %=100
Age								
18-28	3	15.8	4	21	--	--	7	16.7
29-39	6	31.6	10	52.6	--	--	16	38.1
40-49	10	52.6	5	26.4	4	100	19	45.2
MaritalStatus								
Single	7	36.8	5	26.4	--	--	12	28.6
Married	10	52.6	3	15.8	4	100	17	40.6
Separated	2	10.6			--	--	13	30.9
Religion								
Christianity	12	63.2	8	42.2	2	50	25	59.5
Islam	7	36.8			2	50	17	40.5
Educational qualification								
Primary education	6	31.6	3	15.8	--	--	9	21.4
Secondary	10	52.6	6	31.6	--	--	16	38.1
Tertiary education	3	15.8	10	52.6	4	100	17	49.5
Post graduate		--			--	--	--	--
Years of work experience								
5-9	6	31.6	4	21	--	--	10	23.8
10-14	2	10.6	6	31.6	--	--	8	19
15-19	7	36.8	5	26.4	4	100	16	38.1
20 years above	4	21	4	21	--	--	8	19
Ethnic affiliation								
Yoruba	15	79	14	73.6	3	75	32	76.2
Igbo	4	21	4	21	1	25	9	21.4
Other ethnic groups	--	--	1	5.4	--	--	1	2.4

Source: Author's Fieldwork 2022

The study examined the socio-demographic characteristics of participants in male and female dominated occupations. The age distribution showed that 38.1% of participants were between 29-39 years, 45.2% were between 40-49 years, and 16.7% were between 18-28 years. Notably, entrants in male-dominated occupations were mostly between 40-49 years (52.4%), while those in female-dominated occupations were mostly between 29-39 years (42.9%).

In terms of marital status, 78.6% of participants were married with children, 14.3% were single, and 7.1% were separated. The majority of participants in both male and female dominated occupations were married. Regarding religious affiliation, 52.4% of participants practiced Christianity, while 47.6% practiced Islam.

The educational qualification of participants revealed that 47.6% had secondary education certificates, 31% had tertiary education certificates, and 11.9% had primary education certificates. The majority of participants had some form of educational qualification, suggesting that their occupational choices were rational and driven by economic needs.

The years of work experience showed that 28.6% of participants had 5-9 years of experience, while 21.4% had 20 years or more of experience. Most entrants in both male and female dominated occupations had spent at least 5 years in their occupation, indicating significant experience.

Finally, the ethnic affiliation of participants showed that 78.6% were of Yoruba origin, 14.3% were of Igbo origin, and 7.1% were from other ethnic groups. The study suggests that while occupational boundaries are becoming more fluid in terms of gender, ethnic boundaries still exist. Overall, the study provides insights into the socio-demographic characteristics of participants in male and female dominated occupations, highlighting the complexities of occupational choice and participation.

Socio-cultural factor

- Family background

This study revealed that the family background was a major factor determining people's entrance into new occupations. Family background plays a significant role in influencing entry into new occupations, as seen through both socio-cultural and socio-demographic factors. This suggests that early exposure to entrepreneurial activities and business acumen can shape career choices, even if indirectly. Similarly, family traditions and the professional environment one grows up in can significantly influence career decisions, especially in occupations that are considered less conventional for one's gender.

A female participant, responding to enquiries, said this:

My father worked as clerk in one of the Nigerian National oil companies. My mother traded in clothing materials and it is usually on small scale which used to attract large customers. They were very successful in their chosen careers. But, along the way, things turned out differently and I had to be here. My job was not influenced by my parents. They actually invested in my education and wanted the best for me; though my mother's petty trading prepared me for this. IDI/Female/29/Commercial driver/ 2022.

On the same point of inquiry, another participant held:

My father was a taxi driver and he spent more than 30 years in the occupation. It is hereditary occupation because my grandfather was also a driver though in heavy duty trucks. So, in a way, I guess you can say that I have always had interest in driving due to my childhood exposure to professional drivers. Though commercial driving is just a starting point, I hope to raise enough money over to go into the real transport business. IDI/Female/30/Commercial driver/ 2022

These participants underscore the importance of socio-cultural factors in career choices. Familial occupation, parental influence and education are all pivotal in determining the entry into new occupations. While some individuals follow traditional paths set by their families, others adapt to changing circumstances by leveraging the skills and values imparted by their upbringing. According to Ceka&Murati (2016), empirical studies have demonstrated that children consistently absorb and assimilate the values and conduct of their parents, which in turn mould their own convictions, values, attitudes, and actions, which in turn influence their post-school achievements. Adelusi (2013) similarly

found that parents and guardians may either encourage or discourage their children from choosing a certain career path. This is especially true when it is evident that the home is the child's first social group to interact with, and parents are the most significant influence on their wards' or children's career plans, aspirations, and occupational expectations. Also, in terms of values, parents were influenced by the prevailing norms, values, and beliefs in their traditional home front in compelling their wards to choose a certain career.

Some home front societies in this part of the world do not have regards for the education of the girl-child, and as a result the girl-child is compelled to look for suitors rather than making a professional career (Effiom and Petters, 2019). Parental values and traditional norms/belief was seen to influence parents in compelling their wards to choose a career. According to a study by Liu, McMahon & Watson (2015) on the ways in which parents influence career development in children, consciously or subconsciously, six major ways were established. The first respondent's career choice was more about adaptability and utilizing skills gained indirectly, showing flexibility in career adaptation due to socio-economic challenges. The mother's experience in petty trading indirectly prepared the respondent for her current job, suggesting that the skills and mindset developed in a trading environment were transferable to her current occupation. The second respondent's choice was heavily influenced by tradition and familial occupation, illustrating a more direct socio-cultural influence on career path. The respondent views driving as a hereditary occupation, influenced by her father and grandfather's professions. Her interest in driving stemmed from childhood exposure to the profession, indicating a strong familial and cultural influence on career choice. The notion of hereditary occupation reflects socio-cultural norms where children often follow in their parents' professional footsteps. Her career choice is seen as a stepping stone toward a larger goal in the transport business, showcasing ambition and a strategic approach to career development.

The above views pointed to the fact that female participants were largely acquainted with occupations of their parents which were used to achieve economic survival of their families. Research by Law and Arthur (2003) revealed that demographic factors, such as the mother's occupation, had a significant impact on students' decisions to choose or not choose nursing. Additionally, Love's (2009) study discovered that parents had a significant influence on their kids' awareness of and preparation for their careers. According to Love, parents have a significant impact on how their children view themselves and develop their identities. A student's career choice was primarily influenced by having both of their parents work in the same field, according to Lappel, Williams, and Waldauer (2001). This implies that parents serve as role models for their kids, influencing the way they think, view the world, and envision themselves as adults.

- Parental support

According to Simon and Gloria's (2010), the most important factors influencing career choice were perceived parental support, perceived parental career concerns about welfare and prestige, and perceived parental barriers to career choice. In the same direction, similar questions were asked from males in female-dominated occupations to confirm or disprove this.

A male participant responding to the same question said:

My father was a civil servant and my mother survived by tie and dye occupation. My father worked as a health officer and my mother worked as textile artisan. I took after my mother's occupation. She was well known as tie and dye artisan. I was not brilliant enough for higher education, so artisan dye occupation is the way for me. It was weird at first being a male tie and dye. IDI/Male/38/Tie and dye artisan/2024

Another male participant in tie and dye artisan also responded:

For me, my father was a teacher and my mother worked in the civil service more than thirty years in service. As young lad many years ago, I spent a lot of time around my grandmother, who also was tie and dye and artisan. So, my interest has always been influenced by childhood exposure to tie and dye, my mom's job and dad's had little influence. I took after my grandmother's occupation. IDI/Male/40/Tie and dye artisan /2024

There is interplay of socio-cultural and demographic factors in career choices. Parental influence, early exposure to specific professional environments, and socio-cultural perceptions of gender roles are crucial in guiding individuals toward particular occupations. For males in a female-dominated occupation like tie and dye, overcoming initial socio-cultural discomfort and recognizing the occupation value were key factors facilitated by their backgrounds and family influences. This highlights the importance of familial support and exposure in breaking traditional gender norms in occupational choices. The first participant acknowledges that his mother was textile artisan (tie and dye), indicating a strong familial influence. His choice of the occupation was due to his self-perceived academic limitations, suggesting that personal academic abilities also play a role in career determination. Growing up in a family where parents and grandparent are in mixed occupation likely normalized the occupation choice, making it a natural choice. The initial discomfort with being a male textile artisan highlights socio-cultural perceptions and gender norms within certain occupations. However, it also suggests a shift in these norms, as the respondent pursued textile artisan despite the gender expectations. As per the second participant, his interest in tie and dye was heavily influenced by his exposure to his grandmother's job. Spending considerable time around the grandmother during his childhood helped form his perception about the occupation influencing his career choice. The influence of parents' occupations or close relatives shows how socio-demographic factors, such as parental professions and early exposure, shape career aspirations. The mother's role as artisan likely provided a positive role model and reinforced the legitimacy and respectability of the artisan occupation. Familial occupational influence was commonly expressed by participants especially drawing the perceived influence of parents' occupations.

Drawing from the above, it is evident that some entrants followed the line of occupation as their parents, though it was not always the case for others. This indicates that the position in Liu, McMahon & Watson (2015) is relevant to the study. Research from a wide range of settings lends credence to the idea that a person's family influences their career choice (Anthony & Bimbo, 2012). This is further clarified more by Williams (2016), who asserts that a parent's job has an unconscious but internal influence on a child's career decisions. Parents' approaches to this can either encourage teenagers to consider a wide range of possible careers or force them to follow a path they believe will win their parents' approval.

- **Peers and Significant Others**

Peer influence has been proven to determine the life pattern of young adults across the world in both conventional and non-conventional sectors. Aside criminal endeavour, influence of peer, family and significant others are huge contributory factor to the choice of job, occupation to be done. The study revealed that peer influence was a consideration for many undertaken vocations, trade and jobs in Ibadan. Responding to this assertion, a participant said that:

It was my neighbour that encouraged me into this occupation. When I was in school, my neighbor used to teach his wife how to drive. Initially I was against the occupation. He told me that one day I would drive, but I rejected it just because of the social stigma and public interpretation. I later made up my mind since economic situation was difficult to survive. IDI/Female/33/Commercial driver/2022

Further in the discussion, participants were asked to discuss the types of occupations which were engaged by their peers and to show how such played impact on their choice of occupational engagement.

A participant confirmed such influence as thus:

I have a friend who is a textile artist. He encouraged me to build a skill as male tie and dye artisan. The occupation has been beneficial a lot to me. At first, I resisted the idea because I thought textile artisans are women but I now know better than before. IDI/Male/48/Tie and dye artisan/2024

Not all participants were encouraged by their friends as there were others who were motivated by the actions of other people who were breaking gender stereotypes in such occupations.

A participant confirmed this much:

Whenever I go out and see these female riders of tricycle, I was always challenged. I said to myself one day I shall do this job to survive. Prior to my engagement in tricycle occupation, I was jobless. I was encouraged because other females also do the job. I knew I was not alone and I had to survive. IDI/Female/43/Commercial driver/2022

Another participant opined thus:

My friend was a footballer. She played in the local league in Nigeria which comes with its own challenges. I was encouraged by her, never to mind what people say about my job. IDI/Female/25/Commercial driver/2022

Peer influence and encouragement from significant others are pivotal in guiding individuals towards occupations that may initially seem unconventional or stigmatized. The influence of peer cannot be underrated in career choices. Faiter (2013) discovered that students were influenced by their peers in a variety of ways. These ways include peer counseling, peer interaction, peer advice and peer relationships. Economic necessity often acts as a catalyst, pushing individuals to accept and pursue these occupations despite societal or personal reservations. Observing peers and significant others successfully engaging in these occupations provides motivation and helps in overcoming societal and cultural barriers. However, the nature of influence varies: direct encouragement from friends or neighbors, and indirect influence through role modeling.

Gender stereotypes play a significant role in shaping initial resistance to certain occupations, but peer influence can help in overcoming these stereotypes. The responses show the significant impact of peer influence and significant others on career choices, particularly in non-conventional occupations. Peer encouragement and role modeling are crucial socio-cultural factors that help individuals navigate and overcome societal and gender norms. Economic pressures further compel individuals to adopt occupations that may initially be resisted due to societal stigma. This further identifies the importance of supportive social networks and visible role models in facilitating entry into new and non-traditional occupations.

Participants who crossed into occupations that are not traditionally dominated by their gender often need support from their peers whose encouragement serves to help them to build confidence in the occupation. It is noteworthy that most of these participants, gained confidence due to examples from friends in the same occupation, encouragement from parents and personal ability to believe in self capabilities. This aligns with Mtemeri (2020) who found that career education, which comes from peers and friends, was influential in students' choices of careers. However, there are times when peer influence is against the choice of occupation of the participants. This shares semblance with the finding of Alika (2010) who found that there was no significant relationship between peer group influence and career choices in humanities among secondary school adolescents.

This was confirmed by a participant:

My peer was really disturbing with their mockeries. They called me ridiculous names. It was very difficult during my early years of engagement due to imposed ridicules and exclusion from others. But I don't care now. IDI/Female/40/Cobbler/2022

Stigmatization is a regular occurrence at first for entrants. Gender role socialization is a key part of the African culture which perpetuates the traditional demarcation of economic activities into male and female. It is the same channel of explanation expressed by Talcott Parsons in his analysis of gender role socialization.

Socio-economic factor

The study established that the high income for female in a male dominated occupation and vice versa was one of the socio-economic factors enhancing high prospects into the different occupations. Women's own stereotyped expectations of gender roles are another psychological barrier preventing them from realising their potential in fields where men predominate. Typical inquiries concerning women's proficiency and

gender-role beliefs contribute to their feelings of inadequacy, low self-efficacy, and low self-confidence (Damaske, 2011). According to Du Plessis and Barkhuizen (2012), women must exhibit non-natural behaviours in order to succeed in environments where men predominate. Akingbade (2010) stated that women are at a disadvantage because they are forced to adopt aggressive male traits and competitive interactional styles in their organisational contexts.

(1) Prospect for higher income

In the course of the study, opinions were sampled to support this position. A female butcher had this to say:

My mother was the major influence on my decision to be a butcher. This was mainly because my grandmother was a butcher during her life time. And, during my own investigations, I got to know that butchers actually earn a lot of money over time even it is largely regarded as a man's job. But I needed the money at the time and I've not switched jobs since. I believe that I am doing better than my peers in other occupations to a large extent. IDI/Female/38/Butcher/2022

A male participant said:

Although my father worked with Oyo state government in the ministry of establishment, my mother was the one that encouraged me to learn tie and dye skill. I earn a lot of money and have increased chances to attract customers. So, beyond being born into a family of textile trade, I was also aware of the prospect for greater income in the future. As a man, money is central to my decisions. IDI/Male/32/Tie and Dye artisan/2024

Both respondents cited the prospect of greater income as a significant motivator for their career choices. Family influence plays a crucial role in guiding their decisions—whether through direct encouragement or through familial tradition. The female butcher overcame gender norms associated with her profession, motivated by the need for a stable and lucrative income. The male textile artisan was influenced by his family's trade background and the additional financial benefits and opportunities associated with textile trade. The prospect of greater income is a powerful socio-economic factor influencing career choices. For the female butcher, the need for financial stability and the influence of family tradition were key motivators. For the male textile artisan, the potential for higher earnings and opportunities, combined with parental encouragement played a significant role. Both cases demonstrate how socio-cultural support and economic incentives can drive individuals to enter new occupations, even those that might challenge traditional gender roles or societal expectations.

Summarily, the promise of greater income is one of the factors that encouraged participants to get involved in gender occupations and this factor was consistent for participants. Greater income is a significant factor that can encourage participation in gender-nontraditional occupations. Blau and Kahn (2017) demonstrated that women are increasingly moving into higher-paying male-dominated professions, driven by the desire to reduce the gender wage gap and improve their economic standing. The National Bureau of Economic Research found that economic incentives play a crucial role in occupational choice, with higher wages in non-traditional fields reducing the gender gap in these professions (Goldin, 2014)

Breakdown of Results into Social, Cultural, and Economic Factors

The study identified various factors that influence individuals' decisions to pursue occupations traditionally dominated by the opposite gender. These factors can be categorized into social, cultural, and economic factors.

Social Factors

1. Family background: Participants' family background and parental influence played a significant role in shaping their career choices. Many participants were influenced by their parents' occupations or family traditions.

2. Parental support: Parental support and encouragement were crucial in guiding individuals towards certain occupations. Participants who received support from their parents were more likely to pursue careers in non-traditional occupations.
3. Peer influence: Peer influence and encouragement from significant others also played a significant role in shaping career choices. Participants who had friends or peers in the same occupation were more likely to be motivated and confident in their career choices.

Cultural Factors

- Gender stereotypes: Cultural gender stereotypes and societal expectations played a significant role in shaping participants' career choices. Many participants faced stigma and discrimination due to societal norms and expectations.
- Traditional occupation: Some participants followed traditional occupations passed down through their families, highlighting the influence of cultural heritage on career choices.
- Societal norms: Societal norms and expectations around gender roles influenced participants' career choices, with some participants facing challenges in pursuing occupations not traditionally associated with their gender.

Economic Factors

1. Prospect of higher income: The prospect of higher income was a significant motivator for participants to pursue careers in non-traditional occupations. Many participants were drawn to occupations that offered better financial prospects.
2. Economic necessity: Economic necessity also played a role in shaping career choices, with some participants pursuing occupations due to financial needs or stability.
3. Financial stability: The desire for financial stability and security was a key driver for participants to pursue careers in non-traditional occupations.

These factors highlight the complex interplay between social, cultural, and economic factors that influence individuals' decisions to pursue occupations traditionally dominated by the opposite gender. Understanding these factors can help policymakers and stakeholders develop strategies to promote greater inclusivity and diversity in the workforce.

Theoretical Discussion of Findings

Talcott Parsons' theory of role socialization provides a valuable framework for understanding the findings of this study. According to Parsons, role socialization is the process by which individuals learn and internalize the norms, values, and behaviors associated with specific social roles. In the context of occupational choices, role socialization can shape individuals' perceptions of what careers are suitable for their gender.

The study's findings suggest that participants' occupational choices were influenced by their family background, peer groups, and socio-economic factors. For instance, the female butcher's decision to enter a male-dominated occupation was motivated by her family's tradition and the prospect of higher income. Similarly, the male textile artisan's choice was influenced by his family's trade background and the potential for financial gain. These examples illustrate how role socialization can shape individuals' career aspirations and choices.

However, the study also highlights the complexities of role socialization in modern societies. Participants' decisions to enter non-traditional occupations were often driven by economic necessity and the desire for financial stability, rather than solely by traditional gender roles. This suggests that individuals are capable of adapting and redefining their roles in response to changing socio-economic circumstances.

Furthermore, the study's findings on peer influence and significant others underscore the importance of social networks in shaping career choices. Participants who entered non-traditional occupations often

cited encouragement from friends or family members as a key factor in their decision. This highlights the role of social support in facilitating individuals' transition into new occupations and challenging traditional gender norms.

In terms of Parsons' theory, the study's findings suggest that role socialization is a dynamic process that involves both the internalization of traditional norms and values, as well as the adaptation to new socio-economic realities. While traditional gender roles continue to influence occupational choices, individuals are also capable of redefining their roles and pursuing careers that may not have been traditionally associated with their gender.

Overall, the study's findings provide valuable insights into the complex interplay between socio-cultural factors, economic incentives, and individual agency in shaping occupational choices. By applying Parsons' theory of role socialization, we can better understand how individuals navigate and negotiate their roles in society, and how these roles are shaped by a complex array of factors.

Conclusion

This study highlights the complex interplay between social, cultural, and economic factors that influence individuals' decisions to pursue occupations traditionally dominated by the opposite gender. Family influence, peer support, and economic necessity were found to be crucial factors in shaping career choices. The findings suggest that individuals are more likely to pursue non-traditional occupations when they have supportive social networks, visible role models, and economic incentives. As noted by Liu, McMahon, and Watson (2015), family influence plays a significant role in shaping career choices, while Failer (2013) emphasizes the importance of peer influence in career decisions. Furthermore, economic factors such as the prospect of higher income (Blau & Kahn, 2017) and financial stability (Goldin, 2014) are key drivers of career choices. These findings have implications for policymakers and stakeholders seeking to promote greater inclusivity and diversity in the workforce. By understanding the complex interplay of social, cultural, and economic factors, we can develop targeted strategies to support individuals in pursuing non-traditional occupations and promote a more equitable labor market.

Recommendations

Based on the findings of this study, the following recommendations are proposed.

1. **Policymakers and Stakeholders:** Develop targeted strategies to support individuals in pursuing non-traditional occupations, promoting greater inclusivity and diversity in the workforce.
2. **Career Guidance:** Incorporate career guidance programs that highlight the importance of supportive social networks and visible role models in shaping career choices.
3. **Economic Incentives:** Offer economic incentives, such as scholarships or training programs, to encourage individuals to pursue non-traditional occupations.
4. **Family and Peer Support:** Encourage family members and peers to support individuals in pursuing non-traditional occupations, recognizing the significant role they play in shaping career choices.
5. **Promoting Equitable Labor Market:** Implement policies and programs that promote a more equitable labor market, addressing the complex interplay of social, cultural, and economic factors that influence career choices.

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Bridging Scholarly Gaps: Empowering PhD Candidates for Global Labour Market Skill Competitiveness in Southwest Nigeria

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Abstract

Universities across Southwest Nigeria experience a persistent shortage of PhD professionals who excel at international standards thus endangering national intellectual position worldwide. This research investigates regional barriers to PhD candidate competitiveness at a global level given both the knowledge economy expansion and the Fourth Industrial Revolution requirements. This study bases its analysis on Human Capital Theory through qualitative exploration to identify significant shortcomings in educational curriculums and international mentee connections and digital research practices and technological advancement coordination. The doctoral training frameworks examined in Lagos, Oyo and Osun States face difficulties considering intellectual isolation together with traditional pedagogical methods and weak international partnership programs. Doctoral program outputs failed to meet practical innovation requirements following funding issues and general administrative delays. Analysis reveals doctoral education in Nigeria lacks the modern learning approaches which should involve artificial intelligence integration and interdisciplinary supervision or innovation facilities. Current policy guidelines depict rigidity and unresponsiveness alongside failing to match the specifications of modern global employment requirements. Current policies require radical transformation into systems which emphasize hybrid learning and global research movement, entrepreneurial development and connection programs between universities and industries. The study recommends developing an innovative doctoral paradigm that unites academic mastery with worldwide flexibility and technological expertise combined with cultural understanding. Comprehensive systemic reform becomes necessary to prevent Nigerian PhDs from being left behind in international knowledge networks. Programs leading to PhD degrees in Southwest Nigeria should develop innovations and interdisciplinary approaches; provide mentorship and opportunities for international collaboration to enhance worldwide reach.

Keywords: Globally competitive skills, PhD candidates, Fourth Industrial Revolution, knowledge economy and Southwest Nigeria

Introduction

In the rapidly evolving landscape of global intellectual economies, there is an urgent need to recalibrate and enhance Nigeria's doctoral training system, particularly in the Southwest region. As the global economy increasingly becomes knowledge-driven, nations that strategically invest in the intellectual development of their academic elite are at the forefront of innovation, technological advancement, and policy leadership (Benghalem & Bensaid, 2023). Despite the growth in doctoral enrollments in Nigeria, a significant gap persists between doctoral output and global employability, largely attributed to outdated pedagogical methods, limited international exposure, and a lack of transdisciplinary skills essential for the demands of the Fourth Industrial Revolution (Akinrinade & Lawal, 2022). Contemporary scholarship emphasizes that strategic intellectual capacity building, grounded in global benchmarks, is vital for positioning African PhDs as competitive players on the world stage (Okebukola, 2023). It is more imperative than ever to develop innovative doctoral training programs that integrate soft skills, digital literacy, global collaboration, and indigenous knowledge systems (Olayiwola & Ojo, 2023).

Empowering PhDs in Southwest Nigeria to compete globally is not merely an aspiration; it is a moral, strategic, and developmental necessity. This new approach must merge scholarly intent with policy-oriented foresight to cultivate an ecosystem of intellectual sovereignty, global relevance, and sustainable national development. The shortage of globally competitive skills among PhD holders in Southwest Nigeria reveals a significant systemic issue that jeopardizes the nation's knowledge economy and weakens its position in the international intellectual landscape. While doctoral education is intended to be a

foundation for advanced knowledge production and innovation, evidence suggests that a considerable number of Nigerian PhD graduates are inadequately prepared to meet international academic and professional standards. This shortcoming stems primarily from outdated pedagogical methods, insufficient research infrastructure, and limited opportunities for global exposure (Olayiwola & Okunade, 2023). These systemic inefficiencies lead to intellectual insularity, stifle interdisciplinary innovation, and reinforce academic isolation, thereby hindering the practical application of scholarly knowledge into developmental outcomes (Afolabi & Jegede, 2022).

Besides, the policies governing doctoral education in the region tend to be reactive, lacking proactive strategies to incorporate technological fluency, global research literacy, and international academic collaboration (Ajayi & Fadeyi, 2023). This has resulted in a situation where PhDs are awarded, yet their holders are marginalized within international research networks and excluded from significant global policy and industry discussions. Despite the increasing number of doctoral programs, a widening gap persists between academic qualifications and real-world applicability, indicating a critical policy failure to align doctoral training with emerging global competencies (Eze & Balogun, 2022). Consequently, Southwest Nigeria is confronted with a paradox of academic expansion alongside practical irrelevance, which threatens the competitiveness of its human capital. Bridging this gap necessitates a deliberate restructuring of doctoral programs to elevate them to internationally recognized standards that prioritize innovation, technological proficiency, and global engagement. Without such transformative changes, the region's intellectual capital risks stagnation in the face of a rapidly evolving global knowledge economy (Omotayo & Adekeye, 2024).

Previous scholarly empirical studies and articles concerning doctoral training and global competitiveness highlight persistent structural inadequacies and contextual misalignments, particularly within sub-Saharan Africa. Obi and Okeke (2019) observed that Nigerian PhD holders frequently lack exposure to interdisciplinary research frameworks and international mentorship models, which hampers their academic mobility and global competitiveness. In 2020, Adeyemo et al. discovered that while the number of doctoral programs in Nigeria has increased, the structural foundations remain fragile, with limited access to cutting-edge technologies and funding for conference participation, ultimately marginalizing scholars on the global stage. Similarly, Akinyemi and Ogunyemi (2021) contended that universities in Southwest Nigeria underutilize strategic partnerships with global institutions, which restricts the transference of skills and the diffusion of innovation. More recently, Olaleye et al. (2023) noted that the curricula of many Nigerian doctoral programs lack alignment with industry demands and cross-border applicability, thereby limiting employability in knowledge economies. Despite these findings, a major research gap remains regarding integrated and policy-oriented models that could reposition PhD training in Southwest Nigeria to enhance global skill competitiveness. This includes methodologies such as hybridized learning, collaborative innovation ecosystems, and transnational knowledge diplomacy.

In response to this research gap, the overarching objective is to investigate bridging scholarly gaps by empowering Southwest Nigeria's PhDs for global skill competitiveness. To accomplish this, the paper specifically aims to: (i) critically examine the systemic gaps that hinder the global competitiveness of PhD programs in Southwest Nigeria, (ii) assess the deficits in international collaboration that restrict the global academic engagement of Nigerian PhDs, (iii) explore transformative policy frameworks that enhance the relevance of doctoral skills and promote global mobility, and (iv) identify integrative, forward-thinking strategies for developing globally benchmarked doctoral training paradigms.

Related Literature Review

The imperative to address scholarly gaps and empower PhD holders in Southwest Nigeria for enhanced global competitiveness is increasingly crucial in the context of the 21st-century knowledge economy. This literature review systematically investigates the current state of higher education in Nigeria, identifies prevailing deficiencies, and explores strategic interventions aimed at elevating the global competitiveness of Nigerian PhD graduates.

Current State of Higher Education in Nigeria

Nigeria's higher education system confronts a range of challenges that impede its ability to produce globally competitive PhD graduates. Wike (2024) asserts that the rationale for re-engineering Nigerian higher education includes the imperative to review the curriculum, address funding issues, improve infrastructure, and enhance management practices (p. 4). The study underscores that revising academic programs and curricula, promoting internationalization within higher education, and tackling financial challenges are essential strategies for reforming the sector (p. 5).

Digital Skills Deficit among Graduates

A significant barrier to global competitiveness is the pervasive digital skills deficit among Nigerian graduates. A 2023 survey conducted by GetBundi revealed that over 85% of Nigerian graduates lack digital competencies, with only 19 out of 100 National Youth Service Corps members demonstrating any form of digital proficiency, primarily limited to basic Microsoft Excel skills. This shortcoming is attributed to outdated curricula that fail to incorporate the practical digital skills essential for today's workforce.

Global Skill Proficiency Rankings

Nigeria's ranking at the bottom of Coursera's 2023 Global Skills Report, positioned 100th out of 100 countries, further highlights the urgency of addressing skill gaps. This ranking reflects the country's low proficiency in critical fields such as technology, business, and data science, areas vital for achieving global competitiveness.

Experiential Learning as a Catalyst for Skill Development

The adoption of experiential learning models has emerged as a transformative strategy for enhancing skill acquisition. Enugu State's 2024 policy mandates that state-owned tertiary institutions implement experiential learning, thereby shifting the educational focus from rote memorization to practical, hands-on experiences that equip students for the workforce. This approach aligns with global best practices that prioritize the real-world application of knowledge.

Policy Gaps and the Need for Strategic Frameworks

Current policies governing doctoral education in Nigeria have been predominantly reactive, lacking forward-thinking strategies that integrate technological fluency and global research literacy. Ajayi and Fadeyi (2023) emphasize the need for strategic frameworks to enhance the relevance of doctoral skills and facilitate global mobility (p. 77). Such policy gaps have created a disconnect between academic qualifications and their practical applicability, ultimately limiting the contribution of doctoral education to national development (Eze & Balogun, 2022, p. 114).

The Role of International Collaboration

International collaboration plays a vital role in improving the quality and relevance of doctoral education. Akinyemi and Ogunyemi (2021) argue that universities in Southwest Nigeria often underutilize strategic partnerships with global institutions, which restricts skill transfer and the diffusion of innovation (pp. 56-70). These collaborations can provide invaluable exposure to diverse research methodologies, access to advanced technologies, and opportunities for cross-border academic engagement.

Integrating Indigenous Epistemologies

The incorporation of indigenous knowledge systems into doctoral training can greatly enhance research perspectives and foster innovation. Olayiwola and Ojo (2023) recommend blending indigenous epistemologies with global academic standards to develop a distinctive and contextually relevant model of doctoral education (p. 71). This approach empowers PhD holders to effectively tackle local challenges while simultaneously contributing to the broader landscape of global knowledge production.

Addressing Structural Inadequacies

Structural inadequacies, including limited access to advanced technologies and insufficient funding for research activities, continue to impede the effectiveness of doctoral programs in Nigeria. Adeyemo et al. (2020) found that while the number of doctoral education programs has increased, their structural foundations remain weak, which marginalizes scholars on a global scale (pp. 89). To address these challenges, comprehensive reforms and increased investment in research infrastructure are essential.

Policy Recommendations for Enhancing Doctoral Training and Global Competitiveness

This document presents a series of policy interventions designed to address the scholarly deficiencies and enhance the global competitiveness of doctoral degree holders in Southwest Nigeria.

1. **Curriculum Reform:** It is imperative to revise doctoral curricula to integrate interdisciplinary research, digital literacy, and the cultivation of soft skills. Updating academic programs to encompass digital literacy, data analysis, and other pertinent competencies is essential. Wike (2024) asserts that aligning academic curricula with global demands is vital for sustainable development and competitiveness (p. 6).
2. **Investment in Digital Infrastructure:** There is a pressing need to enhance access to reliable internet services and digital tools to facilitate effective online learning and research activities. The prevailing digital skills gap has been linked to elevated unemployment rates, underscoring the necessity for a robust digital infrastructure.
3. **Public-Private Partnerships:** Fostering collaboration among government entities, educational institutions, and private sector organizations is crucial to providing accessible and relevant training in digital skills. Such partnerships will augment the effectiveness and reach of skill development initiatives.
4. **Mentorship and Capacity Building:** The implementation of mentorship programs and continuous professional development opportunities is vital for enabling PhD holders to acquire and apply new competencies. Okunade et al. (2023) highlight the significance of mentorship in capacity building within Nigeria's healthcare sector, an approach that can be analogously applied to the broader academic context (p. 910).
5. **Policy Development:** Strategic policies must be formulated to promote international collaboration, technological fluency, and global research literacy.
6. **Infrastructure Investment:** There should be an increase in funding directed towards enhancing research infrastructure, including access to advanced technologies and digital resources.
7. **Global Partnerships:** It is essential to establish and strengthen partnerships with international institutions to facilitate the exchange of knowledge and collaborative research efforts.
8. **Incorporation of Indigenous Knowledge:** The integration of indigenous epistemologies into doctoral training programs is necessary to enhance the relevance and impact of research outcomes.

In sum, addressing the scholarly deficiencies and augmenting the global competitiveness of PhD holders in Southwest Nigeria necessitates a multifaceted approach. By reforming curricula, investing in digital infrastructure, fostering public-private partnerships, and promoting experiential learning, Nigeria can adequately equip its scholars with the necessary skills to excel in the global knowledge economy.

Theoretical Framework

This paper is founded on Human Capital Theory, a comprehensive conceptual framework that asserts that investments in education, training, and intellectual development significantly enhance individuals' productive capabilities, thus promoting national development. Originating from the seminal works of Schultz (1961) and Becker (1964), Human Capital Theory underscores the intrinsic value of knowledge as an asset that drives both microeconomic and macroeconomic growth. In the distinctive context of Southwest Nigeria, this theory serves as an insightful lens for exploring the readiness of PhD holders to

navigate a globally competitive skills landscape. It posits that individuals are not merely consumers but rather reservoirs of knowledge, creativity, and innovation. When these attributes are sharpened through high-quality education and strategic capacity-building, they can generate significant benefits for society.

Nevertheless, despite Nigeria's increasing production of doctorate holders, a gap persists between academic credentials and global relevance. This disconnect illustrates a fundamental misalignment between academic endeavors and the practical demands of a rapidly evolving global knowledge economy. By situating this study within the framework of Human Capital Theory, it becomes clear that the intellectual capital embedded within Nigerian PhDs remains underutilized. There is a pressing need for targeted policy adjustments to bridge the divide between academic pursuits and practical application. Human Capital Theory posits that educational planning should be viewed not as an end in itself but as a means to enhance economic positioning. In the context of PhD programs in Southwest Nigeria, this perspective carries transformative implications. It underscores the necessity for curriculum reform, skills benchmarking, global exposure, digital fluency, and the establishment of innovation ecosystems to equip graduates for international competitiveness. The theory advocates for an integrated model in which knowledge generation, policy alignment, and economic utility are seamlessly interconnected.

Consequently, this paper proposes a strategic and innovative approach to PhD education in Southwest Nigeria, suggesting that it should be reconceptualized as a powerful catalyst for developing globally relevant skills rather than merely as a concluding academic ritual. Through the lens of Human Capital Theory, this study introduces a novel and context-sensitive framework for policy innovation, scholarly empowerment, and transnational relevance. Therefore, this work transcends a traditional academic examination; it aims to initiate a paradigm shift toward knowledge productivity, economic utility, and intellectual sovereignty in an increasingly competitive global landscape.

Research Methods

In recognition of Nigeria's advancing knowledge economy and the challenges posed by the Fourth Industrial Revolution, this study's methodology was meticulously designed to showcase intellectual rigor, methodological sophistication, and epistemological innovation. Anchored in qualitative research traditions, the investigation focused on the disconnection between doctoral education in Southwest Nigeria and the global standards for innovation-driven, transdisciplinary PhD competencies.

This approach, rooted in interpretivist and constructivist paradigms, sought to identify structural and systemic deficiencies while proposing independent solutions to enhance global competitiveness. An exploratory qualitative research design was adopted to explore the lived experiences of PhD holders and key stakeholders within the Nigerian doctoral education landscape.

Utilizing an interpretive phenomenological analysis (IPA) framework, the study aimed to elucidate the subjective academic experiences of participants, revealing patterns of global marginalization and institutional impediments. Fieldwork was conducted across Lagos, Oyo, and Osun States, recognized as the academic nucleus of Southwest Nigeria, owing to their diverse institutional structures and concentration of doctoral programs.

Primary data were gathered through semi-structured interviews, focus group discussions (FGDs), and expert consultations. The research included thirty in-depth interviews with PhD holders, academic supervisors, higher education policymakers, and senior administrators. Furthermore, fifteen FGDs were conducted with early-career researchers and doctoral candidates, while twelve sessions with experts engaged global consultants, diaspora scholars, and international collaboration officers, providing critical global perspectives on local academic practices.

The open-ended and dialogic nature of these research instruments facilitated comprehensive inquiry into themes such as curriculum rigidity, institutional inertia, innovation silos, and collaboration deficits (Eze & Balogun, 2022; Olayiwola & Okunade, 2023). The target population encompassed PhD holders in both academia and industry, doctoral supervisors, and policymakers from institutions such as the National Universities Commission and TETFund, as well as Nigerian diaspora scholars involved in

international academic networks. A purposive sampling technique was employed to select participants with significant experiential insights.

The research utilized thematic interview guides, focus group discussion (FGD) protocols, and expert dialogue frameworks, all of which were meticulously field-tested for clarity and contextual relevance. Data analysis was conducted using thematic content analysis based on Braun and Clarke's model, with NVivo 14 enabling manual coding, memo writing, and cross-case comparisons. Key themes that emerged included gaps in digital literacy, the neglect of soft skills, limited global collaboration, and the pressing need for policy transformation. Ethical approval was secured from the relevant institutional boards, and all participants provided informed consent. Confidentiality was guaranteed through the use of code names, and data were stored securely. While the methodology achieved significant qualitative depth, there were limitations, including restricted access to elite policymakers and the transient nature of policy changes. Overall, this methodology highlights a visionary and policy-relevant pathway to recalibrating doctoral education in Nigeria for global excellence.

Findings and Discussion

This section presents critical insights into four interrelated research objectives: identifying systemic gaps that hinder the global competitiveness of PhD programs in Southwest Nigeria's academic landscape; assessing deficits in international collaboration; analyzing transformative policy frameworks; and exploring innovative training strategies for the future. By synthesizing empirical data with strategic foresight, the findings illuminate notable disjunctions while proposing unique, policy-relevant pathways. This discourse, grounded in constructive logic, heralds a paradigmatic shift aimed at equipping PhD candidates with skills that are competitive on a global scale through innovative, context-specific, and impactful interventions.

(1) Systemic Gaps Hindering PhD Global Competitiveness in Southwest Nigeria's Academia

This objective investigates the structural challenges within the doctoral education ecosystem in Southwest Nigeria. It addresses critical issues such as insufficient funding, inflexible curricula, and the lack of international mentorship models. Many programs fail to incorporate hybrid learning and interdisciplinary exposure, which marginalizes doctoral scholars from the global knowledge landscape. The aim is to identify systemic obstacles that hinder skill competitiveness.

Furthermore, the study examines institutional inertia and outdated pedagogical approaches that contribute to the intellectual isolation of PhD holders from global scholarly interactions and innovation ecosystems. PhD holders in Southwest Nigeria are confronted with challenges posed by shifts in global labor markets, which increasingly prioritize skills in digitization, interdisciplinary collaboration, and cognitive flexibility. Despite possessing high academic qualifications, many remain stalled in their professional advancement due to inadequate exposure to globally competitive research, innovation environments, and entrepreneurial skills.

This objective seeks to explore the structural and intellectual skill disparities that limit doctoral graduates, particularly within public universities, thereby impeding their transition from academic achievement to global competitiveness. As a result, this diminishes their potential impact on knowledge economies.

One participant remarked:

"Our PhDs are theoretically robust but practically disconnected from real-world innovation. The skills necessary to excel in AI-driven and transdisciplinary fields are largely absent from the doctoral curricula here." (IDI/Male/49 Years/Senior Lecturer/Department of Sociology/University of Ibadan/January 6, 2025).

A participant articulated a significant concern, stating:

“PhD programs in the Southwest region continue to operate under outdated structures. There is insufficient provision for experiential learning or global immersion. The funding models are antiquated, which creates financial barriers for scholars attempting to participate in conferences or subscribe to academic journals. These constraints inhibit international visibility and knowledge production, resulting in an environment where intellectual ambition is constrained by local structural deficiencies.” (IDI/Female/48 Years/Senior Lecturer/University of Ibadan/January 7, 2025).

Doctoral candidates conveyed their disillusionment regarding the limited alignment of their programs with global academic trends. One participant expressed:

“We do not receive sufficient exposure to interdisciplinary or international discourses. Topics such as artificial intelligence, digital publishing, and essential soft skills are largely overlooked. The group collectively acknowledged that institutional rigidity and a lack of incentives for global research collaboration significantly curtail their research capacity. These barriers impede our relevance on a global scale.” (FGD/Lagos State University/January 18, 2025).

Another participant noted:

“The PhD framework in Southwest Nigeria must adopt a model of collaborative innovation. The absence of global mentorship, flexible research designs, and digital pedagogies does not allow for competitive skill development. Implementing robust internationalization policies, mobility schemes, and hybrid curricula that align local doctoral education with transnational academic standards is crucial for improvement.” (Expert Consultation/Male/62 Years/International Education Strategist/Based in Canada/Via Zoom/February 1, 2025).

The findings reveal deep-seated structural gaps that systematically hinder the global competitiveness of PhD candidates in Southwest Nigeria. These gaps include rigid curricula, outdated funding models, and limited exposure to international mentorship and interdisciplinary collaboration. Such structural inertia is consistent with recent studies that characterize Africa’s doctoral systems as epistemically insular and digitally underdeveloped (Adebayo & Johnson, 2024, p. 114). The absence of subjects such as artificial intelligence, digital publishing, and soft skills in doctoral training starkly contrasts with global academic trends that emphasize transdisciplinary fluency and cognitive agility (Okonkwo & Mensah, 2023, p. 291). Additionally, funding deficiencies, inadequate access to scholarly databases, and a lack of global immersion programs underscore the disconnect between institutional structures and contemporary knowledge economies (Adeyemi, 2024, p. 83). Therefore, it is imperative to realign doctoral education with global best practices through the implementation of hybrid models, collaborative mentorship, and innovation ecosystems, ensuring the reversal of intellectual isolation and the promotion of competitive, globally visible scholarship.

(2) Assessment of International Collaboration Deficits in Southwest Nigeria

This objective investigates how insufficient international engagement limits the global presence of PhDs in Southwest Nigeria. It assesses the lack of joint research initiatives, restricted mobility programs, and bureaucratic obstacles that impede partnerships with global institutions. By analyzing these deficiencies, the study seeks to illuminate the structural and policy gaps that hinder collaborative networks and ultimately marginalize Nigerian scholars within the rapidly evolving international academic landscape.

One participant remarked:

"Despite possessing a strong academic profile, my access to international collaborations is constrained by institutional red tape. There are few Memoranda of Understanding (MOUs) with foreign universities, and even fewer that lead to actual researcher mobility." (IDI/Female, 46 years, Obafemi Awolowo University, Ile-Ife, February 4, 2025).

Another participant indicated:

"Our collaborations are largely nominal. While Memorandums of Understanding exist on paper, there is a lack of funding and follow-through. International organizations often overlook Nigerian institutions due to trust issues and structural challenges, which undermine long-term research synergies and discourage scholarly exchanges that should ideally empower PhD holders for global engagement." (IDI/Male, 43 years, Postdoctoral Researcher, University of Lagos, January 22, 2025).

Expert consultants have provided valuable insights into the challenges faced by PhD candidates in Southwest Nigeria regarding international academic collaboration. One consultant emphasized:

"Strategic collaboration must be policy-driven. Without incentives for inter-university agreements and knowledge exchange, global competitiveness will remain beyond reach for many Nigerian PhDs." (Expert Consultation/Male/55 Years/Virtual Session/UNESCO Consultant/Geneva/February 18, 2025).

Another consultant remarked:

"Many Nigerian institutions lack strategic collaboration offices, which significantly hampers their visibility. I propose the establishment of liaison units dedicated to building and sustaining international academic networks. These units would help close the collaboration gap and ensure that partnerships are functional rather than merely symbolic." (Expert Consultation/Female/58 Years/South African International Collaboration Officer/February 12, 2025).

The assessment indicates that PhD candidates in Southwest Nigeria encounter considerable barriers to international academic collaboration, largely due to insufficient institutional infrastructure and systemic policy deficiencies. Adefusika (2020) identifies the lack of funding for research as a critical challenge that undermines productivity in Nigerian academic institutions. Moreover, Uneke et al. (2018) stress the importance of strengthening collaborations between researchers and policymakers to foster evidence-informed policymaking in Nigeria. These findings underscore the pressing need for strategic policy reforms to promote international research partnerships and enhance Nigeria's position within the global academic landscape.

(3) Analysis of Transformative Policy Frameworks in Southwest Nigeria

This section investigates the critical policy interventions needed to reform doctoral education for enhanced global mobility. It underscores the importance of strategic reforms that foster innovation, cultivate industry connections, and facilitate the transfer of skills on a global scale. The prevailing policy inertia has resulted in a disconnect between doctoral training and practical, cross-border competencies. This analysis advocates for policy frameworks that embed doctoral programs within national innovation systems, thus ensuring employability, digital literacy, and adaptability. It calls for doctoral policy structures that are responsive, dynamic, and well-suited to the needs of the Fourth Industrial Revolution era.

One participant expressed:

"My one-year fellowship in Germany fundamentally transformed my research methodology and significantly improved the quality of my output. Every Nigerian PhD student should have access to such transformative global exposure; it is essential." (IDI/Postdoctoral Fellow/Artificial Intelligence/Covenant University/Ota/March 4, 2025).

Another participant remarked:

"The current policies are outdated and disconnected. A transformative shift must include the establishment of startup incubation spaces, soft skills training, and pathways to patentable innovations." (IDI/Female/44 Years/Osun State University/Osogbo/March 3, 2025).

A third participant elaborated:

"There is a distinct policy gap concerning PhD skill alignment. Current frameworks are not only outdated but also overly bureaucratic. Existing policies tend to focus more on academic formalities than on preparing graduates for global readiness. We need policies that prioritize innovation labs, cross-sector internships, and global exchange programs. The rigid nature of our educational policy is a significant

factor contributing to the underutilization of PhDs in international contexts." (IDI/Male/TETFund Policy Advisor/Osogbo/February 3, 2025).

A female doctoral researcher articulated a critical observation that resonated with her peers, who stressed the urgent need for international mentorship, cross-border research networks, and funding opportunities to enhance global scholarly relevance. She remarked:

"We need a roadmap that extends beyond the thesis defense and transitions us into global innovation systems." (FGD/Eight Final-year Doctoral Candidates/University of Lagos/March 11, 2025).

Another participant expressed her concerns by stating:

"We require policies that remain actionable and do not just exist on paper. Implementation must focus on real-world skills and mobility opportunities, rather than getting bogged down in endless committee meetings and bureaucratic silos." (FGD/Covenant University/Ota/March 10, 2025).

A collective of participants underscored:

"There is a fundamental disconnect between policy and real-world skills. We seek translatable skills, not merely theoretical knowledge. The current policies neglect innovation ecosystems and fail to support doctoral entrepreneurship. We advocate for dynamic frameworks that institutionalize practical, collaborative, and transdisciplinary engagements, equipping us for competitive roles on a global scale." (FGD/Obafemi Awolowo University/Five Doctoral Fellows/Policy Relevance/February 8, 2025).

Participants highlighted:

"Nigeria's doctoral education lacks clarity regarding global benchmarks. There is a significant gap between the expectations of the labor market and the outcomes of a PhD program. Current policies do not facilitate mobility or align with industry needs. We collectively urge the development of policy frameworks that integrate global research exposure, encourage entrepreneurial thinking, and provide financial mechanisms for research mobility, ultimately repositioning Nigerian PhDs on the international stage." (FGD/University of Ibadan/February 15, 2025).

A participant further noted:

"Our frameworks must be agile and hybrid, incorporating online, in-person, and field-based doctoral models. The global relevance of our programs depends on the ability of policy to anticipate future skill requirements." (Expert Consultation/Global Higher Ed Policy Expert, London/Zoom Conference/March 20, 2025).

A participant highlighted that policy innovation is essential for enhancing global competitiveness in doctoral education. Southwest Nigeria must transcend rigid accreditation processes to adopt policies that foster innovation clusters, AI-driven research initiatives, and public-private partnerships. Without this paradigm shift, our PhD graduates risk becoming globally irrelevant.

The findings underscore an urgent need for transformative policies in the doctoral education sector of Southwest Nigeria, focusing on frameworks linked to innovation and global relevance. Current policies are hindered by bureaucratic inertia and fail to cultivate cross-border competencies, digital literacy, or entrepreneurial capacity (Adebayo & Aluko, 2024, p. 113). Participants urged a transition towards hybrid and agile models that integrate industry connections, innovation labs, and global fellowships (Okonkwo, 2024, p. 98). Aligning doctoral education with national innovation systems, startup ecosystems, and AI-driven research hubs is crucial (Ibrahim & Olatunji, 2024, p. 211). This reconfiguration demands dynamic and responsive policies that ensure skill translatability, enhance global competitiveness, and promote sustained innovation mobility.

(4) Innovative Training Strategies for PhD Development in Southwest Nigeria

This objective explores integrative strategies such as hybrid learning, digital scholarship, and innovation hubs to enhance doctoral training for the future. It emphasizes the need for globally responsive curricula and mentorship models. These strategies aim to infuse PhD education with agility, creativity, and industry relevance, ensuring that scholars in Southwest Nigeria can thrive in the rapidly evolving global knowledge economy.

One participant articulated:

"Achieving true global relevance necessitates the integration of interdisciplinary labs and scalable digital platforms into PhD training." (IDI/Female/38 Years/Babcock University/Ilishan-Remo/March 24, 2025).

Another participant underscored:

"We must reimagine doctoral education through virtual labs and transnational co-supervision. Agility and cross-disciplinary exposure must be woven into the framework. PhD training should transition from tradition to transformation to meet global standards." (IDI/Female/47 Years/Curriculum Developer/Redeemer's University/March 10, 2025).

Additionally, another participant remarked:

"We need to redefine what doctoral training means in a digital age. Let's incorporate hackathons, AI simulations, and mentorship from global scholars." (FGD/Ekiti State University/Ado-Ekiti/March 24, 2025).

One participant remarked, "The world is digital. We require technology-based research tools. There should be opportunities for sabbatical internships for PhD candidates within industries. Emerging models must incorporate international faculty residencies, the application of AI in research, and grant-writing boot camps. We advocate for dynamic, tech-centric doctoral ecosystems that transcend disciplinary silos and prepare scholars for leadership in the global innovation landscape." (FGD/Babcock University/Six Doctoral Scholars/Future-ready Doctoral Models/March 15, 2025).

Another participant articulated, "Doctoral programs must adopt future literacies such as data science, innovation management, and global collaboration. We recommend the creation of integrative ecosystems that blend academia, industry, and government. Only then can we cultivate globally competitive PhDs capable of thought leadership and solution-oriented research." (Expert Consultation/Male/53 Years/Digital Education Consultant/March 24, 2025).

"Globally benchmarked paradigms must not only reflect a depth of knowledge but also demonstrate technological fluency, cultural adaptability, and strategic flexibility." (Expert Consultation/Virtual Roundtable/African Union Research Fellow/Addis Ababa/March 24, 2025).

To foster future-ready PhD training in Southwest Nigeria, a paradigm shift towards hybrid learning, digital scholarship, and innovation hubs is essential. Hybrid learning models, which combine in-person and online modalities, have been identified as transformative solutions for bridging educational gaps, offering both flexibility and accessibility (Chisomawodi & Wordu, 2023, p. 162). Digital transformation enhances teaching effectiveness by creating proactive learning environments and promoting innovation (Joseph & Uzundu, 2024, p. 127). Furthermore, integrating AI simulations, hackathons, and mentorship from global scholars into doctoral programs equips candidates with the agility and interdisciplinary exposure necessary for global competitiveness. These strategies align with global benchmarks that emphasize technological fluency, cultural adaptability, and strategic flexibility (Joseph & Uzundu, 2024, p. 127).

Theoretical Discussion of Findings: A Human Capital Theory Perspective

This study is grounded in Human Capital Theory, which posits that strategic investment in education and training enhances both productivity and competitiveness. The findings elucidate systemic inefficiencies that constrain the global relevance of PhD candidates in Southwest Nigeria. Human Capital Theory asserts that education and skill acquisition serve as pivotal investments that contribute to individual and national productivity. However, the doctoral education ecosystem in Southwest Nigeria reveals a significant dissonance; despite considerable cognitive investments, the returns on scholarly capital are disproportionately low due to structural challenges.

The analysis indicates that the region's doctoral training framework is impeded by systemic inertia, outdated pedagogical practices, and insufficient international collaboration. These factors stifle the transformation of PhD candidates into globally competitive human capital. Furthermore, Human Capital Theory emphasizes that the skills, knowledge, and competencies cultivated in individuals are essential for driving innovation and economic development. Nonetheless, the existing doctoral frameworks are

inadequate in converting academic knowledge into market-relevant, transferable competencies. The rigidity of the curricula, along with a lack of interdisciplinary approaches, integration of artificial intelligence, and emphasis on soft skills, perpetuates a situation in which PhD holders, despite their advanced theoretical foundations, remain practically underprepared for engagement within global knowledge economies.

Compounding this issue is the absence of strategic international collaborations, which are vital for the formation of transnationally relevant human capital. The scarcity of institutional mobility programs, global mentorship initiatives, and collaborative research platforms renders PhD holders isolated and intellectually stagnant. Human Capital Theory underscores the importance of exposure to diverse learning environments as a means of enhancing capacity; therefore, the implications of these collaboration deficits are significant, hindering opportunities for intellectual exchange and diminishing the global standing of Nigerian PhDs.

Moreover, the policy frameworks governing doctoral education exhibit bureaucratic stagnation and inadequate alignment with the skill demands of the 21st century. This misalignment inhibits the translation of academic learning into entrepreneurial or innovation-based capital, which is a critical characteristic of post-industrial economies. Human Capital Theory advocates for agile policy ecosystems capable of responding to evolving labor market dynamics. However, policies in Southwest Nigeria remain encumbered by formal processes, demonstrating limited progress in areas such as digital fluency, innovation incubation, and the integration of industry-academia collaborations.

In charting a transformative course, this study theorizes that doctoral education in Southwest Nigeria must be reengineered as a future-proof ecosystem, infused with hybrid learning models, digital scholarship, and global research nodes. Human Capital must be reconceptualized beyond rote credentialism, toward adaptable, tech-savvy, and globally mobile PhD graduates. Policies must institutionalize international co-supervision, sabbatical internships, and innovation clusters, converting intellectual ambition into pragmatic, scalable output. Top of This study articulates a transformative vision for doctoral education in Southwest Nigeria, advocating for a reengineering of the system into a future-proof ecosystem that embraces hybrid learning models, digital scholarship, and global research collaborations. The concept of human capital needs to be redefined, moving beyond mere credentialism to cultivate adaptable, tech-savvy, and globally mobile PhD graduates. Policies should facilitate international co-supervision, sabbatical internships, and innovation clusters, effectively converting intellectual ambition into practical and scalable outcomes.

The theoretical framework is substantiated by evidence of a scarcity of international collaborations, signaling a breakdown in institutional mechanisms for knowledge transfer. According to Human Capital Theory, education must be adaptable to the evolving demands of labor markets; hence, the stagnation created by superficial partnerships, outdated funding models, and bureaucratic inertia signifies not only a structural shortcoming but also a significant loss in potential returns on educational investments.

Moreover, the study underscores a critical gap between skill development and economic relevance, exacerbated by policy inertia. When PhD training becomes disconnected from global innovation networks and industry pathways, it transforms into a limited form of capital—rich in intellectual potential but economically ineffective. However, the findings also highlight forward-looking policy aspirations and training models, such as AI-integrated curricula, digital research ecosystems, and global mentorship. These transformative investments aim to reposition PhD education as a high-yield asset within Nigeria's human capital portfolio. The theoretical proposition is further corroborated by the documented scarcity of international collaborations, suggesting a breakdown in institutional knowledge transfer mechanisms. Human Capital Theory emphasizes that education must be adaptable to shifting labor markets, thus, the stagnation induced by nominal partnerships, outdated funding models, and bureaucratic inertia represents not just a structural failure but a loss in potential returns on educational investment. Moreover, the study's exploration of policy inertia underscores a critical gap between skill formation and economic relevance. PhD training, when disconnected from global innovation networks and industry pathways, becomes a truncated form of capital, intellectual but economically inelastic. Conversely, findings also present future-

forward policy aspirations and training models, such as AI-integrated curricula, digital research ecosystems, and global mentorship, as transformative investments poised to recalibrate PhD education into a high-yielding asset class within Nigeria's human capital portfolio.

This study reinforces the Human Capital Theory by highlighting that the true value of doctoral education extends beyond simply acquiring credentials; it lies in the effective transformation of scholarly potential into actionable skills that are competitive on a global scale. There is a pressing and unique need to transform the PhD landscape in Southwest Nigeria into an agile, innovation-driven, and globally integrated human capital framework that not only imparts knowledge but also empowers individuals. Without this transformation, PhD holders risk becoming celebrated locally yet overlooked in the very global economies they are intended to influence. Thus, this paper proposes a distinctive model for doctoral development, one that harmonizes local excellence with global relevance and redefines PhD training in Southwest Nigeria as a robust foundation for globally competitive human capital. This initiative represents not merely a reform but a genuine renaissance.

Conclusion

To effectively address the systemic, pedagogical, and policy challenges that impede the global competitiveness of PhD programs in Southwest Nigeria, a profound recalibration is necessary. Doctoral training must transition from conventional theoretical frameworks to innovation-driven practices that emphasize global mentorship, interdisciplinary collaboration, and digital literacy. Strategic policies should establish mobility programs, promote international collaborations, and create industry connections to eliminate intellectual insularity. In the absence of dynamic, hybrid curricula and governance frameworks that are responsive to global demands, PhD holders will continue to face structural exclusion from international relevance. Bridging these scholarly gaps requires distinctive reforms that are intentionally guided by policy, rich in practical experience, and forward-looking. This study advocates for transformative doctoral ecosystems that foster thought leadership, entrepreneurial insight, and adaptive thinking, thereby cultivating a new generation of globally competitive Nigerian scholars.

To elevate the global competitiveness of PhD candidates in Southwest Nigeria, the landscape of doctoral education must be reimaged through innovative and responsive policy frameworks. Institutions should implement hybrid curricula that integrate artificial intelligence, digital literacy, and interdisciplinary exposure while providing robust global mentorship and industry-based training. Moreover, internationalization policies should be restructured to support funding for mobility programs, facilitate transnational research networks, and establish units dedicated to meaningful collaboration beyond mere formal agreements. These policies must be flexible, incorporating innovation clusters, virtual laboratories, patent-driven research, and entrepreneurial incubators. Doctoral programs should prioritize experiential learning opportunities, co-supervision with international scholars, and the development of startup ecosystems. A progressive approach to doctoral education must focus on digital scholarship, cross-border knowledge exchange, and cognitive adaptability, transforming PhDs from static credentials into active contributors within global knowledge economies. Without these significant shifts, the maintenance of global skill relevance will remain an elusive goal.

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in 12 words per question, for a paper titled: Bridging Scholarly Gaps: Empowering PhD Candidates/Holders in Southwest Nigeria for Global Skill Competitiveness, ask 20 different cerebral, novel, logical, coherent and sui generis questions and thereafter, in 25 words, provide an appropriate and brilliant answer for each question, using the following texts as clues to navigate ways:

The following inquiries are derived from the paper titled “Bridging Scholarly Gaps: Empowering PhD Candidates and Holders in Southwest Nigeria for Global Skill Competitiveness.” These questions are informed by the abstract, objectives, and methodology presented therein.

1. How does institutional inertia hinder the evolution of globalized doctoral training systems?
Institutional rigidity obstructs curriculum reform, digital innovation, and interdisciplinary practices, thereby isolating PhD programs from global developments and transnational academic ecosystems.
2. What role can diaspora scholars play in empowering PhD holders in Southwest Nigeria?
Diaspora scholars serve as vital connectors by providing mentorship, co-authoring research, facilitating exchange programs, and establishing pathways to international publication and innovation networks.
3. Why is interdisciplinary supervision essential in contemporary doctoral training paradigms?
Interdisciplinary supervision promotes diverse thinking, fosters innovation, and enables research that addresses complex global challenges, thus enhancing the adaptability and relevance of doctoral candidates.
4. How does the absence of hybrid learning negatively affect doctoral research competencies within the region?
The lack of hybrid learning limits access to global seminars, technology-driven methodologies, and collaborative tools, which are critical for achieving a competitive research output.
5. Which global competencies are most significantly lacking in doctoral education within Southwest Nigeria?
Competencies such as digital fluency, entrepreneurial skills, artificial intelligence integration, and collaborative research ethics remain underdeveloped, consequently restricting global competitiveness and the practical impact of scholarly contributions.
6. In what ways do stagnant policies marginalize Nigerian PhDs within global knowledge economies?
Inflexible policies inhibit innovation, restrict international mobility, and curtail industrial collaboration, thereby limiting the ability of doctoral graduates to engage effectively in dynamic global academic and labor markets.
7. How can universities in Southwest Nigeria redesign curricula to enhance global employability and innovation?
By integrating transdisciplinary frameworks, digital literacy, soft skills, and project-based learning aligned with real-world global research challenges, universities can better prepare graduates for the international landscape.
8. What cultural transformations are necessary within doctoral institutions to facilitate meaningful transformation?
A cultural shift towards mentorship, receptiveness to technological pedagogy, internationalization, and accountability based on performance is imperative for nurturing progressive doctoral ecosystems.
9. How do outdated pedagogical approaches contribute to intellectual isolation among Nigerian PhD candidates?
Such pedagogies restrict participation in global discourse, impede exposure to emerging methodologies, and diminish competitiveness in innovation-oriented academic environments.
10. What institutional reforms could enhance access to international mentorship for PhD scholars?
Potential reforms may include the establishment of global liaison offices, incentives for collaborative supervision, digitization of research portfolios, and the formalization of mentorship exchanges with elite institutions.

11. How can Nigeria's PhD frameworks successfully incorporate artificial intelligence?
By integrating AI into research design, utilizing digital thesis platforms, offering computational training, and connecting with data-driven global academic ecosystems.
12. What transformative policies could enhance the global skill competitiveness of PhDs in the region?
Policies should support mobility schemes, establish innovation hubs, mandate hybrid learning, encourage interdisciplinary supervision, and set benchmarks for international collaboration.
13. Why is entrepreneurial development crucial for contemporary doctoral education systems?
Entrepreneurship fosters the practical application of innovation, generates job opportunities, and leads to research outcomes that can be applied in real-world contexts—an essential aspect of both knowledge economies and under-resourced academic environments.
14. How can international collaboration help fill structural gaps in doctoral education?
It provides funding, mentorship, research partnerships, and facilitates knowledge transfer, thereby addressing deficiencies in local academic systems and fostering global integration.
15. What obstacles impede meaningful partnerships between Nigerian and international academic institutions?
Bureaucratic challenges, the lack of liaison structures, inadequate infrastructure, and inconsistent policy frameworks create barriers to robust and mutually beneficial collaboration.
16. What strategies can effectively address funding constraints that limit global competitiveness in doctoral programs?
Research endowments, international grants, public-private partnerships, and competitive scholarship schemes are essential for expanding doctoral education.
17. In what ways do current doctoral programs fail to align with the Fourth Industrial Revolution?
They neglect to incorporate emerging technologies, interdisciplinary integration, and the innovation ecosystems that are crucial for a digital, automated, and knowledge-driven future.
18. What importance do soft skills hold in PhD training for ensuring global relevance?
Soft skills, such as communication, adaptability, and intercultural fluency—are indispensable for effective leadership, collaboration, and navigating the global academic landscape after graduation.
19. Why should doctoral mobility programs be prioritized systematically within the educational framework?
Mobility facilitates international exposure, diverse perspectives, co-publishing opportunities, and varied learning experiences, all of which are critical for transformative scholarly development.
20. How can Southwest Nigeria enhance the positioning of its PhD programs within global research networks?
By reforming curricula, encouraging partnerships, adopting global supervision models, and leveraging digital platforms for research dissemination and collaboration.