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Editorial

This edition of *NIU Journal of Humanities* touches on Development Administration, Social Psychology as well as Social Philosophy.

The first part of the Journal focuses on Development Administration. Using Housing Poverty Reduction through the Trader and Market Moni Scheme of Osa Market Beneficiaries in Benin City, Edo State, Nigeria as a case study, one of the papers in this section empirically argues that the micro-credit loan scheme has contributed largely to reducing the housing poverty of recipients. To mitigate the negative effects of inadequate or non availability of loans, the study recommends that the Trader and Moni loan scheme be overhauled for better functioning, and increased the loan amount to match the reality in the economy of today among others.

Papers in the second section are on Social Psychology. Using Youth Gambling Behaviour in Offa, Nigeria as case studies, one of the papers in these sections argues theoretically and demonstrates empirically that celebrity-endorsed sports betting advertisements moderately influence gambling engagement. It highlights the ethical concerns surrounding the normalisation of gambling through celebrity endorsements and the need for responsible advertising strategies. It recommends therefore, stronger regulatory oversight, clearer risk disclaimers, and further research on the long-term effects of repeated exposure to such advertisements, particularly among vulnerable audiences.

One of the papers, in the last section on Social Philosophy, examines the roles of women in Court Music Traditions of the Olubadan and Alaaafin of Oyo's Palaces. The study is anchored on how women's participation in court music serves as a platform for gender expression, social mobility, and cultural resilience.

This issue of *NIU Journal of Humanities* features many empirical and theoretical based articles which can be of great benefit to every reader.

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Part One

Development Administration



A Critical African Dialectics on the Question of Climate Sustainability

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Abstract. The study sought to identify the contradictions, tensions, and possibilities that foreground Africa's indigenous knowledge systems and their potential to inform climate change mitigation and adaptation strategies. The qualitative method of dialectics was used to interrogate African traditional cosmologies, mythologies, and philosophies while interjecting the intricate relationships between humans, nature, and the spirit world. The study identified the principle of "ubuntu" (humanity towards others) as an African dialectical nexus, where individual and communal interests intersect with environmental sustainability. The study employed a dialectical approach in its exploration on the relationship between African traditional worldview and climate change sustainability. The study aimed to demonstrate how African traditional worldview in its emphasis on interconnectedness, reciprocity, and reverence for nature, can inform innovative climate change solutions. The findings of the study showed the significance of the African traditional worldview in addressing the complex and somewhat contradictory relationships between climate change, sustainability, and development, while advocating for an all-inclusive approach to the universal quest for climate sustainability.

Keywords: Dialectics, Climate change, Environmental sustainability, traditional African worldview, Humanity, Nature, Conservation

1. Introduction

The Intergovernmental Panel on Climate Change (IPCC) warns that "the planet is on a trajectory toward irreversible ecological damage unless immediate and transformative action is taken" (IPCC, 2021, p. 12).

Africa, despite contributing less than 4% of global greenhouse gas emissions, "bears some of the most severe impacts of climate change, including prolonged droughts, erratic rainfall patterns, desertification, and rising sea levels" (Serdeczny *et al.*, 2017, p. 528). Amidst these crises, Africa possesses a wealth of indigenous knowledge systems rooted in traditional worldviews that have historically nurtured resilience and sustainability. These systems, however, remain underutilized in mainstream climate discourse, "often dismissed as anecdotal or incompatible with modern scientific approaches" (Sillitoe, 2009, p. 36). This marginalization not only undermines the potential contributions of African philosophies but also perpetuates a one-dimensional approach to climate sustainability that fails to address the sociocultural dimensions of environmental stewardship.

Western-centric models of climate change discourses dominate global climate policy and prioritizes technocratic solutions over culturally embedded practices that align with local contexts. For instance, while international frameworks like the Paris Agreement emphasize mitigation and adaptation, they often overlook the epistemological diversity required to tackle climate challenges equitably. This disconnect is particularly evident in Africa, where colonial legacies have disrupted indigenous modes of environmental governance, "creating tensions between traditional values and contemporary development paradigms" (Mawere, 2016, p. 45). The absence of culturally relevant strategies not only alienates communities from participating in climate action but also risks implementing solutions that are ecologically and socially unsustainable. Mbiti (1990) notes that, "African societies view humanity as inseparable from nature, with both existing in a

symbiotic relationship" (p. 49), underscoring the need for approaches that recognize this interconnectedness.

This study seeks to bridge the above-mentioned gaps as it explores the dialectical interplay between African traditional worldviews and climate sustainability. Its primary objective is to critically analyze how African dialectics which is rooted in principles such as ubuntu, cosmological foundations, and communal ethics can inform innovative strategies for addressing climate change. The significance of this study lies in its potential to contribute to more inclusive and effective climate solutions. Similarly, ubuntu philosophy, which emphasizes interconnectedness and reciprocity, "offers a moral framework for fostering collective responsibility toward environmental stewardship" (Metz, 2011, p. 532).

2. Conceptual Clarifications

To establish a solid foundation and a clear direction for this study, it is essential to clarify certain key concepts that will guide the exploration of the interplay between African traditional worldviews and climate sustainability below:

2.1 Dialectics and African Dialectics

Dialectics refer to a method of reasoning through dialogue, where opposing arguments (thesis and antithesis) are critically examined to arrive at a deeper truth (synthesis). In Plato's works, it is a form of cooperative argumentation that seeks to uncover universal truths by questioning and refuting hypotheses (Plato, 1992, p. 533a). Plato's concept of dialectics was built upon his critical ideas about knowledge, reality, and truth. Dialectics then becomes a way of questioning and dialogue that aims to reveal universal truths and understanding. Hegel view dialectic as a process of historical and logical progression; a way of understanding the conceptual progression and reality itself. It is a philosophical method of reasoning that investigates the relationships and contradictions between opposing forces or ideas to achieve a synthesis or higher understanding (Hegel, 1975). In the context of this study, African dialectics specifically refers to the analytical framework that examines the dynamic interactions among human actions, natural environments, and spiritual beliefs.

2.2 Climate Change

Climate change refers to long-term shifts in temperatures and weather patterns primarily driven by human activities, especially the burning of fossil fuels like coal, oil, and gas which release greenhouse gas

emission like carbon dioxide and methane (United Nations, 2022). Climate change is caused by both natural and anthropogenic (human-induced) factors. Natural factors include volcanic eruptions, and changes in solar radiation while anthropogenic factors include greenhouse gas emission from fossil fuel combustion, deforestation, industrial processes, agriculture, transportation, energy production, and land use. Climate change has consequences including rising global temperatures, extreme weather events, sea-level rise, and loss of biodiversity with various responses from the United Nation. The consequences of climate change are still very profound, posing significant risks to ecosystems, food security, and livelihoods, particularly in vulnerable regions such as Africa, where adaptive capacity is often limited.

2.3 Environmental Sustainability

Environmental sustainability is a condition of balance, resilience, and interconnectedness that allows human society to satisfy its needs while maintaining ecological balance to ensure the health and viability of ecosystems for both present and future generations (United Nations, 2015). This principle advocates for responsible resource management, conservation practices, and equitable development that respects the rights and needs of all stakeholders. It accentuates the importance of integrating ecological, social, and economic dimensions to fostering resilience in the face of environmental challenges.

2.4 African Traditional Worldview

The African traditional worldview is founded in a holistic understanding of existence, where the spiritual and physical realms are interconnected. Life is seen as a continuum comprising the living, the ancestors, and the unborn (Mbiti, 1969, p.15). The African traditional worldview encompasses a diverse range of indigenous cosmologies, mythologies, and philosophies that articulate a holistic understanding of existence, where humans, nature, and the spiritual realm are seen as interconnected and interdependent. This worldview is characterized by principles such as ubuntu, which emphasizes communal responsibility, mutual respect, and the interconnectedness of all life forms.

3. Literature Review

The discourse surrounding climate change and indigenous knowledge mix has gained significant traction in recent years, showing a growing recognition of the value of traditional ecological knowledge in addressing contemporary environmental challenges. Nyong *et al.* (2007) assert that African

indigenous knowledge systems offer practical and context-specific solutions for climate adaptation. For example, traditional farming techniques, such as intercropping and agroforestry, have been shown to enhance flexibility to drought and improve food security in vulnerable communities. These practices are often developed through generations of experiential learning and are intimately connected to local ecosystems providing a rich source of knowledge that can inform effective climate adaptation strategies.

However, despite the potential and actual contributions of indigenous African knowledge, Western scientific approaches tend to dominate climate policies and interventions. This marginalization can be attributed to a prevailing bias towards empirical, reductionist methods that prioritize quantitative data over qualitative intuitions. Such an approach can overlook the holistic and relational understandings that indigenous communities possess regarding their environments.

Central to the understanding of indigenous African philosophies is the concept of ubuntu, which emphasizes interconnectedness, communal responsibility, and the intrinsic value of all life forms (Tutu, 1999). Ubuntu serves as a guiding principle that advocates for sustainable living and ethical stewardship of the environment.

Murove (2009) evaluates how ubuntu can foster environmental ethics by promoting harmony between humans and nature, suggesting that this way of thinking could enable a more sustainable relationship with the environment. However, the integration of ubuntu into modern environmental discourse is not without its challenges. Tensions often arise between the necessities of modernization, which typically prioritizes economic growth and technological advancement, and traditional practices that advocate for ecological balance and sustainability (Gyekye, 1997). This conflict underscores the need for a thorough understanding of how to blend traditional knowledge with contemporary practices in a way that respects and preserves indigenous values.

Dialectical approach has been relatively underemployed in climate studies, yet it offers valuable insights into the complexities of human-nature interactions. While Hegelian dialectics primarily focus on resolving contradictions to achieving a synthesis of ideas, African dialectics, as articulated by Wiredu (2000), embrace relationality and synthesis in a manner that is particularly relevant for sustainability discourse. African dialectics further emphasizes the interconnectedness of various

elements within a system which allows for a more holistic understanding of environmental issues. This approach also recognizes the complementary strengths of both indigenous and scientific knowledge systems. This approach not only empowers local communities but also fosters a sense of ownership and responsibility towards environmental stewardship.

The literature examined captures the critical role of indigenous knowledge systems, particularly African traditional worldviews, in informing climate change adaptation and mitigation strategies. The integration of concepts such as ubuntu and dialectical reasoning presents opportunities for reexamining the relationship between humans and nature. This is where this study will build on in its exploration of how these African traditional worldviews can inform and enhance climate strategies, which will contribute to more inclusive and effective responses to the pressing challenges posed by climate change in the world today.

4. Methodology

The study employs a dialectical inquiry to critically analyze the intersections between African traditional worldviews and climate sustainability. The methodology is designed to interrogate the contradictions, tensions, and opportunities inherent in African traditional worldviews while at the same time emphasizing their potential to inform innovative climate solutions. Dialectics, as articulated by Plato, Hegel and Marx and adapted for this study, involves identifying contradictions such as those between tradition and modernity, individual and collective interests, or development and sustainability. This methodological approach is germane in examining how traditional African worldview can contribute to the ongoing debate on curbing climate change.

5. Theoretical Framework

African eco-philosophy brings a theoretical foundation for understanding the intricate relationships between humans and nature, stressing an ontological standpoint that views the environment as sacred and imbued with intrinsic value. The concept of "Mother Earth," personifies nature as a nurturing force that sustains life and demands reverence. Critical theory and decolonial approaches can also show the power dynamics inherent in climate discourse, particularly the marginalization of indigenous knowledge systems by dominant Western paradigms. Decolonial scholarship as employed in the study seeks to dismantle these structures by centering African voices and philosophies, challenging the universal

applicability of Western models and advocating for context-specific solutions.

5.1 The Question of Climate Change

Africa is responsible for less than 4% of global greenhouse gas emissions (IPCC, 2022), yet it is excessively vulnerable due to a combination of geographic exposure, socio-economic fragility, and limited adaptive capacity. Rising average temperatures, erratic rainfall patterns, prolonged droughts, and an increasing frequency of extreme weather events such as floods and cyclones are already disrupting key sectors like agriculture, water supply, health, and infrastructure (Serdeczny *et al.*, 2017). For a continent where agriculture employs over 60% of the population and contributes meaningfully to GDP, climate changeability poses a direct threat to livelihoods and food security. In regions like the Sahel and the Horn of Africa, desertification, dwindling water resources, and declining crop yields are triggering humanitarian crises, including malnutrition, conflict over natural resources, and large-scale displacement. Climate-induced migration, both within and across borders, is also becoming a pressing issue, as communities are forced to abandon increasingly uninhabitable environments.

Despite the urgent need for adaptation and mitigation strategies, the prevailing global discourse on climate action is largely shaped by Western models, which often fail to account for Africa's unique ecological, cultural, and socio-political contexts. The solutions are modeled on Western experiences and tend to marginalize local knowledge systems which does not appreciate the resilient strategies that African communities have employed for generations. For instance, communal land tenure systems—common in many African societies prioritizes shared stewardship and collective access to resources, a tradition that contrasts with privatized land ownership dominant in the Global North. Traditional adaptation practices such as those observed among nomadic pastoralist communities in East Africa reveals the ingenuity and flexibility of indigenous systems. These groups have historically responded to environmental fluctuations through seasonal mobility, rotational grazing, and inter-community resource sharing, enabling them to cope with variability long before the term "climate change" entered global discourse (Nori & Davies, 2007).

Therefore, the study advocates for a decolonized approach to climate governance one that respects and integrates African indigenous knowledge with modern scientific approaches. Such an integrative model

would not only enhance the relevance and effectiveness of adaptation strategies but also empower local communities as active agents in building climate resilience. The question, then, is not merely how to combat climate change, but how to pursue sustainable development in ways that are equitable, culturally appropriate, and environmentally just.

5.2 Nurturing Nature in African Traditional Worldview

African traditional worldviews x-ray the relationship between humans and the natural world with deep understandings that resonate with contemporary calls for environmental sustainability. Unlike dominant Western paradigms that often perceive nature as a resource to be exploited, African cosmologies views nature as a living, sacred entity, deeply interwoven with spiritual, communal, and ancestral dimensions of life (Mbiti, 1990). In many indigenous African belief systems, natural elements such as forests, rivers, mountains, and animals are not just physical entities, but spiritual beings or the abodes of deities and ancestral spirits.

This spiritual reverence translates into concrete ecological practices that function as traditional conservation measures. For example, certain groves or rivers may be designated as sacred spaces where hunting, fishing, or logging are strictly forbidden. These cultural taboos serve an ecological purpose by preserving biodiversity, allowing renewal, and maintaining ecosystem balance. What modern environmental science borders as "protected areas" or "conservation zones" have, in many African communities, long been entrenched within spiritual traditions and social norms.

Ubuntu as an African principle emphasizes interconnectedness, community, and mutual care not just among humans, but between humans and the natural world. In the ubuntu ethics, harming the environment is tantamount to harming oneself and one's community. This sense of relational responsibility contrasts with individualistic, extractive models of development that often prioritize profit over ecological wellbeing. Among the Yoruba people of Nigeria, the concept of *ayé*, literally "the world" also reflects a cosmological vision in which human beings coexist with deities (*orisha*), ancestors, and natural forces in a delicate balance (Abimbola, 2006). Disruption of this balance through environmental degradation is believed to incur spiritual consequences, prompting rituals of atonement and ecological restoration. Similarly, the Akan people of

Ghana maintain the notion of sunsum, which attributes a spiritual essence to all elements of nature (Gyekye, 1997). This belief system discourages ecological harm, not simply as a matter of practical necessity, but as a moral and spiritual transgression.

These indigenous African worldviews and practices it is believed are able to offer an alternative framework for environmental responsibility which will integrate ethics, spirituality, and sustainability. They can also challenge dominant models of development that treat nature as inert or a commodity advocating instead for a model rooted in harmony, reciprocity, and respect. In an era marked by ecological crises and climate concern.

5.3 Mitigating Climate Change Effects through African Dialectics

African dialectics as rooted in indigenous worldviews and oral traditions is a way of reconciling the often-conflicting demands of economic development and environmental sustainability. Unlike binary modes of thinking that view progress and preservation as mutually exclusive, African dialectics emphasizes synthesis, fluidity, and the resolution of contradiction through balance and dialogue. This traditional intellectual tradition provides an avenue for addressing the multifaceted challenges posed by climate change in ways that are both culturally grounded and pragmatically effective.

In African dialectical reasoning lies the ability to harmonize individual and communal interests. This is closely aligned with the ethical principle of ubuntu, which prioritizes collective well-being, mutual respect, and coexistence. In the context of climate change, this means creating solutions that do not sacrifice local livelihoods for environmental goals, but instead find pathways that serve both. A notable example of dialectics in practice is Zimbabwe's CAMPFIRE (Communal Areas Management Programme for Indigenous Resources) initiative which is a community-based natural resource management program that empowers local communities to steward wildlife and land resources while benefiting economically from eco-tourism and sustainable hunting (Frost & Bond, 2008).

African dialectics also serves as a tool for critical interrogation of socio-environmental contradictions such as the tension between industrialization and ecological preservation. This is vividly illustrated in the case of the Ogoni people of the Niger Delta in Nigeria. Their resistance to oil exploitation most prominently as championed by environmental activist

Ken Saro-Wiwa represents a dialectical struggle against environmental degradation, social marginalization, and corporate injustice (Saro-Wiwa, 1995). The Ogoni case challenges dominant development paradigms that prioritize extractive industries while externalizing environmental costs onto vulnerable communities.

Rather than an imposing top-down solution, African dialectics encourages inclusive dialogue and co-creation of knowledge. Communities become active agents in designing interventions that echo with their lived realities and cultural values. For instance, indigenous practices such as agroforestry, intercropping, rainwater harvesting, and sacred ecological zones offer low-cost, sustainable solutions that are already embedded in local wisdom systems. The bringing in of African dialectics into climate policies will reframe climate action not as a technical challenge alone, but as a moral, cultural, and political endeavor that requires deep listening, cultural sensitivity, and collaborative problem-solving. It will also get policymakers, scholars, and practitioners to engage more with the complexity of African societies not as passive victims of climate change, but as holders of rich traditional epistemologies capable of shaping transformative solutions.

6. Findings and Discussion

One important finding of the study is that of traditional African cosmological understanding of the intrinsic bond between humans and the environment. Here, nature is not viewed as an inert external resource but rather as an active, living system with which humans share an inseparable relationship such that this sense of unity naturally fosters conservation-oriented practices. Ubuntu often simplified by the phrase "I am because we are" came about as a critical nexus that bridges personal and communal responsibilities. The ethical and social dimensions of ubuntu promote a collective approach to environmental challenges which emphasizes that individual well-being is tightly interwoven with the health of the community and its surrounding ecosystem. This interconnectedness encourages collaborative approaches to resource management and environmental stewardship with communal decision-making and shared responsibilities leading to more resilient and adaptive responses to climate change.

The dialectical approach adopted in the study allows for a critical interrogation of contradictions within development initiatives which promotes solutions that assimilate the strengths of traditional wisdom such as agroforestry, water harvesting, and community-based

resource management with modern scientific and technological advances. Such a synthesis presents an inclusive strategy for climate adaptation and mitigation, where indigenous practices are not merely preserved as cultural relics but are actively integrated into broader sustainable development policies.

7. Evaluation and Conclusion

African epistemologies, especially those articulated through worldview as ubuntu, possess an inherent ecological consciousness. It does not treat the environment as separate from human life, but rather as an extension of the self and the community. This worldview promotes an ethics of care, collective responsibility, and sustainability. In practice, this translates into behaviors and traditions that have long promoted environmental stewardship, such as communal land management, seasonal farming techniques, water conservation rituals, and sacred natural sites protected through spiritual and cultural customs.

The study upholds the power of African dialectics to navigate complex contradictions, particularly the tension between the demands of economic development and the imperative of ecological preservation. Rather than choosing one at the expense of the other, dialectical reasoning encourages synthesis and integration. It seeks how to draw from both modernity and traditional epistemologies to create sustainable futures that are locally grounded and globally relevant. However, the research also identifies critical challenges.

While the value of indigenous knowledge is increasingly acknowledged in academic and development circles, its meaningful integration into global climate governance models remains limited. Indigenous voices are still frequently marginalized, and traditional practices are often dismissed as antiquated. This gap underscores the need for systematic advocacy, institutional recognition, and policy support to ensure that indigenous knowledge systems are not only preserved but actively mobilized as part of the climate solution.

As climate change continues to affect urban and rural areas alike, future research should focus on the practical application of these indigenous frameworks, particularly in rapidly urbanizing African societies. Exploring how traditional principles such as ubuntu, ecological taboos, and community stewardship can be adapted to urban planning, climate-smart agriculture, and renewable energy initiatives will be critical in forging inclusive and sustainable pathways forward.

References

- Abimbola, W. (2006). *Yoruba Culture: A Philosophical Account*. Iroko Academic Publishers.
- Frost, P., & Bond, I. (2008). The CAMPFIRE Programme in Zimbabwe: Payments for wildlife Services. *Ecological Economics*, 65(4).
- Gyekye, K. (1997). *Tradition and Modernity: Philosophical reflections on the African experience*. Oxford University Press.
- Hegel, G. W. F. (1975). *Logic: Being part one of the Encyclopaedia of the Philosophical Sciences*. Oxford University Press.
- IPCC. (2021). *Climate change 2021: The Physical Science Basis*. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press.
- IPCC. (2022). *Climate change 2022: Impacts, Adaptation and Vulnerability*. Cambridge University Press.
- Mawere, M. (2016). *Culture and Development in Africa: Challenges and Possibilities*. Langaa Research & Publishing CIG.
- Mbiti, J. S. (1990). *African religions and Philosophy* (2nd ed.). Heinemann.
- Mbiti, J. S. (1990). *African religions and Philosophy*. Heinemann.
- Metz, T. (2011). Ubuntu as a Moral Theory and Human Rights in South Africa. *African Human Rights Law Journal*, 11(2).
- Murove, M. F. (2009). An African environmental ethic based on the concepts of ubuntu and ukama. In M. F. Murove (Ed.), *African Ethics: An Anthology of Comparative and Applied Ethics*, University of KwaZulu-Natal Press.
- Nori, M., & Davies, J. (2007). *Change of wind or wind of change? Climate change, adaptation and pastoralism*. World Initiative for Sustainable Pastoralism.
- Nyong, A., Adesina, F. and Osunade, O. (2007) The role of indigenous knowledge in climate change adaptation: A case study of the West African Region. *African Journal of Environmental Science and Technology*. 1(2).
- Plato (1992). *The Republic* G. M. A. Grube. (Trans.) revised by C.D.C. Reeve. Haackett Publishing.
- Saro-Wiwa, K. (1995). *A month and a day: A detention diary*. Penguin Books.
- Serdeczny, O., Adams, S., Baarsch, F., Coumou, D., Robinson, A., Hare, W., Schaeffer, M., Perrette, M., & Reinhardt, J. (2017). Climate change impacts in Sub-Saharan Africa: From

- physical changes to their social repercussions. *Regional Environmental Change*, 17(6),
- Sillitoe, P. (2009). Indigenous Knowledge, Science, and Anthropology. *Anthropology Today*, 25(2).
- Tutu, D. (1999). *No future without forgiveness*. Image.
- Wiredu, K. (2000). "The Role of African Philosophy in the Age of Globalization." *The Philosophical Forum*, 31(1).



Agricultural Financing and Agricultural Output in Nigeria

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Abstract. This article's goal was to investigate the connection between agricultural financing and Nigeria's agricultural production. We replaced agricultural finance with the agricultural credit guarantee scheme fund (ACGSF), commercial bank loans to agriculture (CBLA), and government spending on agriculture (GOVXA). Agricultural output was substituted with the agricultural GDP. The Autoregressive Distributed Lag (ARDL) estimate technique was used to specify the ARDL model, which was created to examine the relationship between agricultural financing variables and agricultural production using quarterly data from 2009Q1 to 2023Q4. An econometric analysis program called E-view 9.0 was utilized. The results show that while government spending on agriculture (GOVXA) and the agricultural credit guarantee scheme fund (ACGSF) have no effect on agricultural output in Nigeria, commercial bank loans to agriculture (CBLA) do. Furthermore, the control variable, yearly rainfall, significantly raises agricultural productivity. According to the study's findings, agricultural financing has a major impact on Nigeria's agricultural production. This is demonstrated by the fact that commercial bank loans to agriculture (CBLA) significantly increase agricultural output. The study's conclusions suggest that farmers who obtain program loans should be properly monitored to ensure that they are being used for agricultural objectives. Nigeria's agriculture industry also need more loans from commercial or deposit money banks in order to boost agricultural output.

Keywords: Financial: Agricultural credit guarantees scheme fund, Agricultural financing, Agricultural output, Commercial bank loans to agriculture.

1. Introduction

Agriculture, as the largest industry in terms of employment, remains the recipe for any economic progression (Philip, Nkonya, Pender & Oni, 2009). The government's approach is predicated on the idea that promoting agriculture will accelerate economic

expansion. As a result, financing is an essential tool for obtaining all of the industry-wide equipment needed for automated manufacturing. By producing essential raw materials, feeding the populace, generating foreign exchange, and creating a significant number of jobs, the agriculture sector supports the economy. In addition to supplying markets for industrial raw materials, agriculture guarantees economic stability and security. Agriculture contributes significantly to Nigeria's GDP as observed by Anyanwu (1997), and Rahji and Fakayode (2009). Nevertheless, their contribution is insubstantial due to limited credit facilities in fundraising (Odoemenem & Boinne 2010) while Duong and Izumida (2002) opined that agricultural financing and agricultural output exhibit a complex situation.

Agriculture is the primary source of income for a sizable section of Nigeria's population, who reside in rural areas. In this industry, financial obstacles are still prevalent. Because agriculture finance is still costly and unequally distributed, small-scale farmers are unable to raise their output. According to Nyoro (2002), lack of working capital and low liquidity limit the farmer's ability to purchase productivity enhancing input like seeds, fertilisers and pesticide. This was supported by Awudu and Huffman (2000) and Kimbaara (2005) stating that the average production efficiency levels are higher among producers who have access to formal credit.

As a result, agricultural finance increases output and improves living standards while ending the cycle of poverty among farmers. Numerous studies have examined the connection between financing and agricultural productivity. Nevertheless, previous research examining the relationship between agricultural financing and agricultural output has shown contradictory results. For instance researches like – Lawal (2010), Mbutor, Ochu and Okafor (2013), Egwu (2016), Aina and Omojola (2017), Tihamiyu, Bwala and Ben Alawode, (2017), Olatunji, Ezenekwe and Uzonwanne (2018), Medugui, Musa & Abalis (2019), Abbas (2021), Toheeb and Dabo (2022)

and James and Uduak (2022), all found that agricultural financing exerts significant positive effect on agricultural output, but other studies also came up with contrary findings that agricultural financing exerts significant negative affect on agricultural output (Matthew & Modesai, 2016; Ali, Jatau & Ekpe, 2016; and Odili, 2022). Other empirical studies such as that by Ademola, (2013) and Uger (2013) also revealed that agricultural financing does not affect agricultural output. These disparate results may be explained by variations in the variables used, the technique used to measure the variables, the scope used, and the estimation methods used in their respective investigations. The mixed results could have been caused by all of them. The contradictory and unclear nature of these empirical investigations allows for more study in this field.

Furthermore, since earlier study relied on annual data—which are low frequency data—the effect of agricultural funding on Nigerian agricultural production has to be re-estimated using quarterly data and the auto regressive distributed lag (ARDL) approach. Because of this, this study uses quarterly data instead of annual data to investigate how agricultural funding affects Nigerian agricultural production. Examining the connection between agricultural funding and Nigerian agricultural output is the main goal of this research. Specific objectives are to:

- Analyze how the Agricultural Credit Guarantee Scheme Fund affects Nigerian agricultural production;
- Find out how commercial bank loans to Nigerian agriculture effect Nigerian agricultural output; and
- Determine how Nigerian agricultural output is affected by government spending on agriculture.

2. Literature Review

2.1 Conceptual Review

2.1.1 Agricultural Output

Agricultural output comprises several components, including sales of agricultural products (including trade between agricultural entities), changes in inventory, products for self- consumption, output intended for further processing by agricultural producers, and internal consumption of livestock feed products (Eburajolo & Aisien, 2019). Agricultural output, given in monetary terms, is the total value of agricultural produce less the value of intermediate inputs from the agricultural sector. This total is referred to as "final output" and encompasses both

monetary and non-monetary exchanges (e.g., barter, commerce, and self-consumption). The value of non-agricultural inputs is not subtracted, which sets it apart from agricultural GDP (Nomor & Udele, 2024). The primary indicator of the productivity of certain crops and livestock is agricultural output. The quantity and quality of agricultural products and goods generated by a nation, area, or farm over a certain time period is referred to in this research as agricultural output. Economic growth, food security, and general well-being are all dependent on the output and performance of the agricultural sector, which is reflected in this production. The value of agricultural goods and associated activities, as well as the proportion of a nation's overall GDP that originates from agriculture, are taken into consideration while calculating it.

2.1.2 Agricultural Financing

The phrase "agriculture finance" describes a range of funds given to Nigerian farmers in an effort to advance the socioeconomic standing of the country's citizens. It includes both government money and non-governmental groups working toward sector growth, economic empowerment, and social empowerment (Mbelu & Ifionu, 2022). In the same vein, Adejumo and Bolarinwa (2017) hypothesized agricultural financing programs as part of financial arrangements set up by the government at all levels to assist farmers' access to finance and invariably boost agricultural productivity. The agricultural financing schemes considered in this study are discussed below.

Decree No. 20 established the ACGSF, in 1987, and it started to function in April 1978. It started out with N85.6 million in paid-up capital and N100 million in share capital. 40% of the stock is owned by the Central Bank of Nigeria, and 60% is owned by the Federal Ministry of Finance (CBN 2019). According to the Agricultural Credit Guarantee Scheme Amendment Act, the scheme's capital base was N3 billion in March 2001 and N50 billion in March 2019. The Fund guarantees up to 75% of the default amount on bank credit facilities given to farmers, net of any realized security. The daily operations and money management of the Scheme are overseen by the Central Bank of Nigeria (CBN, 2019).

Commercial Bank Loan to Agricultural Sector: The entire amount of money that financial institutions lend to an individual or firm is known as bank credit. Although the agricultural industry's share of the nation's GDP is still relatively small, Ijaiya (2003) found that commercial bank lending to the sector have been increasing since 1981. In line with Efobi and Osabuohien (2011), commercial bank loans to the

agricultural sector had little impact when compared to the number of funds accessible to commercial banks. The creation of the Nigerian Agricultural Cooperative and Rural Development Bank, rural banking, river basin authorities, agricultural development projects in every state of the federation between 1972 and 1980, crop loans, loans secured by warehouse receipts, agricultural term loans, land development schemes, capital stock loans, farm mechanization schemes, minor irrigation schemes, and land purchase are some of the other schemes disclosed by Oguoma, Nwosu, Benchendo, and Henri-Ukoha (2010).

Government Spending on Agriculture: Government spending on agriculture refers to the money that the government gives to the agricultural sector in an attempt to boost output and productivity and encourage economic growth. Furthermore, government's spending on agriculture consists of all the expenses made by the government to the sector which include; expenses on policies and programmes, provision of grants and subsidies to farmers, pest control services, inspection services, irrigation and drainage system, crops inspection services, agriculture extension service, etc. (FMARD, 2003). Investing in agriculture by the government via increasing her expenditure is one of the most effective ways of promoting agricultural productivity thereby raising incomes, reducing poverty and food insecurity, as well as environment sustainability (FAO, 2020). Government agricultural expenditure encompasses the financial resources allocated and spent by governments on various agricultural projects, programs, and initiatives (Ukpong, Uduak, Ekere & Akpan, 2022).

2.2 Theoretical Review

Structural Change Theory: Since Lewis Arthur's 1954 description of the Structural Change Theory, the phrase "development with an unending supply of labor" has been in usage. Two distinct sectors comprise an economy, according to the relevant economic theory. The modern sector (capitalist, industrial, or manufacturing) and the traditional sector (agricultural or subsistence) are two different business categories. The two-sector model was created as a result of this. This study argues that while both sectors must grow in order for an economy to prosper, economic growth also requires the development of both sectors. The equation is $Y = f(\text{AGRIC}, \text{IND})$, where Y is the measurement of economic development, AGRIC refers to agriculture, and IND refers to industry. Because industry and agriculture are so closely related, it is hard to think about one without thinking about the other. While the industrial sector

exports labor and completed items to the agriculture sector, the agricultural sector provides capital inputs and purchases goods from the industrial sector. Since no money can be earned without a hypothesis, the goal of this study is crucial to the expansion of the agriculture sector. Support is required for agricultural initiatives to be carried out effectively. Increased agricultural output will support economic growth if these projects are adequately funded. In the absence of corresponding structural adjustments that boost output, additional tactics or adjustments are likely to be ineffectual or even harmful.

Keynesian Theory of Public Spending: John Maynard Keynes proposed the Keynesian theory of public spending in 1936. It is believed that government spending encourages sectoral growth, particularly in the agricultural sector (Keynes, 1936). Therefore, it is anticipated that through multiplier effects on aggregate demand, an increase in government spending will improve investment, production, employment, and profitability. According to Ewubare and Eyitope (2015), who cited Keynes (1936), public spending is an exogenous component that can be used as a tool for policy to boost production growth.

Schumpeter Theory of Finance and Growth: According to Schumpeter's (1911) theory of finance and growth, the financial system promotes output growth by distributing savings, fostering innovation, and providing capital for profitable economic ventures. It further asserts that funds from the credit market are essential in supporting output development by encouraging specialization in entrepreneurship and the adoption of new technology (Greenwood & Smith, 1997). Consequently, a nation's output rises in tandem with the expansion of its credit and stock markets. The idea that there is a direct relationship between the growth of agricultural output and credit markets is well supported by the theoretical models based on the theories that have been examined.

2.3 Empirical Review

Vector auto regression was used by Lawal (2011) to analyze the federal government's agricultural spending from 1979 to 2007. The findings showed that government assistance for the agriculture sector is directly tied to the sector's GDP contribution and that government expenditure does not exhibit a consistent pattern. Additionally, Ademola (2013) used time series data from 1981 to 2010 to examine the connection between government spending on agriculture and Nigeria's economic development. The study used the OLS technique, unit root test, and cointegration test to assess if agricultural production

was significant. Agricultural output and bank deposits did, however, have a slight but positive link.

Mbutor, Ochu, and Okafor (2013) investigate how agricultural finance affected Nigeria's overall agricultural output from 1980 to 2011. Considering the properties of the data, the vector error correction technique was applied. The data demonstrated that money has a favorable effect on agricultural output. However, variance decomposition revealed that the business was too reliant on the weather and that agricultural finance was in bad shape. Uger (2013) used annual time series data from 1991 to 2010 to examine how government investment affected the agriculture sector. The results of the OLS model showed a weak but positive correlation between Nigerian output and agricultural support (expenditure).

Egwu (2016) assessed Nigeria's agricultural production, economic expansion, and poverty reduction in connection to agricultural finance. The results of the regression showed that loans from the Commercial Bank Credit to the Agricultural Sector (CBCA) and the Agricultural Credit Guarantee Scheme Fund to Nigeria's Agricultural Sector (ACGSF) significantly increased agricultural sector production as a percentage of GDP. Matthew and Modesai (2016) investigated how Nigerian agricultural output was affected by public agricultural investment from 1981 to 2014. The study employed the Granger causality test, the ADF unit root test, the ECM, and the Johansen Co-integration test. The results of the parsimonious ECM model show that public agriculture investment has a significant and adverse effect on agricultural production. According to the research, there may have been a negative impact from the discrepancy between the amount allocated to the agricultural sector and the actual amount spent on the sector in the economy.

Using deposit money banks, Ali, Jatau, and Ekpe (2016) tried to calculate the relationship between agricultural growth and financial intermediation from 1981 to 2014. Even though the DMBLR's findings indicated a negligible and adverse impact on agricultural production, the study did highlight the significance of deposit money bank credit for raising agricultural output. Using the ordinary least squares method, the data was analyzed.

Using the econometric techniques of OLS and ECM, Aina and Omojola (2017) investigated the impact of government spending on the performance of Nigeria's agricultural industry from 1980 to 2013. The findings established a high and direct link between government

spending on agriculture and the output of agricultural products. For the years 1992Q1–2015Q4, Olorunsola, Adeyemi, Valli, Kufre, and Ochoche (2017) examined the short- and long-term relationship between bank lending and agricultural output in Nigeria. This study examined data from the private sector on agricultural finance and actual agricultural output growth on a quarterly basis. The agriculture industry showed no signs of either short-term or long-term conflict between loans and production lumps.

Tiamiyu, Bwala, and Alawode, (2017) evaluated the role of the Agricultural Credit Guarantee Scheme Fund, commercial bank loans to agriculture, and agriculture's percentage of GDP from 1981-2017. The statistical methods that were employed were ordinary least square regression and the correlation matrix. The empirical results show that the impact of agricultural loans, interest rates, and currency rates on Nigerian output is the same. Between 1996Q1 and 2017Q4, Olatunji, Ezenekwe, and Uzonwanne (2018) examined the restructuring of Nigeria's rural finance sector to support agricultural expansion. The study estimated the relevant connection using the ARDL technique. According to the long-term estimate's findings, Nigerian agricultural growth is positively correlated with agricultural credit, money markets, capital markets, and exchange rates; nevertheless, inflation has a long-term negative effect.

In studying Agricultural Financing and Performance of the Agricultural Sector in Nigeria, 1981-2015, Udeorah and Vincent (2018), investigated the relative effect of government and deposit money banks financing in the Nigeria's agricultural sector performance adopted quasi experimental design where multivariate Johansen co-integration Test was used to analyze the presence of the long run equilibrium relationships between time series variables, using estimated error correction regression model. The results of the study showed that crop yield and overall agricultural output were significantly decreased by government assistance provided through the agricultural loan guarantee plan fund.

In another study, Medugui, Musa and Abalis (2019) employed the ordinary least square method to assess the role of Commercial Banks' credit on Agricultural output in Nigeria, covering the period 1980 to 2018. The findings showed that government investment on agricultural and commercial bank lending both predicts Nigeria's output level. The findings were entirely in line with a priori predictions, showing an inverse relationship between interest rates and agricultural output.

Using yearly time series data, Obioma IHEMEJE, Ogbonna, Amadi, and Hanson (2021) investigated how agricultural funding affected the performance of Nigeria's agricultural sector. Even if rainfall, government expenditure on agriculture, interest rates, and commercial bank loans to agriculture were explanatory variables, the agricultural sector's GDP contribution served as a stand-in for the industry's performance. Using a vector autoregressive estimate and vector correction mechanism, the study looked at how quickly the variables changed from short-term dynamics to long-term equilibrium and found a long-term association between them. Particularly, the Agriculture Credit Guarantee Scheme has a significant and enduring impact on the farm sector's GDP contributions. Commercial bank agricultural loans significantly and favorably impacted the sector's GDP contributions throughout the reference period.

Using the Granger causality test and the Autoregressive Distributed Lagged (ARDL) model, Abbas (2021) examined the impact of agricultural funding on the productivity nexus in Nigeria between 1981 and 2019. Inputs for the model were government investment in agriculture, bank loans to the agricultural sector, the agricultural credit guarantee program fund, inflation rate, interest rate, and agriculture as a percentage of GDP. The results demonstrated that, aside from financial assistance from agricultural credit guarantee programs and bank private sector loans to agriculture, which had a significant long-term impact, other factors had a significant short-term impact on agricultural production.

In more recent studies, Toheeb and Dabo (2022) examine the impact of agricultural loan on agricultural output in Nigeria using yearly time series data from 1983 to 2018. While commercial bank lending to the agricultural industry is an independent variable, government support is represented by the government Agricultural Lending Guarantee Scheme Fund. The dependent variable is the total amount produced by the agriculture industry. Granger Causality is used to identify causal correlations between variables, whereas the Vector Autoregressive Model (VAR) is used to assess long-term relationships. According to the study's findings, agricultural loans from both commercial and government banks have a major causal influence on Nigerian agricultural output and gradually raise it.

Additionally, Odili (2022) used a vector error correction model (VECM) and a co-integration test to examine how agricultural sector financing affected Nigeria's agricultural sector production from 1981 to 2018. The agricultural sector's percentage of GDP,

lending interest rates, government investment in agriculture, yearly rainfall, the agricultural credit guarantee program fund, and commercial banks' loans to the agricultural sector were all factors included in the study. The results demonstrated that the agricultural loan guarantee program had a large and positive influence on the GDP ratio for the agricultural sector. The findings also demonstrated that government farm expenditures, commercial banks' lending interest rates, and agricultural sector credit all had a substantial and adverse effect on Nigeria's agricultural sector to GDP ratio.

James and Uduak (2022) looked at how government expenditure affected Nigerian agriculture between 1980 and 2018. The investigation employed the ARDL bound testing methodology. The study's findings demonstrated a high and positive correlation between government capital, continuous agricultural spending, and agricultural production over the examined period.

The impact of agricultural finance on Nigeria's agricultural sector production between 1981 and 2021 was examined by Nnachi, Nwobia, and Ubaka in 2023. The ARDL model was used for time series data analysis. It was found that the production of animals, grains, roots, and tubers had a positive and considerable influence on agricultural output. Oil palm, poultry, and cocoa, however, had no appreciable effect on agricultural production. Considering that financing for cattle rearing, cereals, roots, and tubers that is guaranteed by agricultural credit has had a significant and positive impact on agricultural output.

3. Methodology

This inquiry used the ex-post research design. The working population of the study is the whole Nigerian agricultural industry. Q1 of 2009 through Q4 of 2023 is the sample period. The Central Bank of Nigeria's (CBN) Statistical Bulletin, 2023, was one secondary source of data the researcher looked at for this study. Because of the linearity of the model created to investigate the effect of agricultural financing on agricultural output in Nigeria, numerical estimates of the parameters in the models were provided using descriptive statistics, correlation matrices, co-integration, and the Autoregressive Distributed Lagged (ARDL) method of estimation technique. Using E-views 9.0 econometric software, the Autoregressive Distributed Lag (ARDL) estimation approach was used to analyze the models and achieve the study's goals.

3.1 Theoretical Framework

This study's theoretical foundation is the theory of structural transformation; the expression "development with an endless supply of labor" has been used since Lewis Arthur created the Structural Change Theory in 1954. This essay makes the case that the growth of the two industries affects economic growth. The equation is $Y = f(AGRIC, IND)$, where Y is the measure of economic development, AGRIC stands for agriculture, and IND for industry. Because industry and agriculture are so closely intertwined, it is impossible to consider one without taking the other into account. The agricultural sector provides capital inputs and consumes goods from the industrial sector, while the industrial sector exports labor and finished goods to the farm sector. The purpose of this study is essential to the growth of the agriculture industry since no money can be made without a hypothesis. For agricultural projects to be implemented successfully, support is necessary. Increased agricultural output will support economic growth if these projects are adequately funded. In the absence of corresponding structural adjustments that boost output, additional tactics or adjustments are likely to be ineffectual or even harmful.

3.2 Model Specification

In order to investigate the link between agricultural financing and agricultural output, a modified version of the model used by Obioma, et al., (2021), was specified. Obioma et al., (2021), model included interest rate as control variable in their model but in this study only annual rainfall was included as the control variable. The functional form of our model is specified as:

$$AGRO = f(ACGSF, CBLA, GOVXA, ARF) \dots \dots \dots (1)$$

In stochastic form, the functional model mentioned above is further expressed as follows:

$$AGRO_t = \beta_0 + \beta_1 ACGSF_t + \beta_2 CBCLA_t + \beta_3 GOVXA + \beta_4 ARF + \mu_t \dots \dots \dots (2)$$

The equation is specified in implicit form using Autoregressive Distributed Lag (ARDL) Model as follows:

The equation can be specified explicitly in the short-run as follows:

$$AGRO_t = \beta_0 + \sum_{i=1}^p \beta_1 \Delta AGRO_{t-1} + \sum_{i=1}^q \beta_2 \Delta ACGSF_{t-1} + \sum_{i=1}^q \beta_3 \Delta CBLA_{t-1} + \sum_{i=1}^q \beta_4 \Delta GOVXAC_{t-1} + \sum_{i=1}^q \beta_5 \Delta ARF_{t-1} + \varepsilon_t \dots \dots \dots (3)$$

The error correcting mechanism (ECM), which restores economic equilibrium in the case of a shock, is incorporated into the long-term equilibrium impact of agricultural finance on agricultural production. As a result, equation 3 re-specifies the shock effect, which is captured by ECM, as follows:

$$\Delta AGRO_t = \beta_0 + \sum_{i=1}^p \beta_1 \Delta AGRO_{t-1} + \sum_{i=1}^q \beta_2 \Delta ACGSF_{t-1} + \sum_{i=1}^q \beta_3 \Delta CBLA_{t-1} + \sum_{i=1}^q \beta_4 \Delta GOVXA_{t-1} + \sum_{i=1}^q \beta_5 \Delta ARF_{t-1} + \phi ECM_{t-1} + \varepsilon_t \dots \dots \dots (4)$$

Where:

ARF stands for annual rainfall, ACGSF for agricultural credit guarantee scheme fund, CBLA for commercial banks' credit to the agricultural sector, GOVXA for government spending on agriculture, and μ_t for the stochastic disturbance term, which serves as a stand-in for other variables not included in the model. The dependent variable is agricultural production, or AGRO for short. The error correlation term, $ECM = (AGRO_{t-1} - \theta x_t)$, the constant or slope, β_0 , and the negative-sign speed of adjustment parameter, ϕ , are the recovered residuals from the regression of the long-run equation.

Regarding the behavior of their coefficients to be estimated in the model, the explanatory variables' a priori expectation trends are $\beta_1 > 0$, $\beta_2 > 0$, $\beta_3 >$, and $\beta_4 > 0$. Theoretically, every independent element ought to positively affect the agriculture sector's (AGRO) output.

3.1 Variable Measurement

The variables used, together with the a priori expectation and the name of the previous researcher that used the variable in their study, are listed in Table 1.

Table 1: Variable Measurements

Variables	Variable Type	Measurement	A-priori Expectation	Previous Study that Utilized the Variable
Agricultural Output (AGRO)	Dependent	agriculture production is determined by the agriculture sector's contribution to the gross domestic product.		Nnachi et al., (2023)
Agricultural Credit Guarantee Scheme Fund (ACGSF)	Independent	calculated as the total amount of loans made to Nigerian farmers through the Credit Guarantee Scheme Fund	(+)	Odili, (2022)
Commercial Bank Loans to Agricultural Sector (CBLA)	Independent	calculated as the total amount of loans given to Nigeria's agriculture industry by commercial and deposit money banks.	(+)	Obioma et al., (2021)
Government Spending on Agriculture (GOVXA)	Independent	measured as the total amount of money Nigerian governments spend on the agricultural industry.	(+)	Ibekwe (2021)
Annual Rainfall (ARF)	Independent	Rainfall is measured in millimeters per year.	(+)	Abbas, (2021)

Source: Author's compilation (2025)

4. Presentation and Discussion of Results

4.1 Descriptive Statistics

Descriptive statistics are used to do the fundamental characterization of the datasets in order to summarize the data. The annualized summary data for every variable in the study from 2000Q1 to 2023Q4 is displayed in Table 1.

Table 4.1: Descriptive Statistics

	AGRO	ACGSF	CBLA	GOVXA	ARF
Mean	18290.13	5981.242	474.8746	39.27833	1424.296
Median	14926.01	5778.250	293.5553	36.58500	1427.563
Maximum	49724.78	13283.33	1908.047	84.62156	1584.750
Minimum	1409.684	214.1494	33.10563	6.222813	1139.613
Std. Dev.	14049.89	3547.771	544.5273	24.87053	62.00391
Skewness	0.870107	0.091930	1.514353	0.360242	-0.827075
Kurtosis	2.712666	2.029447	4.209517	1.933626	7.617343
Jarque-Bera	12.44362	3.903107	42.54397	6.625001	96.22426
Probability	0.001986	0.142053	0.000000	0.036425	0.000000
Sum	1755853.	574199.2	45587.96	3770.720	136732.4
Sum Sq. Dev.	1.88E+10	1.20E+09	28168443	58761.60	365226.0
Observations	96	96	96	96	96

Source: Author's computations, (2025) using Eviews 9.0

The average agricultural output (AGRO) was N18290.13 billion, the average agricultural credit guarantee scheme fund (ACGSF) was N5981.242 billion, the average commercial bank loans to agriculture (CBLA) was 474.8746, the average government expenditure on agriculture (GOVXA) was N39.27833 billion, and the average annual rainfall (ARF) was 1424.296, as indicated by the descriptive statistics in Table 4.1. The range of values found in each series is indicated by the minimum and maximum values, which show the lowest and highest values obtained for each series. The standard deviation indicates that the variables are widely distributed from their respective mean values. This suggests that each series of the variables' values varies greatly. This suggests that each series of the variables' values varies greatly. All of the variables were positively skewed, according to the skewness values, with the exception of ARF, which was negatively skewed. The Kurtosis values for both CBLA and ARF above the permissible threshold of 3, suggesting that the series for both are leptokurtic, or strongly peaked, meaning that they contain a greater number of values than the sample mean. On the other hand, AGRO, ACGSF, and GOVXA have flat (plytokurtic) Kurtosis values. For AGRO, CBLA, GOVXA, and ARF, the Jarque-Bera test probability values were less than 0.05, suggesting that the null hypothesis—that the series are not normally distributed—should be accepted; but, for ACGSF, it should be rejected.

4.2 Analysis of Correlation

Examining the strength and direction of the relationship between the study's variables is crucial. Correlation analysis is used to conduct these studies. The correlation test results are displayed in Table 4.2.

Table 4.2: Results of the Correlation

Correlation Probability	AGRO	ACGSF	CBLA	GOVXA	ARF
AGRO	1.000000 -----				
ACGSF	0.400123 0.0001	1.000000 -----			
CBLA	0.868490 0.0000	0.320414 0.0015	1.000000 -----		
GOVXA	0.814345 0.0000	0.426134 0.0000	0.848134 0.0000	1.000000 -----	
ARF	0.504532 0.0000	0.262290 0.0098	0.397861 0.0001	0.578711 0.0000	1.000000 -----

Source: Author's computations, (2025) using Eviews 9.0

The correlation finding in Table 4.2 indicates that there is a significant positive relationship between agricultural production (AGRO) and each of the independent variables (ACGSF, CBLA, GOVXA, and ARF). Raising these variables will increase agricultural GDP, which serves as a proxy for agricultural production throughout the analysis, according to their correspondingly positive coefficients. Important factors that increase agricultural production include ARF, CBLA, GOVXA, and ACGSF, based on their relative probability values. The link between the independent variables has a similar pattern, suggesting a strong and favorable relationship. Furthermore, Table 3 also revealed the absence of multi co-linearity problem among explanatory variables since no correlation coefficient between explanatory variables is > 0.90 as suggested by Gujarati (2008).

4.3 Testing at the Unit Root

The Augmented Dickey Fuller (ADF) test is used to examine unit roots. Since the ARDL limits test cannot be used for co-integration, the study used the traditional ADF unit root test to determine whether the data was stationary and to ensure that none of them were I (2) or above. To determine the stationary variables, Table 4.3 displays the ADF test results for the series at level and first differences.

Table 4.3: Unit Root Test Outcome

Variables	Augmented Dickey–Fuller (ADF) Test		
	At level	1 st Difference	Order of Integration
AGRO	0.1373	-3.0255**	I[1]
ACGSF	-2.3025	-6.5284*	I[1]
CBLA	-1.0629	-6.5294*	I[1]
GOVXA	-0.4027	-3.4367*	I[1]
ARF	-2.1703	-4.6053*	I[1]

Source: Researcher's Computation (2025) Using E-views 9.0 Software.

Note: * & ** indicate significance at 1 and 5 percent levels.

To capture the stationary variables, the ADF test results for the series at level and first differences are shown in Table 4.3. The results demonstrate that all variables become stable at the first difference at the 1% and 5% levels of significance. After the test result indicated that the variables were integrated of I(1) and that none of the variables were integrated of I(2) or higher, we moved forward with the ARDL co-integration approach since it can handle whether all the variables are I(0), I(1), or a combination of both. To proceed with the co-integration test, this suggests using the ARDL technique (bounds test approach of co-integration), developed by Pesaran, Shin, and Smith (2001).

Co-integration Bounds Tests

To determine if the explained variable AGRO and the explanatory variables in the ARDL model had a long-term equilibrium link, a robust ARDL bound testing approach for cointegration was used after the order of integration. You may see this in Table 4.4.

Table 4.4: Selected Model ARDL Bounds Test for Co-integration [ARDL (2, 1, 1, 0, 2)]

Test Statistic	Value	K
F-statistic	1.201302	4

Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.45	3.52
5%	2.86	4.01
2.5%	3.25	4.49
1%	3.74	5.06

Source: *Researcher’s Computation (2025) Using E-views 9.0 Software*

At the 5% level of significance, Table 4.4 demonstrates that the F-statistic value of 1.20 is below the upper bound critical value of 4.01. It would appear from this that the null hypothesis—that there is no long-term relationship—is accepted and the alternative—that there is a long-term relationship—is rejected. AGRO and the explanatory variables ARF, GOVXA, CBLA, and ACGSF do not, therefore, have a long-term equilibrium relationship. The short- and long-term associations between these factors cannot thus be estimated.

4.3 Analysis of Regression

The findings of the study on the connection between Nigerian agricultural production and agricultural finance are compiled in Table 4.5. The ARDL 2, 1, 1, 0, 2 was the last model selected for the study, as indicated in Table 4.4. The Akaike Information Criterion (AIC) was utilized for automatic lag selection in order to determine the ideal lag duration.

Table 4.5: for ARDL Regression

Dependent Variable: AGRO: The model that was chosen is ARDL (2, 1, 1, 0, 2).

Variable	Coefficient	t-Statistic	Prob.
AGRO(-1)	1.625140	19.54814	0.0000*
AGRO(-2)	-0.630925	-7.502681	0.0000*
ACGSF	-0.121289	-1.716421	0.0898
ACGSF(-1)	0.115394	1.597773	0.1139
CBLA	5.862969	4.160862	0.0001*
CBLA(-1)	-5.985207	-4.513742	0.0000*
GOVXA	3.720239	1.156207	0.2509
ARF	6.932296	4.577527	0.0000*
ARF(-1)	-11.33298	-5.173208	0.0000*
ARF(-2)	4.609179	3.691445	0.0004*

C	-172.5648	-0.171894	0.8639
R ²	0.999705		
Adjusted R ²	0.999670		
F-statistic	28161.32		
Prob. (F-stat.)	0.000000		
D.W stat	2.170886		

*Source: Researcher’s Computation (2025) Using E-views 9.0 Software. Note: * = 1% significant level*

The ARDL in result Table 4.4 indicates that the explanatory factors (ACGSF, CBLA, GOVXA, and ARF) explain almost 99% of the variation in the dependent variable (AGRO), as indicated by the OLS result, which shows an R2 value of 0.999705. The corrected R2 value of 0.999670, or around 99%, shows that the conclusion is still strong even after taking the degrees of freedom (df) into consideration. Consequently, the data is well-matched by the ARDL regression. When assessing the explanatory capability of the model at the 1% level of statistical significance, the F-statistic yields a result of 28161.32 with a corresponding probability value of 0.0000. This implies that the four explanatory factors—ACGSF, CBLA, GOVXA, and ARF—have a major influence on Nigerian produce. Autocorrelation is ruled out completely by the Durbin-Watson score of 2.170886. Every explanatory factor, with the exception of ACGSF and GOVXA, passed the significance test at the 1 and 5 percent levels, according to a detailed analysis of each individual model coefficient. This suggests that AGRO (-1), AGRO (-2), CBLA, CBLA (-1), ARF, ARF (-1) and ARF (-2) have a major influence on agricultural output in Nigeria, whilst ACGSF and GOVXA have no discernible effect. While AGRO (-2), CBLA (-1), and ACGSF displayed negative indicators, AGRO (-1), CBLA, ARF, ARF (-2), and GOVXA also displayed direct signs.

Diagnostic Test

The validity, robustness, and reliability of the ARDL results obtained from the empirical investigation were confirmed using the Ramsey RESET stability test, the Breusch–Godfrey Serial Correlation LM test, and the Breusch-Pagan-Godfrey heteroskedasticity test. Table 4.6 displays the test results.

Table 4.10: Result of the diagnostic test for ARDL model (2, 1, 1, 0, 2)

Diagnostic Tests (Test Statistics)	Test	Coefficient	P-value	Decision
Breusch-Pagan-Godfrey	Heteroskedasticity	1.736842	0.5058	No Heteroskedasticity problem
Breusch-Godfrey LM (F-Stat.)	Serial Correlation	0.707326	0.4960	No Serial correlation
Ramsey RESET Test	Model Specification Error:			Equation is correctly specified
	t-stat.	1.549108	0.4306	
	F-Stat.	1.529617	0.3206	

Source: Author’s computation, (2025) using Eviews 9.0

The null hypothesis, according to Table 4.6’s results of the Breusch-Pagan-Godfrey heteroskedasticity test, cannot be rejected since the probability values (0.5058) above the 0.05 ($p > 0.05$) threshold of significance. Accepting the null hypothesis is crucial in order to determine that the models do not have a heteroskedasticity problem. Table 4.6 displays the results of the Breusch-Godfrey Serial Correlation LM test, which likewise show that the probability values (0.4960) are more than the 0.05 ($p > 0.05$) threshold of significance, indicating that the null hypothesis—that there is no serial correlation—cannot be rejected. The conclusion that the model does not have a serial correlation problem—that is, that there is no serial correlation between the independent variables and the disturbance term—follows from the acceptance of the null hypothesis. Additionally, there are no specification errors in the models, as shown by the

probability of the t-statistic and F-statistic of the Ramsey RESET test in Tables 4.6 being both larger than 0.05 ($p > 0.05$). This implies that the linear form of the model was provided precisely, that the functional form of the model is accurate, or that pertinent variables were included.

4.4 Discussion of Findings

According to the study, both one-year delayed agricultural production [AGRO (-1)] and two-year lagged agricultural output [AGRO (-2)] have a substantial impact on current year agricultural output (AGRO). Additionally, whereas current year agricultural output (AGRO) had a positive correlation with two-year lagged agricultural output [AGRO (-2)], it had a negative correlation with one-year lagged agricultural production [AGRO (-1)]. This leads to a

tendency for agricultural output that is one year lagged [AGRO (-1)] to rise, and for agricultural output that is two years lagged [AGRO (-2)] to fall. As a result, a unit increase in agricultural output that is one year behind schedule [AGRO (-1)] will raise agricultural output by 1.62 units, whereas a unit increase in agricultural output that is two years behind schedule [AGRO (-2)] will cause agricultural output to decline by 0.63 units. According to this conclusion, two-year lagged agricultural output [AGRO (-2)] and one-year lagged agricultural production [AGRO (-1)] had a substantial impact on Nigeria's current year agricultural output during the studied period.

The empirical results indicate that the coefficient of agricultural credit guarantee scheme fund (ACGSF) has a negligible negative impact on agricultural output (AGRO) and that ACGSF is not a critical agricultural finance variable that influences Nigeria's agricultural output during the reference period. Consequently, for every unit rise in ACGSF, agricultural output will decrease by an insignificant 0.12 units. The negligible adverse effect may be the result of the loans not being used for agricultural purposes but rather for other purposes. The result of this study agrees with Udeora and Vincent (2018), who found a negative relationship between agricultural credit guarantee scheme fund (ACGSF) and agricultural output (AGRO), but contradict those of Egwu (2016), Abbas (2021), Odili (2022) and Nnachi et al., (2023) who found a significant positive relationship between agricultural credit guarantee scheme fund (ACGSF) and agricultural output.

Furthermore, the ARDL result indicates that the coefficient of current year commercial bank loans to agriculture (CBLA) and one year lagged commercial bank loans to agriculture [CBLA (-)] have a substantial impact on agricultural production (AGRO). There is a negative correlation between commercial bank loans to agriculture [CBLA (-)] and AGRO one year behind, but there is a positive correlation between CBLA and AGRO. This suggests that CBLA and agricultural loans from commercial banks that are one year behind schedule [CBLA (-1)] are significant determinants of Nigeria's agricultural production. Agricultural output will therefore grow by 5.86 units for every unit increase in CBLA, while CBLA (-1) tends to decrease agricultural output. Consequently, for every unit increase in CBLA, agricultural output will drop by 5.98 units (-1). This finding aligns with the submission of Egwu, (2016), Matthew and Modercai (2016), Medugui et al., (2019), Obioma et al., (2021) and Toheeb and Dabo (2022) who concluded that commercial bank loans to agriculture has significant positive effect on

agricultural output; but disagreed with that of Odili (2022) who found significant negative relationship between CBLA and agricultural output in their studies.

Moreover, government expenditure on agriculture (GOVXA) does not much increase Nigeria's agricultural output (AGRO). Nigeria's AGRO increases by 3.72 units for every unit increase in government spending on agriculture, according to this study. Consequently, government expenditure on agriculture does not significantly affect Nigerian agricultural output. This result is consistent with that of Ademola (2013), who found that government spending had a negligible positive impact on agriculture and agricultural productivity. This finding is contrary to the result of Lawal, (2011), Aina and Omojola (2017), Medugui et al., (2019), Toheeb and Dabo, (2022) and James and Uduak (2022) who reported a significant positive link between government expenditure on agriculture (GOVXA) and agricultural output.

Last but not least, the control variables, annual rainfall (ARF), one year lagged annual rainfall [ARF (-1)], and two years lagged annual rainfall [ARF (-2)] are positively and negatively correlated with agricultural output (AGRO), respectively. This suggests that increases in present annual rainfall (ARF) and two-year-lag annual rainfall [ARF (-2)] considerably boost agricultural output by 6.93 and 4.60 units, respectively, whereas increases in one-year-lag annual rainfall [ARF (-1)] decrease agricultural output by 11.33 units. The substantial influence of yearly rainfall suggests that it is essential to raising Nigeria's agricultural productivity. The finding is in consonance with the result of Obioma et al., (2021) which indicated that annual rainfall significantly influences agricultural output.

5. Conclusion and Recommendations

5.1 Conclusion

Examining the connection between Nigeria's agricultural output and agricultural funding was the aim of this study. The variables used as stand-ins for agricultural funding were government spending on agriculture (GOVXA), commercial bank loans to agriculture (CBLA), and the agricultural credit guarantee scheme fund (ACGSF). The agricultural GDP served as a proxy for agricultural output. The ARDL model, which was intended to examine the influence of agricultural financing factors on agricultural output, was specified using the Autoregressive Distributed Lag (ARDL) estimate approach using quarterly data from 2009Q1 to

2023Q4. The econometric analysis program E-view 9.0 was utilized. The results show that while government spending on agriculture (GOVXA) and the agricultural credit guarantee scheme fund (ACGSF) has no effect on agricultural output in Nigeria, commercial bank loans to agriculture (CBLA) do. Furthermore, the control variable, annual rainfall, significantly boosts agricultural productivity. According to the study's findings, agricultural finance has a major impact on Nigeria's agricultural output. This is demonstrated by the fact that commercial bank loans to agriculture (CBLA) significantly increase agricultural output.

5.2 Recommendations

The following policy recommendations are derived from the study's findings:

Given the study's findings that the Agricultural Credit Guarantee Scheme Fund (ACGSF) has a slight detrimental effect on agricultural output, we advise keeping a careful eye on farmers who receive loans under the fund to ensure they use them for agricultural purposes. The initiative should finance farmers who are ready and willing to begin medium- or large-scale farming in order to boost production for both domestic and foreign markets and create jobs. Nigeria would be able to gain foreign exchange as a result.

To further boost agricultural output, Nigerian deposit money banks ought to provide more loans to the country's agricultural industry.

If the government wants to greatly enhance Nigeria's agricultural output, it must likewise raise its spending in this area. It is also necessary to have a fiscal policy that is incongruous with the ongoing expenditures in the agricultural sector.

Finally, farmers should plan their crops to take advantage of Nigeria's rainy season.

References

Abbas, A. M. (2021). Agricultural financing and productivity nexus in Nigeria: An ARDL analysis. *NOUN Journal of Management and International Development*, 6(1), 241-259.

Adejumo, O. A., & Bolarinwa, T. O. (2017). Analysis of the performance of the agricultural credit guarantee scheme fund in Nigeria (1981 - 2016). *Journals of Agricultural and Veterinary Science*, 10 (10): 24-30.

Adejumo, O. A. & Omonona, B. T. (2017). Analysis of the performance of the agricultural credit

guarantee scheme fund in Nigeria (1981-2016). *IOSR Journal of Agriculture and Veterinary Science* 10(10),24-30.

Ademola, I. S., Olaleye S. O., Olusuyi A. E. & Edun, F. (2013). Government expenditure on agricultural sector and economic growth in Nigeria (1981 – 2010). *Humanities and Social Science*, 10(2), 98 – 107.

Aina, G., & Omojola, O. (2017). Assessment of the effect of government expenditure on agricultural output in Nigeria (1980-2013). *International Journal of Innovative Agriculture and Biology research*, 5(4), 1 - 7.

Ali, J. I., Jatau, S., & Ekpe, M. J. (2016) Financial intermediation and agricultural output in Nigeria: An impact analysis of deposit money banks' credit. *International Journal of Agricultural Economics*, 1(1), 16-25.

Anyawu, T.C. (1997). *The Structure of the Nigerian Economy 1960-1970*. Joanee Educational Publishers.

Central Bank of Nigeria (2019). CBN statistical bulletin. <https://www.cbn.gov.ng>.

Duong, P., & Izumida, Y. (2002). Rural development finance in Vietnam: A micro econometric analysis of household surveys. World Bank Development.

Eburajolo, C. O. & Aisien, L. N. (2019). Impact of commercial banks' credit to the real sector on economic growth in Nigeria. *Oradea Journal of Business and Economics*, 4 (1). 38-46.

Efobi U. R., & Osabuehin, E. S, (2011) Assessment of the role of agricultural credit guarantee scheme Fund in Promoting Non-Oil Export in Nigeria. Oxford University the United Kingdom.

Egwu, P. N. (2016). Impact of agricultural financing on agricultural output, economic growth and poverty alleviation in Nigeria. *Journal of Biology, Agriculture and Healthcare*, 6(2), 36-42.

Ewubare, D. B., & Eyitope, J. A. (2015). The effects of public expenditure on agricultural production output in Nigeria. *Journal of Research in Humanities and Social Science*, 3, 7-23.

FAO (2009). "World Summit on Food Security", Rome, 16-18 November.

Federal Ministry of Agriculture and Rural Development (FMARD) (2003), Agriculture in Nigeria: The new policy thrust. Federal Ministry of Agriculture and Rural Development, Abuja, 2003. FGN (undated). Nigeria: Review of On-Going Agricultural Development Efforts.

- Food and Agricultural Organisation - FAO (2020). Building sustainable agrifood system. <https://www.fao.org/home/en>
- Ijaiya, M, A. (2003). Commercial banks credits to the agricultural sector and the Nigerian economy: An analysis of the future trend department of accounting and finance University of Ilorin, Ilorin Nigeria, (Unpublished).
- James, E., & Uduak, B. (2022) Government spending and agricultural output in Nigeria. *International Journal of Education, Social Science Research* 5(4), 2581 - 5148.
- Keynes, J. M. (1936). *The general theory of employment, interest and money*. London: Macmillan, 1936.
- Lawal, W. A. (2011). An analysis of government spending on agricultural sector and its contribution to gross domestic product in Nigeria. *International Journal of Business and Social Science*, 2(20), 244 – 250.
- Matthew, A., & Modesai, B. (2016). The impact of public agricultural expenditure on agricultural output in Nigeria (1981-2014). *Asian Journal of Agricultural Extension, Economics and Sociology*, 11(2), 1 – 10.
- Mbelu O. N., & Ifionu, E. P. (2022). Agricultural financing and economic growth in Nigeria. *African Journal of Accounting and Financial Research* 5(3), 30-48. DOI: 10.52589/AJAFR- VV0CKXM8.
- Mbutor, O. M., Ochu, R. E. & Okafor, I. I. (2013). The contribution of finance to agricultural production in Nigeria. *CBN Economic and Financial Review*. 51(2), 1-20.
- Medugu1, P. Z., Musa, I., & Abalis, E. P. (2019). Commercial Banks Credit and Agricultural Output in Nigeria: 1980 -2018. *International Journal of Research and Innovation in Social Science (IJRISS)*,3(5),1-8.
- Nnachi, N. D., Nwobia, C. E., & Ubaka, C. K. (2023). Agricultural financing and output In Nigeria: A disaggregated analysis. *South East Journal of Political Science*, 9(2), 214 -225
- Nomor, D. T., & Udele, E.T. (2024). Government agricultural expenditure, agricultural output and Economic Growth in Nigeria: A structural vector autoregressive approach. *Journal of Economic and Social Research (JESR)*, 10(1), 244 – 263
- Obioma I. F., Ihemeje J. C., Ogbonna, C. I., Amadi, C. O., & Hanson, U. E. (2021). Effect of agricultural financing on the performance of agricultural sector in Nigeria. *Journal La Bisecoman*, 2(2), 1 – 13.
- Odili, O. (2022). Agricultural financing and agricultural sector output in a developing economy: The Nigerian experience. *Amity Journal of Management Research*, 1(1), 1-19.
- Odoemenem, I. U., & Obinne, C. P. (2010). Assessing the factors influencing the utilization of improved cereal crop production technologies by small scale farming in Nigeria. <http://www.indjst.org> .
- Oguoma, N. N. O., Nwosu, F.O., Benchendo, N.G., & Henri-Ukoha, A.O. (2010). The agricultural credit guarantee scheme: Its roles, problems and prospects in Nigeria's quest for agricultural development. *International Journals of Agricultural Economics*, 3 (2), 87 - 90.
- Olatunji, A. S, Ezenekwe, U. R., & Uzonwanne, M. C. (2018). Restructuring rural financial market for agricultural growth in Nigeria. *Turkish Economic Review*, 5(3), 241-255. www.kspjournals.org.
- Olorunsola, E. O., Adeyemi, A. A., Valli T. A., Kufre, J. B., & Ochoche, A. (2017). Agricultural sector credit and output relationship in Nigeria: Evidence from Nonlinear ARDL. *CBN Journal of Applied Statistics*, 8(1), 101-119.
- Philip, D., Nkonya, E., Pender, J., & O. A. Oni (2009). Constraints to increasing agricultural productivity in Nigeria: A Review. Nigeria Strategy Support Program (NSSP) Background Paper No. 6.
- Rahji, M. A. Y., & Fakayode S. A. (2009). Multinomial logit analysis of agricultural credit rationing by commercial banks in Nigeria. *International Research Journal of Finance and Economics*. 24(9), 14 - 28.
- Schumpeter, J.A. (1934). *The theory of economic development: An inquiry into profits, capital, credit, interest and the business cycle*, London: Oxford University Press.
- Tiamiyu, S. A. I., Bwala, M. A. & Alawode, V. O. (2017). Economic revitalization through agriculture: Role of agricultural credit guarantee scheme fund in Nigeria. *RJOAS*, 3(63), 3-6. <https://doi.org/10.18551>.
- Toheeb, A., & Dabo, A. C. (2022). Impact of agricultural finance on agricultural output in Nigeria (1983 - 2018). Available at SSRN: <https://ssrn.com/abstract=4201333> or <http://dx.doi.org/10.2139/ssrn.4201333>.
- Udeorah, S. F., & Vincent, M. O. (2018). Agriculture financing and performance of the agricultural sector in Nigeria, 1981-2015. *International*

- Journal of Research in Computer Application & Management*, 8 (01):36-42.
- Uger, F. (2013). Trend performance in credit financing of rural business activities in Nigeria: A case study of community banks in Ibadan, Oyo State. *International Journal of Agriculture and Rural Development*, 7 (1), 50 – 60.
- Ukpong, U. M., Uduak, A., Ekere, S. A. & Akpan, E. O. (2022). Government expenditure and agricultural sector output in Nigeria. *American Journal of Arts and Human Science*, 1(4). 20 -26.



Housing Poverty Reduction through the Trader and Market Moni Scheme of Osa Market Beneficiaries in Benin City, Edo State, Nigeria

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Abstract. The increasing poverty rate prompted by the housing poverty deficit and the high cost of building materials whereby a large chunk of the Nigerian population struggles to afford decent housing and the need to determine the extent to which the Trader and Market Moni loan scheme hosted by the immediate regime of President Muhammadu Buhari compelled this study. The objective of the study was to examine how the Trader and Moni loan scheme worked to reduce housing poverty among Osa-Market recipients of Oredo Local Government Area in Benin City. The study deployed social welfare theory. The population of the study cut across the Trader and Market Moni recipients in the above-mentioned market. To gain a better insight into the subject matter of discourse. The paper reviewed related literature and applied both qualitative and quantitative methods of data collection. Taro Yamani's scientific approach was used to obtain an optimal sample size of 220 and 110 for Trader and Market Moni respectively. The hypotheses were tested with the Pearson Correlation statistical method. Findings established a positive correlation between the micro-credit loan scheme and the housing poverty reduction of recipients over non-recipients in the Osa market. The study concluded that the micro-credit loan scheme has contributed largely to reducing the housing poverty of recipients in Osa Market in Oredo Local Government Area, in Benin City. Consequently, the study recommended that the Trader and Moni loan scheme be overhauled for better functioning, and increased the loan amount to match the reality in the economy of today among others.

Keywords: Housing Poverty Reduction, Trader and Market Moni Loan, Osa Market Beneficiaries, Benin City, Edo State.

1. Introduction

Social policy programmes are government interventionist programmes carefully designed to

address the alarming rate of housing poverty globally (World Bank, 2020). According to the United Nations Human Settlements Programme (2019) reports that 1.8 billion people globally live in inadequate housing, highlighting the need for effective social policies. This is attributed to the reason why housing poverty reduction is placed under agenda eleven and target 1 of the Sustainable Development Goal (SDG) ascribing to why governments across the globe are encouraged to evolve appropriate social and welfare programmes to reduce the menace of housing poverty globally (UN-Habitat, 14; United Nation, nd). Housing Poverty which is a component of absolute poverty means a situation whereby individuals or households lack access to safe, secure, and adequate housing, often due to financial constraints, inadequate housing supply, or other socioeconomic factors (Marutlulle, 2021). People who are faced with the housing poverty challenge often have limited financial resources making it difficult for them to afford decent housing, unstable or well-paying jobs, living in cramped or shared accommodations, and substandard housing conditions with inadequate amenities or maintenance. These characteristics highlight the complex and multifaceted nature of housing poverty requiring comprehensive solutions to address the root causes (Marutlulle, 2021). According to research, housing poverty can have severe consequences on mental well-being and health. A study published in the Delaware Journal of Public Health (2023) highlights the intersection of homelessness, housing, and poverty, emphasizing the need for effective intervention to address these issues (Metraux, Hesketh, O'Neill; Rayl, 2023).

Sequel to the above and in response to Target 1.3 of the Sustainable Development Goal, and the Adisa Ababa Action Agenda of the Third International Conference on Financing underscore the need for countries to implement appropriate social protection programmes to fight poverty and achieve other

Sustainable Development Goals (Social Situation Report, 2018). This realization prompted the Federal Government of Nigeria under the able leadership of ex-President Muhammadu Buhari in May 2016 to inaugurate social protection programmes of TraderMoni, MarketMoni, and NPower programmes to lift millions of Nigerians out of housing poverty, promote financial inclusion, social inclusion and enhance business expansion among others (Odiase, 2020). Under this dispensation, both Trader and MarketMonie schemes were managed by the Nigerian Bank of Industry to provide interest-free loans to artisans, petty traders and other Nigerians at the bottom of the economic pyramids who may not be able to provide the needed requirements to obtain loans from Commercial banks (Akujuru, 2019; Ogbette, Bernard & Okon, 2019).

Additionally, TraderMoni was targeted at individual petty traders with loans starting at ten thousand naira (#10,000). On the other hand, MarketMoni was designed for traders who access laon from fifty thousand naira (#50,000) and the beauty of this loan was that beneficiaries received them without being subjected to any stringent conditions (Business Day March 4, 2019). So far from 2016 to 2022, the Federal Government spent a whopping sum of 17.6 billion naira on a total of 185, 9191 beneficiaries across Nigeria under the Government Economic Empowerment (GEEPs) a component of the National Social Investment Programme (N-SIP) (Onyedinafu, 2023). Arising from the foregoing, this study seeks to weigh the efficacy of how the Trader and MarketMoni loan scheme has been able to reduce the prevalence of housing poverty among beneficiaries in the Ose-market, Benin City, in Oredo Local Government Area of Edo State.

1.1 Statement of the Problem

The need to find out how well the Trader and MarketMoni loan scheme introduced by the past regime of ex-President Muhammadu Buhari has been able to reduce poverty particularly housing poverty was the starting point of this study. It will be recalled that many Nigerians have queried what petty loans of #10,000 and #50,000 can afford in present day Nigerians let alone use the sum to improve the business of petty traders. However, at the formation stage of the National Social Investment Programme which Trader and MarketMoni programme are part of. Former President Muhammadu Buhari targeted to lift a minimum of 100 million Nigerians out of poverty before the year 2030.

According to available statistics, Nigeria faces a substantial housing deficit, estimated at over 17

million housing units. This deficit has led to overcrowding, informal settlements and slums in urban areas. This deficit has been increasing over the years, from 7 million units in 1991 to 12 million units in 2007, and 16-17 million units from 2012 to 2017 (Efobi, Enoh & Nwachukwu, 2021) However, since its introduction in the year 2016, it is still unclear to know the exact contributions of the National Social Investment Programme in reducing poverty. In their 2022 Annual Poverty Report, the National Bureau of Statistics (NBS) hinted that 1.33 trillion persons representing 63 % of Nigerians are still multidimensionally poor (Ogunyemi, 2022). Being multi-dimensionally poor implies that three out of every five Nigerians have at least two dimensions of extreme poverty which include income, food, and housing poverty. Further, the United Nations projects that by 2030, 60% of Nigerians will be living in cities, exacerbating the housing crisis in Nigeria (Odifiri, Emeanu, Musa, Ijeoma & Ukah, 2022).

Currently, 90% of Nigeria's population are low-income earners who struggle to afford housing due to high costs of land, building materials, and stringent policies on residential provision. The reflection on the foregoing prompted the researchers to ruminate on the above concerns. It is against this backdrop that this study seeks. To what extent has the TraderMoni loan scheme reduced housing poverty among Osa market recipients in Benin City? Find out the extent to which MarketMoni has reduced housing poverty among recipients in Benin City.

1.2 Objectives of this study

For this study to be vividly carried out, the objectives of the study are to:

- Ascertain the extent to which the TraderMoni loan scheme has reduced housing poverty among Osa market beneficiaries in Benin City.
- Determine the extent to which the MarketMoni loan scheme has reduced housing poverty among Osa market beneficiaries in Benin City.

1.3 Hypotheses (Null)

Following the objectives above, the hypotheses were tested:

Ho1 There is no significant relationship between the TraderMoni loan scheme and housing poverty reduction among Osa market beneficiaries in Benin City.

Ho2 There is no significant relationship between the MarketMoni loan scheme and housing poverty reduction among Osa market beneficiaries in Benin City.

2. Literature Review and Theoretical Framework

2.1 Conceptual Clarification

2.1.1 Housing Poverty

Housing is a crucial basic need of every human being just as food and clothing (Aribigbola, 2006). It is very fundamental to the welfare, survival and health of man (Fadamiro et al, 2004) Hence, housing is one of the best indicators of a person's standard of living and his place in society. The location and type of housing can determine or affect the status of man in society. Housing poverty refers to a situation where individuals or households lack access to safe, secure and adequate housing often due to financial constraints, inadequate housing supply, or other socioeconomic factors. According to UN-Habitat" adequate housing is a fundamental human right, essential for human dignity, health, safety and well-being (UN-Habitat, 2014). Further, Mandelker and Montgomery (1973) described housing as a product and a process. As a product, housing refers to the end product of construction work in terms of the structure, design, space, lighting, heating, sanitary facilities as well as convenience. On the other hand, as a process, housing involves construction, neighbourhood planning, urban and regional planning as well as environmental management. It also includes construction, rehabilitation, maintenance and re-modeling. Consequently, the housing stock of a nation is affected by all these factors. Housing poverty is peculiar to both rich and poor nations as well as developed and developing countries. Certain problems are associated with housing poverty worldwide. They include shortage of housing (qualitatively and quantitatively) homelessness, government shortsightedness about the housing needs of the people, access to building land, house cost to specification and space standard as well as high interest rate of home loans. The reasons for housing poverty in Nigeria include poverty, high rate of urbanization, high cost of building materials as well as rudimentary technology building among others (Ibimilua & Ibitoye, 2015).

2.1.2 TraderMoni Programme

This is part of the Government Enterprise and Empowerment Programme (GEEP): a component of

the National Social Investment Programme introduced by Buhari's administration to reduce the scourge of poverty among vulnerable Nigerians. TraderMoni is an interest-free loan scheme of the Federal Government designed for petty traders, artisans and other vulnerable populations across Nigeria. The scheme is currently executed through the Bank of Industry (BOI). TraderMoni programme beneficiaries can get a start-up loan of ten thousand naira (#10,000) which can be grown to one hundred thousand naira (#100,000) as the beneficiaries repay within six months without defaults (Akujuru,2019).
MarketMoni Programme

MarketMoni loan programme is also part of GEEP and it is a component of the National Social Investment Programme designed to help medium-scale traders, market women, artisans and youth in market associations across Nigeria, to expand their business and by extension reduce their poverty level. Beneficiaries are given an initial interest-free loan of fifty thousand naira (#50,000) with a repayment period of six months and a maximum of three hundred thousand naira (#300,000) upon successful payment of the previous loan without default. The loan is facilitated by the Bank of Industry. Before an individual is qualified for Trader and MarketMoni loan, he or she must fulfil the following requirements: must be a Nigerian and eighteen years above; must be a business owner or a trader and must belong to a market cooperative union in his or her location; must have a valid Bank Verification Number (BVN), and must have a valid SIM/phone number that is registered with service providers (Ogbette, Bernard & Okoh, 2019).

2.2 Empirical Review

Okunmahie and Omamor (2023) conducted a study on how Trader and Market's Moni has reduced the food poverty of beneficiaries in the new Benin market. Their study leverages on mixed method of data collection and adopts social welfare theory as the theoretical framework of analysis. The population of the study comprise the total population of Traders and MarketMoni in the new Benin market. Findings showed that there is a positive correlation between the Trader and Market Moni micro loan scheme on food poverty reduction of beneficiaries of the scheme over the non-beneficiaries. The study concluded on a positive note that Trader and MarketMoni are impactful on the well-being of beneficiaries and recommended that the government should partner with market unions in terms of disbursement and repayment among others. The authors are commended for their excellent work in showing how Trader and Market

Moni worked to decrease the poverty trajectory of beneficiaries in the New Benin Market. However, this study will take another swipe by looking at how Trader and MarketMoni work to reduce the housing poverty of beneficiaries in Osa Market in Benin City.

Ademolekun, Ogbeide and Akande (2021) did an empirical study on how well the TraderMoni scheme was able to stimulate the small business sector using Ojo-Dada Oba 'T' market beneficiaries in Ota Ogun State. The generated data was analyzed accordingly using descriptive and inference statistical techniques. With the aid of a t-test scientific tool, the generated hypothesis was tested using Statistical Package for Social Science, edition 2.0. The research findings showed that TraderMoni initiatives rejuvenated participants' businesses even though the opening loan was small which made the progress to happen gradually. Therefore, the study endorsed government MDAs saddled with the responsibility of the scheme to provide a comprehensive annual financial report that would encapsulate the funds that have so far been committed into the scheme, develop a better communication channel as regards the scheme, and overhaul the initiative so that the primary objectives in the immediate time can be realized. The study is commended for its bold request for the handler of TraderMoni to come up with a detailed financial report on how much has been spent so far on each beneficiary in the various states of the federation.

Adijato (2021) examines the impact of TraderMoni on business growth and profit of Small-Scale enterprises in Lagos State, Nigeria. The data for this study was collected through a questionnaire. The findings from the results revealed that the loan programme has increased the profit earning of the loan beneficiaries over the non-beneficiary petty traders. Also, the loan initiative has added to the business expansion of those petty traders who participated in the programme over and above the non-participant petty traders. Therefore, it is recommended that programme sustainability should be maintained and the loan initiative should be expanded to all parts of Nigeria. The author is applauded for good research endeavour for comparing the gains made by petty traders who benefited from the scheme as against non-participants.

Adul Samii and Salihu (2020) did an assessment impact of the TraderMoni Empowerment Scheme in Nigeria from a Muslim perspective. Interview, focus group discussion and literary analysis methods were adopted for the study. Research findings revealed that the loan scheme empowered petty traders in Nigeria tremendously but its implementations are greeted with a lot of shortcomings. The study thereafter recommended a concerted and sustained effort on the

part of the Government towards the total eradication of poverty in our society. The researchers did excellent research work in unveiling the impact TraderMoni has on petty traders, worthy of note is that the authors also recommended ways to surmount the challenges which the scheme faced.

2.3 Theoretical Framework

The study adopted social welfare theory as put forward by Hergson A., in 1938 in his article "*A Reformation of Certain Aspects of Welfare Economic*". Social welfare simply refers to government programmes that help and assist members of society in alleviating the different dimensions of poverty such as housing poverty. Social welfare programmes could be sponsored by federal, state, local government or non-governmental organisations or even private philanthropists as the case may be to assist people with food, housing, and educational programmes among others. A major tenet of social welfare theory is to help members of the public in alleviating poverty most especially the disadvantaged, vulnerable, downtrodden and less privileged people in society through different empowerment programmes such as Trader and Market Moni. Social Welfare theory seeks to provide social and financial support for those in need (www.infoguidenigeria.com).

The relevance of social welfare theory to this study is based on the fact that Trader and Market Moni are social welfare programmes geared towards the distribution, combating food, income and housing poverty and the promotion of social inclusion and cohesion among others. It is also relevant for the mobilization of financial resources for the segment of society that is financially deficit of capital to actualize their business proposal since social welfare theory has it as one of its thrusts to empower disadvantaged, vulnerable and poor individual with credit facilities for productive ventures to reduce their poverty level and improved their well-being.

3. Methodology

This study adopted the mixed research method that involves the collection of primary qualitative-quantitative data and the systematic review of secondary data relating to the Trader and MarketMoni micro-credit scheme in Nigeria. The population wherein the primary data for the paper emerged consist of Trader and Market Moni beneficiaries in Osa market in Benin City, Edo State. The researcher utilized Taro Yamane's Scientific approach to derive the optimal sample size of 340 (TraderMoni 220 and MarketMoni 110 beneficiaries)

Table 1: Population and Sample Distribution Table

Category of Social Protection Programmes	Market and Trader Moni Recipients of Ediaken Market, Egor LGA	Proportional sample size using the Taro Yamni Scientific approach for each of the batches
TraderMoni	1400	220
MarketMoni	800	110
Total	2200	330

Source: Edo N-SIP, 2022 & Field Survey, 2023

4. Findings

Hypothesis 1: There is no significant relationship between the TraderMoni loan scheme and housing poverty reduction among Osa market beneficiaries in Benin City

Table 2: TraderMoni loan scheme has greatly helped in the reduction of housing poverty among Osa market beneficiaries in Benin City

	Frequency	The Valid Percent	Cumulative Percent
Valid Strongly Agree	100	46	46
Agree	70	32	78
Disagree	26	12	90
Strongly Disagree	24	10	100.0
Total	220	100.0	

Table 2 established that 46% strongly agreed that the TraderMoni loan scheme has greatly helped in housing poverty reduction among Osa market beneficiaries in Benin City, 32% of the sampled respondents agreed, 12% respondents disagreed, while the remaining 10% strongly disagreed that Trader Moni loan scheme has greatly helped in housing poverty reduction among Osa market beneficiaries in Benin City. The analysis thus established that the majority of the sampled respondents agreed that the TraderMoni loan scheme has greatly helped in housing poverty reduction among Osa market beneficiaries in Benin City.

Hypothesis 2: There is no significant relationship between the MarketMoni loan scheme and housing poverty reduction among Osa market beneficiaries in Benin City.

Table 3: The MarketMoni loan scheme has greatly helped in the reduction of housing poverty among Osa market beneficiaries in Benin City

	Frequency	The Valid Percent	Cumulative Percent
Valid Strongly Agree	40	36	36
Agree	30	27	63
Disagree	25	23	86
Strongly Disagree	15	14	100.0
Total	110	100.0	

Table 2 established that 36% strongly agreed that the MarketMoni loan scheme has greatly helped in housing poverty reduction among Osa market beneficiaries in Benin City, 27% of the sampled respondents agreed, 23% respondents disagreed, while the remaining 14% strongly disagreed that MarketMoni loan scheme has greatly helped in housing poverty reduction among Osa market beneficiaries in Benin City. The analysis thus established that the majority of the sampled respondents agreed that the MarketMoni loan scheme has greatly helped in housing poverty reduction among Osa market beneficiaries in Benin City.

Testing of Hypotheses

Ho1: There is no significant relationship between the Trader Moni loan scheme and housing poverty reduction among Osa market beneficiaries in Benin City.

HR1: There is a significant relationship between the Trader Moni loan scheme and housing poverty reduction among Osa market beneficiaries in Benin City.

Table 4: Correlation between TraderMoni loan scheme and housing poverty reduction among Osa market beneficiaries in Benin City.

Correlations

		Trader Moni Beneficiaries	Housing Poverty Reduction
Trader Moni Beneficiaries	Pearson Correlation	1	.293**
	Sig. (2-tailed)		.000
	N	220	220
Income Poverty Reduction	Pearson Correlation	.293**	1
	Sig. (2-tailed)	.000	
	N	220	220

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

Table 4 established a positive relationship between the TraderMoni loan scheme and housing poverty reduction among Osa market beneficiaries in Benin City, Edo State due to the high rate of *R* coefficient which is 0.293, hence signifying a strong relationship between the Trader Moni loans scheme and housing poverty reduction among Osa market beneficiaries in Benin City, Edo State. The data from Table 4 also revealed a *p*-value (sig = 0.000) which is < 0.01, indicating that the researcher rejects the null hypothesis which states that there is no significant relationship between TraderMoni loan scheme and housing poverty reduction among Osa market beneficiaries in Benin City, Edo State, to accept the research hypothesis which states that, there is a significant relationship between TraderMoni loan scheme and housing poverty reduction among Osa market beneficiaries in Benin City, Edo State.

Ho2: There is no significant relationship between the Trader Moni loan scheme and housing poverty reduction among Osa market beneficiaries in Benin City.

H_R2: There is a significant relationship between the Trader Moni loan scheme and housing poverty reduction among Osa market beneficiaries in Benin City.

Table 5: Correlation between MarketMoni loan scheme and housing poverty reduction among Osa market beneficiaries in Benin City.

Correlations

		MarketMoni Beneficiaries	Housing Poverty Reduction
TraderMoni Beneficiaries	Pearson Correlation	1	.193**
	Sig. (2-tailed)		.000
	N	110	110
Housing Poverty Reduction	Pearson Correlation	.193**	1
	Sig. (2-tailed)	.000	
	N	110	110

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

Table 5 established a positive relationship between the MarketMoni loan scheme and housing poverty reduction among Osa market beneficiaries in Benin City, Edo State due to the high rate of *R* coefficient which is 0.193, hence signifying a strong relationship between the Trader Moni loans scheme and housing poverty reduction among Osa market beneficiaries in Benin City, Edo State. The data from Table 5 also revealed a *p*-value (sig = 0.000) which is < 0.01, indicating that the researcher rejects the null hypothesis which states that there is no significant relationship between TraderMoni loan scheme and housing poverty reduction among Osa market

beneficiaries in Benin City, Edo State, to accept the research hypothesis which states that, there is a significant relationship between TraderMoni loan scheme and housing poverty reduction among Osa market beneficiaries in Benin City, Edo State.

5. Discussion of Findings

In line with the above findings, Igwe, Okeke, Onwurah, Nwafor and Umeh (2017) argued that social investment programmes that cut across conditional cash transfer, to small and medium-scale business owners at the bottom of the economic pyramid of

society, have a strong capacity for reducing the housing poverty of beneficiaries that represented a contemporary practice of empowering citizens as enunciated by social welfare theory.

In the same vein, Adesoji, Jiboye and Olufumilola (2020) carried out a study on the Prospects and Challenges of Urban Housing and Sustainable Development in Nigeria. Their findings established that a large number of micro-credit loan beneficiaries who were previously living in slums and unable to afford decent apartments were able to mobilise funds from their business. This was due to the positive impact of the loan on their business to build decent low-cost houses which had a positive multiplier effect on their housing poverty reduction.

Similarly, Kiduanga (2016) asserted that social welfare programmes of the government are one step forward in the effort to attain adequate housing to increase the well-being of the people, as a way of reducing their housing poverty and for the city to be competitive, governable and liveable (UN-Habitat, 2010).

Additionally, Kimm (1977) argued that the reduction in housing poverty of beneficiaries on account of social or welfare programmes of government contributes to increased productivity of labour, improved health, and lower healthcare costs for residents. It also contributes to increased motivation and effectiveness in the education of children, reduction of crimes, juvenile delinquency, and fire hazards in residential neighbourhoods among others. This premise has been supported by several scholars including medical experts and social welfare theorists that a decline in housing poverty and environmental sanitation tends to reduce the chance of children contracting the disease, and so lower the rates of absenteeism from schools. Thus, the children's chances to receive education are improved (Economic Survey 1979 cited in Kulaba, 1981).

In line with the above, a MarketMoni beneficiary shared her experience when she was interviewed as follows:

Before the MarketMoni loan, I was living in a house with poor toilet facilities, polluted water and a dirty environment. I and my children were always sick and treated for malaria and typhoid fever. More so, their education was also badly affected. With the sales increase I recorded in my business via the microloan, I saved money to rent a better apartment. Since I have been living in this new apartment, I and my kids have never experienced mosquito noise or bite. My health condition and that of my children have improved as

well as their education. All thanks to the MarketMoni loan that has successfully pulled me and my household from chronic housing poverty (IDI, Market and TraderMoni coordinator, Oredo Local Government, 20th May 2024).

I sell Zobo drinks in Kano and am happy with the government for these laudable initiatives. Without having to leave his business premises in the market and risk losing sales, TraderMoni captured my details in under ten minutes and within a few days I received a credit alert of #10,000 on my phone. I was able to use the money to buy more ingredients to make and sell more Zobo. The money I made from the business increased tremendously and that is what I used to support my family and solve my housing needs (Oluwagbemi, 2019).

With the above, Agogu, Abase & Ecoma (2019) opined that in addition to addressing the risk factors, conditional cash transfer by way of micro-credit loans contributes to alleviating adverse consequences of homelessness and facilitating access to adequate housing and reduction of housing poverty. The above findings agree with Markaella (2021) that there is a strong correlation between government cash transfer and housing poverty reduction and homelessness. This view was supported by Government Conditional Cash Transfer beneficiary (MarketMoni) who opined as follows:

For years I experienced homelessness and housing instability, such that I was moving from one house to the other squatting with friends and relatives. This was until I secured a MarketMoni loan to boost my trade which culminated in my securing a room and parlour self-contained with all the needed housing facilities in one of the metropolitan local governments in Benin City. This has helped in no small way to solve my housing instability, homelessness and housing poverty reduction. I will forever be grateful to the government of APC for this kind of financial largesse (IDI, Market and TraderMoni coordinator, Oredo Local Government, 24th May 2024).

However, OXFAM (2018) maintained that housing poverty and income inequality in Nigeria is not due to lack of resources, but to the ill-use, misallocation and misappropriation of such resources by the political elites. It further recommended that the government must free millions of Nigerians from housing poverty by building a new economic and political system that ensures access to national resources by all. Implicitly, Market and TraderMoni is one of the vehicles through which resources can be redistributed to bridge the alarming housing inequality gap and deficiencies prevailing in the country today, which intrinsically

agrees with the social welfare theory. This translates to a condition whereby a country becomes more prosperous, more economically developed, wealthier and powerful such that citizens are at liberty to enjoy a good standard of living and welfare programme. Social safety nets like the Market and TraderMoni can afford poor families seed capital to invest in productive activities that will reduce housing poverty, and improve the general well-being of the family. The above submission was affirmed by an enrollee of MarketMoni who stated as follows:

With the #50,000 I received from NSIP officials, I expanded my food stuff business and it led to increased sales revenue and profits. Owing to this business boom, I immediately joined housing contribution (esusu) in my neighbourhood through which I was able to raise a good chunk of money to procure building materials used in completing the partly completed three-bedroom flat built by my late husband. I and my children now enjoy decent accommodation and reduced housing poverty (IDI, Market and TraderMoni coordinator, Ikpoba Okha Local Government, 27th May 2024).

6. Conclusion

Judging from the data that emanated from the field and the empirical evidence thereto. The study established that the Trader and MarketMoni loan scheme that was introduced by the immediate past government of President Muhammadu Buhari in the year 2016 under the National Social Investment programme brought about a tremendous turnaround in the business of the petty trader who received the loan scheme over non-beneficiaries of the scheme in Osa market beneficiaries. The study further finds out that beneficiaries who were previously living in slums and unable to afford decent apartments were able to mobilise funds from their business to afford better accommodation which translated to their housing poverty reduction. The study also showed that the reduction of housing poverty of beneficiaries on account of social welfare enhanced labour productivity, improved health as well as a boost in the education of their children, and reduction in crime and homelessness among others. It was further established that the social welfare programme of Trader and MarketMoni affords poor families the seed capital to invest in productive activities that translate to improved commercial and productive activities that help in reducing housing poverty and improving well-being.

7. Recommendations

In the light of the findings above. The following recommendations were put together to serve as viable policy items for the incumbent administration of President Ahmed Bola Tinubu:

- The federal government should make the Trader and MarketMoni functioner so that it can reach more Nigerians for more citizens to be lifted out of absolute poverty.
- The federal government should increase the loan amount upward in line with the current economic reality. Given the impact of small and medium-scale enterprises on the National economy.
- The federal should expand the scope of the loan so that more Nigerians can benefit owing to the positive impact a Trader and MarketMoni has on housing poverty reduction in Nigeria.

References

- Adamolekun, J. A., Obadeyi, J.A., Ogbeide, A.A. & Akande, A.A. (2021). Can TraderMoni Scheme Incentives Stimulate Small Business? Empirical Approach of Ojo-Oba 'T' Data Market Beneficiaries. *Scientific and Academic Publishing* 11 (1) pg 20-25 Retrieved online at www. (Accessed 6/05/25).
- Adesoji, D.J., Jiboye, J. A. A. & Olufumilola, A. O. (2020). Urban Housing in Nigeria for Sustainable Development. *Journal of Advanced Engineering Research and Science* 7.
- Adijato, O. O. (2021). The Impact of Trader Moni on Business Growth and Profit of Petty Traders in Lagos State, Nigeria. *Sapienta Journal of Arts, Humanities and Development Studies*. 4(3).
- Abdul-Samii, I & Salihu, M. A. (2020). An Assessment of 'Trader Moni' Empowerment Scheme in Nigeria from the Islamic Perspective: A Case Study of Women Beneficiaries at The Mandate Market, *Ilorin. Saudi Journal of Humanities and Social Sciences*. Retrieved online at www. Saudijournals.com/sibs (Accessed 22/03/25).
- Akujuru, C. A. (2019). Public Policy and Economic Empowerment: A Study of TraderMoni Scheme of the Buhari Administration in Nigeria. *Global Journal of Political Science and Administration* 7 (7). Retrieved online at www.eajournals.org (Accessed 18/03/2022).

- Aribigbola, A. (2006). Rational Choice Model and Housing Decisions in Akure, Ondo State Nigeria. *Confluence Journal of Environmental Studies* 1 (1) 53-63.
- Ayogu, G. I., Abasi, U. & Ecoma, L. (2019). TraderMoni Micro-Credit Scheme and Poverty Reduction in Nigeria. *International Journal of Advanced Research in Management and Social Sciences* 8 (4).
- Business Day (2019, March 4). FG boosts financial inclusion with Trader Moni. Available online at www.businessday.ng (Assessed 21/3/2025)
- Efobi, N., Enoh, N., & Nwachukwu, C.C. (2021). Low-Income Housing Delivery Analysis: Causal Evidence from South East Nigeria. *Iconic Research and Engineering Journal* 3(8)
- Fadamiro, J. A.; Taiwo, A. A. & Ajayi, M. O. (2004). *Sustainable Housing Development and Public Sector Intervention in Developing Country: Nigeria*. In Ibitoye O. A. (Ed.) Scientific and Environmental Issues in Population, Environment and Sustainable Development. Lagos, Graams.
- Ibimillua & Ibitoye (2015). Housing Policy in Nigeria: An Overview. *America International Journal of Contemporary Research*. Available online at www.ajcrnet.com (Assessed 12/4/2025)
- Igwe, P.U., Okeke, C. A., Onwurah, K. O., Nwafor, D. C. & Umeh, C. N. (2017). A Review of Housing Problems. *Educational Journal of Environment, Agriculture and Biotechnology* 2 (6) Pp 3092-3099. Available online at www.ijeah.com (Accessed 18/03/2025)
- Kiduanga, J. (2016). Challenges for Urban Housing Development for Improving livelihoods and well-being of the population of a low-income group in Tanzania: The Case of Dares Salaam. A paper presented at the 7th Africa Population Conference on session 805 Urban Livelihood: urbanization and Well-being.
- Kulaba, S. M. (1981). Housing, health and human well-being
- Mandelker, D. R. & Montgomery, R. (1973) Housing in America: Problems and Perspectives. Indianapolis, The Bobs –Merril Company Inc.
- Marutlulle, N. K. (2021). A critical analysis of housing inadequacy in South Africa and its ramifications. *Africa Public Service Delivery & Performance Review* 9 (1). Available online at www.apsdpr.org (Assessed 23/4/2025)
- Metraux, S.; Hesketh, R.; O'Neill S.; Rayl M. (2023). An Introduction to the Homelessness, Housing & Poverty Issue. *Dela J Public Health*. Doi: 10.32481/djph.2023.06.002. PMID: 37622149; PMCID: PMC10445605.
- Odiase, V. (2020). The TraderMoni Empowerment Scheme of Nigeria. Available online at www.socialprotection.org (Assessed 27/4/2025)
- Odifiri, S.O. A., Emeanu, R.C., Musa, A. W., Ijeoma, I.J., Ukah, O.T. (2022). Low-Income Earners Housing Affordability Issues in Nigeria: A Systematic Review of Sustainable Approaches. *International Journal of Innovative Research and Development* 11(2), Available online at www.ijird.com (Assessed 27/4/2025)
- Ogbette, A.S., Bernard, C & Okoh, J. O. (2019). Trader Moni Scheme and 2019 Elections in Nigeria. *Journal of Public Administration* 1 (2).
- Ogunyemi, I. (2022, November 17). 133 million Nigerians are multi-dimensionally poor, says NBS. Retrieved online at www.tribuneonlineng.com (Assessed 26/04/2025)
- Oluwagbemi, A (2019, July 19). TraderMoni in the North West shares testimonies. Available online at www.punchng.com (2/5/2025)
- Okunmahie, O. F. & Omamor, P. A. (2023). Food Poverty Reduction through the Trader and Marketmoni Scheme of New Benin Market Beneficiaries in Benin Edo State, Nigeria. *Gombe Journal of Adminsitration and Management* 5 (2)
- Onyedinefu, G. (2023, Febuary 7). Fg spend #1.3 trn on school feeding, N-Power and others. Available online at www.punchng.com (Assessed 25/04/2025)
- OXFAM (2018). 2018 Inequality Index in Nigeria. Available online at www.oxfam.org. (Accessed 20/3/2025).
- UN-Habitat (2014), "The right to adequate housing
- UN-Habitat (2010). Informal Settlements and Finance in Dares Salaam. Tanzania.
- United Nations Human Settlement Programme (2019). Housing for All: A Strategic Framework.
- United Nations Report on World Social Situation. (2018). Promoting inclusion Through Social Protection. New York.
- WorldBank (2020). Affordable Housing: A key to reducing poverty
- United Nations (n,d). Department of Economics and Social Affair Sustainable Development. Make Cities and Human Settlements Inclusive, Safe, Resilient and Sustainable. Available at www.sdgs.un.org (Assessed 21/3/2025)

8 Functions of Social Welfare in Nigeria. Retrieved
online at www.infoguidenigeria.com.
(Accessed 26/08/2022).



The Impact of Colonial Legacies on the Political and Economic Development of Nigeria: A Critical Analysis of the Structural Adjustment Policies

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Abstract. The implementation of structural adjustment policies (SAP) in Nigeria led to significant economic hardship, yet some individuals benefited from the recession and government actions. The import license regime in the Second Republic fostered the rise of a wealthy class, strengthening political connections. Despite low profits from 1982 to 1984, multinational companies such as United Africa Company, Patterson Zochonis, and Mobil Oil saw substantial gains, while workers experienced widespread retrenchment. SAP created a stark divide between winners and losers. Though SAP aimed to eradicate poverty and transform Africa's economy, its failure to engage with the citizens who needed support most undermined its goals. The policy's inability to adapt to the unique needs of African societies fueled discontent, as many felt it worsened economic hardship, poverty, and inequality. This paper uses historical method of discuss and analysis to explore the impact of colonial legacies on Nigeria's political and economic development, focusing on the consequences of SAP and its role in perpetuating disparities.

Keywords: Colonial Legacies, Structural adjustment policies, Class inequality, Neocolonialism

1. Introduction

Before the January 1966 military coup, Nigeria's government was an alliance of tribally-based parties, with the East and North allied against the West. This arrangement shifted focus from national to regional interests, leading to instability until the military intervention. The issue of inequality and class consciousness became more prominent during the Structural Adjustment Program (SAP), exposing socioeconomic and political disparities. The majority of Nigerians suffered under SAP, particularly students, workers, farmers, and businesspeople, who voiced strong opposition through protests and riots. However, it is important to note that Nigeria's

economic challenges cannot be solely attributed to SAP. Other factors, such as mismanagement, corruption, political instability, and ethnic divisions, also contributed. While the IMF/World Bank-led SAP failed to benefit most Nigerians, causing widespread unemployment, it was not the sole cause of Nigeria's economic problems.

The most affected by SAP in Nigeria were the poor and women, as social subsidies and support systems were cut, further marginalizing vulnerable populations. Currency devaluation, a prerequisite for SAP loans, made wages insufficient to meet basic needs, pushing the middle class into poverty. This led to ethnic dissent, particularly in the North, where agriculture and livestock were the primary means of sustenance, unlike the more economically diverse South and East.

Northern Nigeria, with its large population and reliance on agriculture, was hit hard by the removal of subsidies on agricultural products and fertilizers, which further harmed their agrarian economy. The economic hardship created by SAP was particularly severe in this region, justifying their outcry.

Furthermore, Nigeria's amalgamation in 1914, without consulting the diverse ethnic groups, sowed instability and led to post-independence political disunity, mutual distrust, and ongoing ethnic conflicts. The result of this act was the unequal distribution of national resources, favoring northern Nigeria, and the lack of development projects in other regions, sparking ongoing debate. Economic policies such as the subsidized resale of agricultural products and the 1982 Economic Stabilization Act had both positive and negative impacts. The 1980s marked a pivotal moment in development, as many developing countries lost the ability to shape their policies due to the influence of Bretton Woods institutions implementing conditionality-based strategies.

Neoliberal reforms from the late 1970s, championed by leaders like Ronald Reagan and Margaret Thatcher, promoted free market ideologies and limited state intervention, blaming government involvement for the 1970s economic crisis. Their view emphasized poverty reduction and economic growth through market forces and private enterprises. Consequently, Structural Adjustment Policies (SAPs) focused on reducing government intervention, promoting market mechanisms as the primary driver for development. The IMF and World Bank regarded government policies as serving individual interests and stressed the negative impact of state intervention.

The debt crisis that hit developing countries in the 1980s compelled the affected countries to turn to multilateral financial institutions like the World Bank and the IMF for loans. However, the approval of such loans was based on a set of well-laid conditionality that involved the adoption of stabilization policies and liberalization as a prerequisite for granting loans and debt rescheduling. However, countries that were unwilling to accept the conditionality were immediately excluded from participating. It is imperative to note that the procedure for debt rescheduling by donor countries led to the total eradication of autonomy for developing countries and a transfer of power from the state to the World Bank and IMF. There are several reasons responsible for the 1970s economic crisis which preceded the SAP. They ranged from the excessive financial consuming policies of most advanced capitalist countries to the oil and debt crisis of the 1970s and 1980s.

Nigeria, like most countries in Africa, decided to embark on drastic and radical economic policy reforms from the 1980s. The new policy reform involved an all-encompassing shift from trade restrictions and price control, towards trade liberalization, privatization and less government intervention in the production of goods and services. These reforms were associated with the (SAPs) advocated by the World Bank and the IMF. However, the IMF imposed 'conditionality' were attached to adjustment loans, and brought about increased poverty, inequality and deficient living standards in Nigeria from 1986 to 1993. The crisis that led to the radical economic reforms of the 1980s can be traced to the British colonial administration in Nigeria,

1.1 Background to Structural Adjustment Policies

The unprecedented oil boom enjoyed by Nigeria in the 1970s under being an oil-producing nation had a remarkable impact on her expenditure during this period. Nigeria's economic policy during the 1970s had a welfarist orientation with the government

playing an active role in development; provision of a massive transport system and good road network, health infrastructure, increased rates of employment, rapid increases in food subsidies, transport and education. The government in the 1970s also engaged in a subsidized resale of agricultural products to the masses, a policy abruptly ended by the Shagari government.

The oil and economic crisis of the 1980s hit the oil-dependent Nigerian economy very badly. As a result of this, the Nigerian state borrowed vast sums of money to cushion the effects of this crisis. However, the situation was not made better because of gross mismanagement and corruption in the Nigerian government. Consequently, the related industrial sectors had to close down half of their firms, invariably leading to the layoff of many workers. The Nigerian government faced with this enormous crisis had to; therefore, accept the SAPs as well as the 'conditions' attached to them, in a bid to stop the crisis.

Nigeria's adoption of SAP policies in 1986 followed initial efforts in 1981 under Alhaji Shehu Shagari, who established a commission to examine government parastatals, leading to the 1982 Economic Stabilization Act. This act aimed to control imports, discipline the monetary system, and reduce government spending. However, it failed due to its inability to remove subsidies or commercialize public enterprises, largely due to the National Party of Nigeria's control over parastatals.

As a result, the Shagari government sought an IMF loan of 1.9 billion and 2.4 billion naira. The IMF, however, required conditions like privatization, reduced spending, trade liberalization, and sales tax. No formal agreement was reached before Shagari's ousting in 1983. General Buhari's regime later reached an agreement with the IMF on economic reforms but stalled over key recommendations such as currency devaluation, privatization, and the removal of petroleum subsidies. While accepting the commercialization policy, Buhari insisted on state regulation, which led to a boycott of Nigeria by Western banks and credit agencies. These institutions demanded IMF approval before addressing Nigeria's \$20 billion debt, delaying capital injection.

The alternative approach initiated was a counter trade approach with Brazil and other Western European countries. It was, however, inadequate and costly, especially with the magnitude of economic problems faced by Nigeria. In this light, the regime of General Buhari introduced a comprehensive package of austerity measures as part of its economic stabilization

efforts. This came with severe import restrictions, thus posing a problem for local industries to purchase needed essential imported raw materials, leading most of them to shut down and consequently leading to increased unemployment. The situation was further worsened with inflation in the prices of goods and commodities, thus making life very difficult for the masses and affluent as well. The SAPs also affected the health and educational sectors. Funding reduced drastically in the health sector during this period. The education sector was not spared either due to the privatization of schools and subsequent heavy levies indiscriminately imposed on parents of students in schools, as well as the withdrawal of government sponsorships on tertiary schools' students.

The legitimacy of Buhari's regime became questionable as a result of his authoritarian rule, and Gen Ibrahim Babangida deposed him in August 1985. With Nigeria still suffering from the effects of a heavy debt burden, coupled with a decline in oil revenues, Babangida's regime re-opened the debate on the terms and acceptance of the IMF loans and conditionalities and the government's role in the management of the economic crisis. Despite the protest of the Nigerian masses, the regime of Babangida went ahead to accept the IMF adjustment policies as well as the adjustment of the naira to its actual realistic value.

2. Political and Economic Development of Nigeria from 1960-1985

Nigeria's attainment of independence on October 1, 1960, which was a culmination of post- World War II constitutional nationalism, had brought with it high expectations that Africa's most populous country, with enormous resources, would make a great success of its new-found freedom, and democracy. However, the expectations quickly turned out to be misplaced. Between 1962 and 1965, Nigeria's first democratic government since 1914, grappled with one crisis after another. The teething problem overwhelmed the polity and brought about a bloody military coup d' tat on January 15, 1966, which terminated what is generally regarded as Nigeria's First Republic, 1960-1966.

Scholars (Post & Vickers 1973, Dudley 1982, Osaghae 2011) identify the genesis of the crisis with the internal turmoil which engulfed the Action Group party in power in Western Nigeria in 1962, culminating in the imprisonment of Obafemi Awolowo, its leader who was also the leader of the opposition in Nigeria's Westminster Parliamentary democratic system. There was also the crisis over the conduct of a national population census in 1962-63, which was politicized because its outcome determined constituency

delimitations, and, therefore, given Nigeria's ethnic-regional politics, the character and composition of the central government to be produced in general elections scheduled for December 1966. The recent polls became contentious and brought the country on the brink of a precipice. The two parties which controlled Nigeria's central government, the Northern People's Congress (NPC) and the National Convention of Nigerian Citizens (NCNC) that had contested the elections based on an alliance of parties had, through opportunistic compromises made up a unitary government. It was expected that they would demonstrate their strength and conclusively resolve their contest for supremacy in the 1965 West Regional Parliamentary election. The latter was rigged and frustrated the aspirations of the NCNC to entrench itself in power in subsequent elections, in addition to defeating Western Nigerians' expectations of an opportunity to demonstrate solidarity with their jailed leader. Violence, including arson and killings, erupted in the region and culminated in the military seizure of power in January 1966.

The crisis which bedeviled Nigeria's First Republic has been attributed to several reasons. One, the general election of 1959 that produced Nigeria's first post-independence government was the democratic primary election in Nigeria since the amalgamation of 1914. Consequently, Nigeria's early post-independence leaders had no exposure and experience in democratic governance, given that colonial rule did not consult adequately with the people. Besides, Nigerian politics was ethno-regional, not only because of the effects of notably the 1946 Richards and 1951 Macpherson constitutions on promoting and consolidating parochialism. It was also due to the scuttling of accentuation on national consciousness by the introduction of carpet-crossing in the Western Region by the Awolowo-led Action Group to frustrate Azikiwe, Nigeria's foremost nationalist from going into the Western House of Assembly in 1951. Abubakar (2008) notes that the "episode marked a regrettable turning point in the history of politics and parliamentary democracy in Nigeria," given that subsequently, each of Nigeria's three regions at the time "became the ethnic nest of the predominant groups within it and ethnicity became the bane of Nigeria's politics."

Given the ethnicity and suspicion which characterized Nigerian politics, the 1959 elections could not produce a national party with a clear majority in parliament to single-handedly form the first government of post-colonial Nigeria. Nigeria's first democratic government was, therefore, led by a coalition of parties, namely the NPC and NCNC, even though

Dudley (as cited by) Osaghae (2011) is inclined to believe that NCNC-AG coalition would have been more national, given their spread. Other considerations, particularly the need not to estrange the Northern Region, whose leaders could opt not to accept independence "if they did not control the federal government, or were not at the very least, part of it", became paramount, and produced a coalition government of "strange bedfellows and even serious rivals". Indeed, the last British Governor-General of colonial Nigeria, Sir James Robertson had foreclosed the possibility of an AG-NCNC coalition government when he invited Sir Abubakar to lead the new government as prime minister before all the seats in the election were declared, thereby pre-empting the outcome of the process and acting "without due constitutional propriety". By his action, he "ensured that no other ruling coalition could emerge without creating a political crisis".

It has been observed that the NCNC had rejected the AG's offer to form the coalition government with it because of narrow calculations of more excellent prospects of payoffs from NCNC-NPC government. However, the predictions failed to materialize in the form the NCNC had envisaged. The NCNC, therefore, sought to extend its power base in the Western Region, where it constituted the official opposition party. Hence, the crisis over the 1963 census and the desperations over the 1964 general elections and the political involvement of the military in settling disputes, which culminated into the eventual military seizure of power in January 1966, in the aftermath of the 1965 West Regional Parliamentary elections, thus bringing to an end "what many had come to see as an insufferable government".

Nigerian politics would conform to the patterns and directions set by the events and activities of the politicians of the First Republic, namely narrow calculations to oil the patron-client relationship which would satisfy elite demands and assure them of the support of their supporters. The result was that the elite competition for resource allocation and accumulation diverted Nigeria from the part of development, and sustained a vicious cycle of crisis, which culminated in a civil war 1967-1970, and years of military rule. Not even the splitting of Nigeria into smaller political divisions from its three- regional structure to 36 states could exorcize the ghost of ethnicity, local thinking, and parochialism from the polity. Instead, the emphasis on the sharing of federal resources and revenues, as well as distribution of offices to reflect national character did not include the proletariat whose interest the political class vowed to protect.

Despite Nigeria's vast oil resources and revenues, they did not improve citizens' quality of life. Oil accounts for over 80% of federal taxes and 90% of foreign exchange earnings. Nigeria's oil wealth peaked in the early 1970s, rising rapidly from a few hundred million naira in 1970 to 15 billion naira by 1980. However, Nigeria did not control oil production or processing, relying on foreign multinational companies for rent. The oil wealth, instead of improving living conditions, fueled corruption and power struggles, with political control becoming a tool for client patronage. This was evident in disputes over revenue allocation between the federal government and various state levels, as well as conflicts between oil-producing and non-oil-producing regions. The distribution of oil revenue became central to the crisis of Nigerian federalism, as Obi (1998) notes, with different state strata battling for the "spoils" of oil wealth.

The fortunes of Nigeria took a nosedive in the early 1980s due to a glut in the international oil market vis-à-vis increased demand for domestic consumption of oil in Nigeria which translated into increased volumes of petroleum products provided to satisfy the requirement. To meet the challenge, the government affected an upward adjustment in the prices of petroleum products, even as the government equally resorted to massive imports of petroleum products to augment dwindling local production. Consequently, oil wealth, rather than promote sustained economic growth, had ushered Nigerians into a period of poverty and misery. The military government of Nigeria had squandered the vast earnings from oil, rather than invest in manufacturing and up-lifting of the standard of living of the ordinary Nigerian. It has been noted that enormous oil wealth is a means of sustaining autocratic regimes in power, and does more significant damage to democracy by facilitating corruption, and turning out to be a curse for the vast majority of the citizenry.

In 1982, the attendant situation in Nigeria was characterized by the World Bank as "Poverty amid Plenty" (cited by Tella 2012: 59). The democratic regime that took office from the military, which had at any rate handed over a disorderly society, characterized by the breakdown of discipline, and widespread corruption that was promoted to "a way of life", unleashed even greater profligacy and corruption on the polity. As the elite class, they failed to pay workers' salaries, retrenched a large number of the workers, and called on the poor to make sacrifices if the economy would not collapse. Even as workers were retrenched the size of government was bloated. For instance, the National Party of Nigeria-led federal government in 1983 appointed at least forty federal

ministers, and sponsored legislators and top government officials on recurring overseas trips, which attracted huge allowances. This mismanagement of the economy meant a drastic decline in Nigeria's Foreign Reserves from N5.462 billion in 1980 to N798.5 million, hardly enough to finance one month's imports in 1983.

Conversely, Nigeria's external debt doubled from the US \$9 billion in 1980 to about US \$18 billion in 1983. In fact, despite vast earnings of N56 billion at the end of 1983, the federal government left a total of N17.7 billion in external debt. Thus, oil glut was only a partial explanation for Nigeria's economic crisis of the 1980s. This set the stage for the adoption of the Structural Adjustment Programs (SAP) in Nigeria

3. The impact of SAP on the Political Economy of Nigeria

Babangida's Structural Adjustment Program (SAP) aimed to revitalize economic growth by reducing state intervention, but it had devastating consequences for Nigeria's economy, agriculture, and industry. The government implemented worker retrenchments, dismantled public enterprises, and merged government corporations. Despite attempts to support rural areas through policies like the Directorate of Food, Roads, and Rural Infrastructure, these initiatives failed due to corruption and underfunding.

While SAP didn't solely cause Nigeria's economic issues, it intensified pre-existing crises. It contributed to political violence, particularly along ethnic lines, with the rural population, especially in the North, suffering most. The removal of subsidies on imports and petroleum products severely impacted rural areas, increasing vulnerability for peasant farmers. SAP also exacerbated agrarian capitalism, land grabbing, and the collapse of the agricultural sector, further deepening the economic crisis. The government attempted to diversify by encouraging non-oil exports, but the introduction of the 1978 Land Use Act led to the dispossession of peasants. SAP's political and economic restructuring focused on state contraction and market-based reforms but failed to address the needs of the poor, increasing inequality and poverty. Corruption within the Babangida administration contrasted with the hardships faced by Nigerians, leading to widespread protests against SAP. The program worsened food insecurity, underemployment, and living standards, exposing the failure of SAP's policies.

4. The Impact of Structural Adjustment Policies in Nigeria

The structural adjustment had been created to rationalize a bloated African economy, where government expenditures had gone haywire, yet the World Bank, unfortunately, made the situation worse off. The World Bank statistics of adjustment lending in Africa are a record of colossal failure. Before the implementation of Structural Adjustment Policies in Nigeria, the economy of Northern Nigeria was agrarian in nature. Agriculture was the mainstay of the economy of Northern Nigeria. More than 80% of the rural labor workforce engaged in peasant farming, which accounted for a right proportion of the Nigerian GDP. The northern part of Nigeria was blessed with a geographical specialization of cotton, rice, beans, groundnuts, and livestock. However, the eradication of subsidy derived from petroleum products drove Nigerians further into abject poverty because the government were somewhat involved in debt servicing instead of providing the needed social services for the people, the effect of which was the creation of unemployment and under unemployment. Peasant farmers the bulk of who were located in Northern Nigeria were damaged, due to economic hardship. Even though one of the objectives of SAP was economic transformation, SAP instead led to the loss of jobs and government withdrawal of basic welfare packages. Subsidy withdrawal further caused a decline of businesses due to the devaluation of currency made visible in the difficulty of business transaction due to a new exchange rate. The implementation of structural adjustment policies in Northern Nigeria, leads one, in fact, to agree that SAP was fraught with stories of mismanagement of government resources, and did not go in line with northern interest. The government acted as if it was less interested in the welfare of its citizens, even though it was acting in accord with its beliefs.

One of the reasons ascribed to the dismal failure of SAP in Northern Nigeria is linked to the fact that SAP was not attuned to the dynamics and unique characteristics of African economies, grouped into two sectors, the modern industry operated by the elite class and the traditional industry operated by the poor. The bulk of agrarian workers, unemployed citizens, women whose culture and religion prevented them from working, children who could not afford education due to privatization policies and those dependent on federal government subsidy allocations from the North fell under the category of those in the traditional sector. SAP operated for the benefit of the modern industry to the detriment of the conventional industry. Thus, SAP facilitated a multiple duping by crooked African governments of the rural poor, through the misappropriation of some of its loans which the World Bank was fully aware.

5. The legacy of colonialism and independence

Britain's gradual amalgamation of Nigeria in 1893 aimed to pool economic resources across its administrative units. The formal merger of the Colony and Protectorate of Southern Nigeria with the Protectorate of Northern Nigeria on January 1, 1914, created Nigeria, but without the consent of its diverse peoples. The amalgamation, driven by economic considerations, was an imposition, as Nigeria remained administratively divided until 1939. Nigeria's pre-colonial states, such as the Hausa-speaking kingdoms and the Borno and Kanem empires, were reorganized under British colonial rule, merging distinct, interconnected peoples with centuries of trade and cultural exchange. These groups, though diverse, had historically coexisted and interacted, shaped by the Niger and Benue Rivers.

Nigeria gained independence in 1960, but the colonial legacy left a divided state. Ethnic identities, artificially emphasized by colonial rulers, became a source of conflict post-independence. British policies fostered division, and the creation of regionally-based political parties exacerbated ethnic tensions. Nigeria's post-independence governance, especially after military rule ended in 1999, struggled with ethnicism, religion, and exclusion, which hindered nation-building. Colonial rule focused on exploiting Nigeria's resources, particularly through the export of cash crops, undermining food production and local development. This economic exploitation, coupled with the exclusion of the masses from governance, contributed to Nigeria's ongoing challenges.

Thus, to assist the British rulers, the British led administration established a Western-oriented educational system in Nigeria. However, the beneficiaries were located in the South due to the strong presence of Islamic rule in the North. This development led to an educational gap between the North and South. At the dawn of Nigerian's independence, due to the demand by the educated elite for freedom from the British rule, it gradually led to ethnicism with a retreat into ethnic group politics, which encouraged an uneven development, educational gap and the struggle for dominance. The new constitution of Nigeria at independence was a reflection of these feelings; thus, for Bolanle Awe (1999), colonialism sowed the seed of conflict on many fronts. Politically, colonial rule alienated the ruled from the rulers; it also excluded different segments of people from one another. Even the educational policies adopted created a bridge between the North and South, with a positive consequence for

leadership struggle in the government and economy of the Nigerian state. Also, the disparity in developmental terms between the urban and rural areas led to alienation and conflict between the more productive and poorer classes, and urban and rural dwellers.

Thus, at independence, the newly elected leaders of Nigeria while paying lip service to equality and embracing all segments of the society saw the new state as an instrument of their will. Even the constitution at independence excluded women in the North from political participation, especially in matters about their lives. They were denied franchise alongside lunatics and children. Thus, Nigeria at independence adopted a development plan with the expression of high hopes for the development of a just and fair equal society, but the opposite was witnessed. Indeed, these new leaders at independence failed to involve the masses of people whose lives were being planned. Due to an emphasis by the political leaders at and after independence on growth and development based on Gross National Product per capita calculations and capital accumulation at the detriment of sustainable development, it was not a surprise when the majority of Nigerians at independence turned to other avenues such as their communities and ethnic groupings to seek fulfillment.

The economic development policies carried out by the political leaders at independence went towards a downward slope at the discovery of petroleum. Rather than improving the standard of living for Nigerians, it made it worse. One important point to highlight is the fact that even though the discovery of oil led to the establishment of many development projects; road constructions; industries which created employment for skilled and unskilled labor, it also created rural-urban migration, thus leading to the decline of agricultural production in the Nigerian economy. Nigeria became a net importer of food items such as sugar, rice, beans which were otherwise obtainable locally at prices cheaper than purchasing. Thus, the oil boom of the 1970s served as an instigator in the conflict and divergence between the elite and the proletariat.

It is in line with this that the military seized power intending to correct the wrongs of civilian rule. Thus the first republic crumbled due to a lack of vision, opportunism and the acceptance of the logic of the colonial political system by the elite and the proletariat. Other factors such as the cleavage along with regionalism, religion and ethnocultural lines provided the opportunity for the triumph of ethnic chauvinism and parochialism, irredentism and

geopolitical sentiment. The military was however not without fault, and it also played a contributory role in the heightening of conflict and divergence within the Nigerian society because of the exclusion of the vast majority of Nigerians from modern governmental processes. The government, after independence until the military coup still operated within the colonial frame because it was a government of the minority. In accepting the conditionality's of SAP the Bretton woods system did not acknowledge governance, loans were disbursed to both the military and civilian rule even though most African government at that time were excluded from modern governmental process.

Going further, Uche et al (2024) asserts that colonial legacies have contributed to cyclical poverty and instability by strengthening corruption, exacerbating regional inequities, and impeding national integration which has shaped the trajectory of Nigeria from the 20th century till date.

6. Conclusion

Colonialism played a pivotal role in shaping contemporary identities and conflicts in Nigerian society. Upon independence, Nigeria inherited an economy structured to send raw materials to Britain, with finished goods returned for consumption. The colonial economy was designed to depend on Britain for Nigeria's growth and development. Adewara (2020) outlines three primary goals of the British colonial economy in Nigeria: expanding commerce through the export of raw materials, creating a cash economy based on British currency, and forcing Nigerians to work for this economy.

Colonial infrastructure, like roads, railways, and ports, was built to serve British interests, not Nigeria's development. By independence, Nigerian leaders still reported to the British, with ethnic groups representing the major power bases. The British fusion of diverse groups into an artificial political entity catalyzed ethnic competition and conflict over scarce resources, eventually contributing to the Nigerian Civil War. Ethnicity also played a central role in conflicts in other African nations, such as Zaire (Congo).

Colonialism's legacy continues to shape political stability, economic growth, and the provision of public goods in post-independence Nigeria. While the colonial powers justified their actions as bringing civilization, the destruction of pre-existing institutions led to deep societal and organizational conflicts, which scholars now view as harmful rather than beneficial.

References

- Abdulwahab, T. (2014). The microcosm of Global insecurity. *Global Journal of Human Social Science, History and Anthropology*, Vol xiii issue xvi, 204.
- Adebayo, O. (1990). The management of Nigeria's external debt crisis: its many issues and problems. In A. Olukoshi, Nigeria external debt crisis (pp. 170-171). Lagos: Malthouse.
- Akamu, A., Olutayo, A. et al (2010). Marginality: Africa and the Political Economy of Globalization. In O. A. Akanmu G. Adebayo, Marginality and Crisis: Globalization and Identity in Contemporary Africa (p. 107). New York: Lexington Books for Roman and Littlefield Publishers inc.
- Awe, Bolanle. (1999, December). Conflict and divergence: Government and society in Nigeria. *African Studies Review*, 42(3), 1-20.
- Attahiru, J. (2003). The state and identity transformation and identity politics under structural adjustment in Nigeria. Nordiska African institute and centre for research and documentation, 31-33.
- Capeyre, F. (2004). Globalization and structural adjustment policy as a development tool. World communication on the social dimension of globalization in international labor office (p. 3). Geneva: Policy Integration Department.
- Coleman, J. S. (1986). Nigeria Background to Nationalism. Benin City: Broburg & Wistrom.
- Dudley, B. J. (1982). An Introduction to Nigerian Government and Politics. London: The Heinemann Press. Post
- Esedebe, P. O. (1980). The Educate Elite in Nigeria Reconsidered. *Journal of The Historical Society of Nigeria*.
- Egwu, S. G. (1998). Structural Adjustment, Agrarian change and rural ethnicity in Nigeria. Sweden: Nordiska Afrikan Institutet.
- Ekande, O. (2014). The Dynamics of Forced Neoliberalism in Nigeria Since the 1980s. *Journal of Retracing Africa*, 1(1), 6.
- Jacob, H. U; Amiara, S. A; Omeje, U. P & Mbam, N. M. (2024). Navigating Colonial Legacies and its Varying Impacts on Nigeria's Development, *African Journal of Politics and Administrative Studies*, AJPAS, 17(2):315-335
- Joe Duke II, (2010). The impact of colonialism on the development of management in Nigeria, *International Journal of Business and Mangement*, Vol 5:8

- Kayode, M. O & Usman, Y.B. The Economic and Social Development of Nigeria (Vol. II, pp. 57-89). Zaria: Proceedings of the National Conference on Nigeria since Independence.
- Lavers, J. E. (1980). Kanem and Borno to 1800. In O. Ikime, *Ground Work of Nigerian History* (pp. 187-209). Ibadan: Heinemann Educational Books (Nigeria) For the Historical Society of Nigeria.
- Lewis, P. (1996). From pre-bendalism to predation: the political economy of decline in Nigeria. *Journal of Modern African Studies*, 34(1), 79-103.
- Meredith, M. (2006). *The State of Africa: A History of Fifty Years of Independence*. London: The Freedom Press.
- Mordi, E. N. (2005). Pre-colonial Origins of Nigerian Unity: A Neglected Theme in Nigerian History. In C. O. Orubu, E. N. Mordi, & A. O. Ifediora, *Nigeria: The Challenge of Democracy and Development in the Twenty-first Century* (pp. 2-19). Benin: Ethiope.
- Mordi, E. N. (2015). Comprehending Africa's Contemporary Problems: The Challenge of Kaleidoscopic Western Diagnosis for Contemporary History. *International Review of Social Sciences and Humanities*, 9(1), 74-86.
- Mordi, E. N. (2015b). The Political Economy of Industrial Relations, Labor Productivity and National Development in Nigeria, 1990-2014. *Journal of Culture, Society and Development*, 7, 35-45.
- Obi, C. (1998). Oil and Allocative Reinter State: The Dialectics of Revenue Allocation in Nigeria. *Federalism*, 261-275.
- Ogunbadejo, A. (1979). Conflict images: Colonial legacy, ethnicity and corruption in Nigeria Politics (Vol. 4). UTAFITI.
- Okigbo, P. C. (1983). Economic Planning in Nigeria since 1960. In M. O. Kayode, & Y. B. & Usman, *The Economic and Social Development of Nigeria* (Vol. II, pp. 57-89). Zaria: Proceedings of the National Conference on Nigeria since Independence.
- Okudiba, N. (2015). The deteriorating condition of the Nigerian working class. *Dead-end to Nigeria development: an investigation on the social, economic and political crisis in Nigeria*, 169. Nigeria.
- Omotor D. G, & Oyovwi, D. O. (2005). Fuel Price and Poverty Profile in Nigeria. *Nigeria: The Challenge of Sustainable Development*, 353-364.
- Sa'ad, A. (2008). *The "Challenges" of Nation Building: Nigeria, Which Way Forward? In* C. N. Ogbogbo, & O. O. Okpoh Jr, *In interrogating Contemporary Africa: Dike Memorial Lectures 1999-2007* (pp. 26-60). Ibadan: Historical Society of Nigeria.
- Suberu, R. T. (1998). States Creation and Political Economy of Nigerian Federalism. In K. Amuwo, A. B. Agbaje, R. Subaru, & Herault, *Federalism and Political Restructuring in Nigeria* (pp. 276-295). Ibadan: Historical Society of Nigeria.
- Schultz, A. (2012). *Comparing British and French colonial legacies: A discontinuity analysis of Cameroon*.
- Sulaiman, L. M. (2014). The structural adjustment program in developing economies: Pain or gain? Evidence from Nigeria Public and Municipal Finance vol13. Issue.7, p.46.
- Sunday Olabisi Adewara, (2021). "Nigerian Economy During Colonial Era: An Overview," *Advances in African Economic, Social and Political Development*, in: Rotimi Ajayi & Joseph Yinka Fashagba (ed.), *Nigerian Politics*, chapter 0, pages 245-258, Springer.
- Tamuno, T. N. (1980). British Colonial Administration in Nigeria in the Twentieth Century. In O. Ikime, *Ground Work of Nigerian History* (pp. 393-409). Ibadan: Heinemann Educational Books (Nigeria) for the Historical Society of Nigeria.
- Tella, A. S. (2012). Accountability and Corporate Governance Discourse in Political Economy of Leadership Role in Nigeria's Development. *ASUU Journal of Social Sciences, Research and Development*, 59-75.
- Vickers, M. (1973). *The Nigerian Federal Election of 1959: Politics and Administration in a Developing Political System*. Ibadan: Oxford University Press for the Nigerian Institute of Social and Economic Research.



Bridging the AI Talent Gap in Supply Chain Management: Opportunities for Collaboration

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Abstract. The integration of Artificial Intelligence (AI) into supply chain management has become a key driver of operational efficiency, optimization, and innovation. However, the effective deployment of AI technologies is constrained by a significant talent gap, as the demand for AI-skilled professionals far exceeds the current supply. This gap is particularly pronounced in the supply chain sector, where specialized knowledge in both AI and supply chain operations is essential. Bridging this talent gap is crucial for industries aiming to leverage AI for competitive advantage, yet achieving this requires a collaborative approach involving multiple stakeholders. This explores the opportunities for collaboration between industry, academia, and public-private partnerships to address the AI talent shortage in supply chain management. By examining the challenges faced by organizations in recruiting and retaining AI professionals, this highlights the critical need for educational initiatives that focus on the intersection of AI and supply chain management. Industry-academia partnerships play a pivotal role in developing curricula that prepare the next generation of talent, while also fostering internship and mentorship programs to facilitate hands-on experience. Public-private collaborations can further enhance workforce development through funding and policy support aimed at AI education and training. Additionally, this discusses the importance of upskilling and reskilling existing employees, providing accessible training programs to build AI expertise within the current workforce. It also explores the potential of cross-industry knowledge sharing, global talent pool access, and promoting diversity and inclusion in AI roles. The

review concludes by emphasizing the need for strategic investment in AI talent development and the importance of creating an inclusive and sustainable ecosystem to bridge the AI talent gap and accelerate the adoption of AI in supply chain management.

Keyword: Bridging, AI, Talent gap, Supply chain management, Review

1. Introduction

In supply chain management, artificial intelligence (AI) has become a game-changer, resulting in notable gains in decision-making, operational effectiveness, and overall performance (Ezeamii *et al.*, 2023; Obianyo *et al.*, 2024). The need for qualified AI specialists who can fully utilize these advancements has increased dramatically as organizations continue to use AI technologies to streamline their supply chains. But even with AI's enormous potential, a significant barrier to achieving its full potential is the lack of skilled workers, especially in industries like supply chain management (Folorunso *et al.*, 2024; Bello *et al.*, 2024). This explores the challenges and opportunities related to bridging the AI talent gap in the supply chain sector, emphasizing the need for collaborative efforts among industry, academia, and public institutions.

By increasing demand forecasting accuracy, streamlining inventory control, boosting logistics, and cutting expenses, artificial intelligence (AI) technologies are completely changing supply chain operations. AI is changing the conventional supply

chain model in a number of ways, including robotic automation, machine learning, and predictive analytics. These developments give businesses the ability to make data-driven choices that improve productivity, cut down on waste, and guarantee more effective use of resources. AI-driven solutions are being utilized more and more in logistics, where they help with fleet management, delivery scheduling, and route optimization, as well as forecasting, where they may analyze big datasets to estimate client demand (Ayo-Farai *et al.*, 2023; Ezeamii *et al.*, 2023). Moreover, AI-powered robotics are improving warehouse automation, enhancing productivity, and reducing human error in tasks such as order picking and packaging. As a result, AI has become an essential tool for supply chain professionals seeking to stay competitive in a rapidly evolving market.

However, companies need qualified experts who can integrate, manage, and optimize these cutting-edge technologies if they are to fully realize the potential of AI in supply chain management. As a result, supply chain management is one of the industries with the highest need for AI skills (Ariyibi *et al.*, 2024; Adewuyi *et al.*, 2024). Due to the intricacy of AI solutions, a thorough grasp of supply chain procedures is necessary in addition to technical proficiency in machine learning, data science, and algorithm design. The effective deployment and expansion of AI-driven solutions depend heavily on this special set of abilities.

There is a severe worldwide scarcity of skilled workers in spite of the rising need for AI skills (Adaramola *et al.*, 2024). Industry statistics indicate that there is intense competition among businesses to recruit and retain top talent because the supply of AI-skilled personnel has not kept up with the growing demand. In supply chain management, where the combination of domain knowledge and AI expertise is a rare and highly sought-after skill set, this talent gap is especially noticeable. Finding experts who can successfully apply AI technologies to real-world logistics and operational challenges is a challenge for many supply chain organizations, especially in complex environments where scalability and integration with existing systems are crucial considerations (Adigun *et al.*, 2024; Ajayi *et al.*, 2024).

For sectors that depend on supply chain optimization, this talent scarcity has multiple ramifications. Businesses may experience delays in deploying AI-driven solutions, which could lead to lost chances for cost and efficiency reductions. Furthermore, supply chain teams may find it difficult to handle the challenges of adopting AI if they lack the necessary experience, which could result in underuse of the technologies that are accessible (Eyeghre *et al.*, 2023;

Wada *et al.*, 2025). This can impede an organization's capacity to compete in a market that is increasingly demanding digital transformation, in addition to impeding operational progress.

A collaborative strategy is necessary to overcome the AI talent gap due to its complexity and magnitude. It is obvious that no one organization—government, business, or academia—can successfully address this issue on its own. To ensure that supply chain companies can obtain the skills they need to be competitive and to build a sustainable pipeline of AI talent, multi-stakeholder engagement is crucial (Ajibola *et al.*, 2024; Ezeamii *et al.*, 2024).

The collaboration between academia and industry is one of the most important initiatives that can aid in closing the skill gap in AI. In order to create curricula that give students the AI and supply chain capabilities they need, universities and training facilities play a crucial role. By incorporating practical training and real-world projects into their courses, these educational institutions can work with industry partners to create programs that specifically address the demands of the supply chain industry. Additionally, students can gain firsthand experience in supply chain settings through internships, mentorships, and cooperative education programs, which will improve their capacity to put AI principles into reality (Adhikari *et al.*, 2024; Obiano *et al.*, 2024).

Addressing the AI skill gap can also be greatly aided by public-private cooperation. Governments can promote the creation of a competent workforce by providing financing, tax breaks, and legislative support for AI education and workforce development initiatives. These collaborations have the potential to increase innovation, generate employment, and guarantee that the advantages of AI are dispersed more widely throughout the economy. In addition to being a major obstacle, the AI talent gap in supply chain management offers a chance for cross-sector cooperation. In order to ensure that businesses can fully utilize AI technology to improve their supply chains, industry, academia, and government can collaborate to develop a comprehensive strategy for tackling the skills shortage (Ahmed *et al.*, 2022; Kwok, 2022). This collaborative approach will not only accelerate the adoption of AI but also drive long-term innovation and competitiveness in the supply chain sector.

2. Methodology

The PRISMA methodology was employed in conducting this systematic review of literature to explore opportunities for collaboration in bridging the AI talent gap in supply chain management. A comprehensive search strategy was developed to identify relevant studies and reports, with inclusion and exclusion criteria established to ensure the focus remained on peer-reviewed articles, industry reports, and academic papers related to AI in supply chain management and talent development. The search process involved multiple databases, including Scopus, Google Scholar, and PubMed, covering publications from the past ten years, with emphasis on AI technologies, workforce development, and supply chain management.

The inclusion criteria were defined as: (1) articles discussing AI technologies and their applications in supply chain management, (2) literature exploring the shortage of AI talent in various industries, (3) research focused on collaborative models for talent development, and (4) case studies or reports on industry-academia partnerships or public-private initiatives aimed at addressing the talent gap. Exclusion criteria involved studies unrelated to AI, publications not focused on supply chain management, and works that did not include discussions of collaborative approaches for talent development.

Following the initial search, titles and abstracts were screened for relevance. A total of 56 articles met the inclusion criteria and were subjected to full-text review. These studies were further categorized into themes, including AI adoption in supply chains, barriers to AI talent acquisition, and opportunities for collaboration across sectors. Data were extracted regarding key findings on talent shortages, successful industry collaborations, and strategies to mitigate the gap. The synthesis of data identified several recurring themes: the critical need for interdisciplinary talent, the importance of strategic partnerships between industry and academia, and the role of government in facilitating workforce development.

The quality of included studies was assessed using standard appraisal tools, ensuring the reliability and validity of the findings. The PRISMA flow diagram was used to document the selection process, providing transparency and clarity in the methodology. The final analysis provided insights into the multifaceted nature of the AI talent gap in supply chain management and highlighted the promising collaborative approaches that could address this challenge. The findings underscore the importance of coordinated efforts

between academia, industry, and government to ensure a sustainable AI talent pipeline for the future of supply chain management.

2.1 The AI Talent Gap in Supply Chain Management

For businesses looking to increase operational effectiveness, cut expenses, and improve decision-making, incorporating artificial intelligence (AI) into supply chain management has become essential (Tariq *et al.*, 2021; Helo and Hao, 2022). From demand forecasting to logistics optimization, artificial intelligence (AI) technologies like robotics, data analytics, and machine learning (ML) have the potential to completely transform supply chains. However, a large talent shortage that prevents supply chains from adopting AI widely is preventing these technologies from being implemented and maintained efficiently. In order to fully grasp AI's promise in supply chain management, this gap must be closed.

Determining the skill sets needed for supply chain AI integration is crucial to comprehending the AI skills gap. Data science, machine learning, artificial intelligence engineering, and a thorough comprehension of supply chain procedures are among the essential key competencies. Proficiency in Python, R, and SQL are examples of data science abilities that are essential for managing and analyzing massive datasets, seeing trends, and creating predictive models. Expertise in machine learning is also essential for creating algorithms that can automate crucial procedures like logistics and inventory management, forecast changes in demand, and optimize operations (Jampani *et al.*, 2023; Khedr, 2024).

Professionals must possess both technical expertise and an understanding of supply chain management. To guarantee that AI solutions are customized to the unique requirements of supply chains, expertise in production, distribution, transportation, and procurement is required. It is uncommon to find someone who is skilled in both supply chain management and artificial intelligence, and the market needs this dual knowledge (Hryhorak *et al.*, 2023; Richey *et al.*, 2023). Sadly, there is a significant disconnect between the workforce's present skills and the need for these specialists, which makes it difficult for businesses to successfully use AI technologies.

The supply chain sector has several obstacles when it comes to hiring AI experts. The competitive nature of the AI professional employment market is the first significant problem. The need for skilled workers has increased as a result of the continued use of AI by

sectors including healthcare, banking, and retail. As a result, businesses are finding it difficult to draw in and keep qualified AI professionals, creating a talent shortage. Companies frequently face intense competition and are compelled to give high salaries due to the shortage of AI specialists, making it challenging for businesses, especially those in supply chain management, to compete (Christensen, 2021; Muldoon *et al.*, 2023).

The lack of personnel with both technical AI skills and supply chain management domain knowledge is a second major issue. Although the number of data scientists and AI engineers is increasing, few possess the specific knowledge of supply chain operations required to use AI technology successfully. The talent gap is made worse by this discrepancy between the abilities of the professionals who are accessible and the particular requirements of the supply chain industry. AI adoption and deployment in supply chain operations might be delayed since businesses are frequently forced to make significant investments in training and development or hire AI specialists from other industries (Ardichvili, 2022; Bukartaite and Hooper, 2023).

The performance of organizations is significantly impacted by the lack of AI talent in supply chain management. The delayed deployment of AI technologies is one of the main consequences. Businesses may put off or reduce their plans for implementing AI as a result of their inability to find skilled personnel, which will put them behind rivals that have already incorporated AI into their operations (Uren and Edwards, 2023; Esmaeilzadeh, 2024). The adoption of AI-enabled supply chains slows down and the full potential of the technology is not realized in the absence of qualified personnel.

This delay in AI adoption leads to inefficiencies within the supply chain. AI could streamline processes, reduce human error, and provide more accurate insights, but without the right talent to develop and manage these systems, the benefits are not realized (Aldoseri *et al.*, 2023; Waqar *et al.*, 2024).

Additionally, the lack of talent leads to lost chances for creativity. AI in supply chains can open up new possibilities, like automated decision-making, real-time shipment tracking, and sophisticated predictive analytics that help maximize resource allocation. But without qualified experts to put these ideas into practice, businesses lose out on chances to boost supply chain performance, lower operating costs, and increase customer satisfaction. For businesses to fully benefit from AI, the supply chain management AI talent gap is a crucial problem that must be resolved. Successful AI integration requires specific skills, and businesses face major obstacles due to the lack of competent individuals on the market. This talent gap results in delayed AI adoption, inefficiencies, and missed opportunities for supply chain optimization and innovation. To close the talent gap, companies must invest in training, education, and collaboration across sectors, while also exploring ways to attract professionals with both AI expertise and supply chain knowledge (Morandini *et al.*, 2023; Shan and Wang, 2024). Addressing this gap will ensure that AI can transform supply chains and lead to more efficient, innovative, and competitive operations.

2.2 Opportunities for Collaboration to Address the Talent Gap

The lack of qualified AI specialists is a major issue as more and more companies incorporate AI into their operations, especially in supply chain management (Fosso *et al.*, 2022; Modgil *et al.*, 2022). Multi-stakeholder cooperation can provide useful ways to close this talent gap. Collaborations across government, industry, academia, and other sectors might produce the workforce with AI skills required to propel supply chain innovation. A sustainable talent pipeline may be established and firms can fully utilize AI in supply chains through cooperative efforts in AI education, workforce development, and knowledge exchange as shown in figure 1 (Ayodele and Zhou, 2024; Zamiri and Esmaeili, 2024). In order to close the AI skill gap in the supply chain industry, this examines important areas for cooperation.

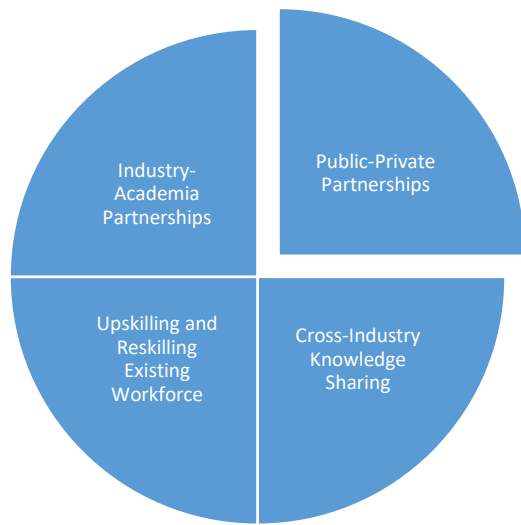


Figure 1: Opportunities for Collaboration to Address the Talent Gap

Establishing industry-academia collaborations is a potent tactic for closing the AI skill gap. Specialized AI curriculum that gives students both technological skills and domain understanding of supply chain management can be developed with the assistance of university-supply chain collaboration (Southworth *et al.*, 2023; Mu and Zhao, 2024). These collaborations can guarantee that education centered on AI is in line with the practical requirements of the sector. Graduates will be equipped to handle the unique difficulties faced by supply chain professionals thanks to this customized methodology.

To create a pipeline of qualified AI specialists, internships and mentorship programs are crucial in addition to curriculum development. Industry partners can give students invaluable learning opportunities by giving them practical experience and direct exposure to the difficulties of integrating AI in supply chains (Poo and Qi, 2023; Owolabi *et al.*, 2024). While mentorship programs can aid in the development of professional networks and provide career advice, internships give students the opportunity to apply their knowledge in practical settings. Students are more prepared for the demands of the AI-driven supply chain landscape thanks to such initiatives, which strengthen ties between academics and industry.

Public-private partnerships are another avenue for addressing the AI talent gap. Governments play a crucial role in shaping the future of AI education and workforce development through funding, policy-making, and infrastructure development. Government initiatives aimed at improving AI literacy and supporting AI research can provide a foundation for

building the necessary talent base (Sey and Mudongo, 2021; Shiohira, 2021).

Involving the industry in these activities is just as crucial. Businesses can work with academic institutions to create AI-focused programs by providing financing for curriculum creation, research, or the establishment of AI labs. To further improve the learning process, industry partners can also offer case studies, industry insights, and guest lectures as ways to share their knowledge. In order to ensure that the workforce has both technical AI skills and industry-specific knowledge, these collaborations may result in the development of specialized AI training programs that are suited to the demands of the supply chain sector (Foroughi, 2021; Riad *et al.*, 2024).

Cross-industry knowledge sharing presents another valuable opportunity for addressing the AI talent gap. Different industries face similar challenges in recruiting and retaining AI professionals, and by sharing best practices, they can jointly develop strategies to overcome these obstacles (Arslan *et al.*, 2022; Vishwanath and Vaddepalli, 2023). Collaborative forums, workshops, and conferences can provide platforms for exchanging ideas on AI education, workforce development, and talent retention.

Initiatives for cross-industry research can also stimulate innovation and the growth of AI skills. Companies and academic institutions from a variety of industries can work together to develop open-source AI tools, new approaches to integrating AI, and novel supply chain uses of AI. Talented individuals may be

able to participate in cutting-edge research through such efforts, expanding their skill sets and helping to advance AI capabilities across industries (Yoon *et al.*, 2021; Kazim *et al.*, 2024).

In order to close the AI talent gap, it is just as critical to retrain and upskill the current workforce as it is to recruit new talent. Many companies currently employ people who are highly knowledgeable about supply chain management, but they might not have the requisite technical expertise in artificial intelligence. By offering instruction in subjects like data analysis, machine learning techniques, and AI technologies tailored to supply chain optimization, corporate training programs can assist in upskilling these experts (Morandini *et al.*, 2023; Ramachandran *et al.*, 2024). Employees can study at their own pace while carrying out their daily responsibilities with the help of these programs, which can be created as workshops, online learning modules, or short courses.

Furthermore, non-technical workers can easily acquire the fundamentals of AI through online courses and certifications. For those wishing to move into AI-related careers, platforms such as Coursera, edX, and Udacity offer flexible, affordable learning possibilities (Agarwal, 2021; King and Lee, 2022). For individuals looking to advance their careers in the supply chain industry and expand their knowledge of artificial intelligence, these programs might also be a first step. Businesses may guarantee a larger talent pool and close skill gaps in their current staff by expanding access to AI expertise.

A cooperative strategy involving alliances from academia, government, business, and the general public is needed to close the AI talent gap in supply chain management. To ensure the creation of a skilled AI workforce, industry-academia cooperation, public-private partnerships, cross-industry knowledge sharing, and upskilling efforts are all essential. Companies can unlock AI's full potential for supply chain optimization and growth by combining these efforts to build a sustainable talent pipeline, encourage innovation in AI applications, and quicken the adoption of AI in supply chain management (Muthuswamy and Ali, 2023; Shahzadi *et al.*, 2024).

2.3 Strategic Approaches for Bridging the AI Talent Gap

The integration of artificial intelligence (AI) in supply chain management offers transformative potential, enabling companies to optimize operations, enhance decision-making, and increase overall efficiency (Eyeghre *et al.*, 2023; Adeoye *et al.*, 2025). However,

the shortage of AI talent poses a significant barrier to realizing these benefits. To bridge the AI talent gap, strategic approaches are needed that focus on training and development, global talent access, and promoting diversity and inclusion. These strategies can help build a capable workforce capable of driving AI innovation in the supply chain sector as shown in figure 2.

Investing in ongoing AI training and development initiatives is one of the best ways to close the talent gap in AI. Supply chain management experts must keep up with the most recent advancements in machine learning, natural language processing, robotics, and data analytics because AI technologies are developing quickly. According to Osunkanmibi *et al.* (2025) and ADEOYE *et al.* (2025), ongoing education is crucial for both learning new skills and guaranteeing the successful integration of AI in a variety of supply chain operations, including risk management, forecasting, logistics, and procurement.

Initiatives that provide high-quality, reasonably priced AI education must be given top priority by organizations. To develop training programs that are easily accessible, this may entail forming alliances with academic institutions, online learning environments, and business professionals (Ogunyankinnu *et al.*, 2022; Folorunso *et al.*, 2024). Working together with academic institutions can also assist guarantee that the course material is in line with the real-world requirements of the supply chain industry. Additionally, creating scholarship programs or offering funding for AI education might increase access to learning opportunities for a wider group of people.

Increasing access to the worldwide talent pool is a crucial tactic to close the talent gap in AI. As remote work becomes more common, businesses can access qualified AI specialists worldwide, circumventing geographical limitations that traditionally restricted their talent acquisition (Haque, 2023; Arefin, 2024). With this strategy, companies can hire top-tier AI specialists from areas like North America, Europe, and some parts of Asia that have strong AI education systems and established talent pools.

Outsourcing AI talent from nations with robust infrastructure for AI education and development is a successful strategy for utilizing the global talent pool. Companies can obtain specialized AI skills and lessen recruitment difficulties in areas with unusually high demand for AI workers by forming cooperative partnerships or outsourcing agreements (Spring *et al.*, 2022; Jerab and Mabrouk, 2023).

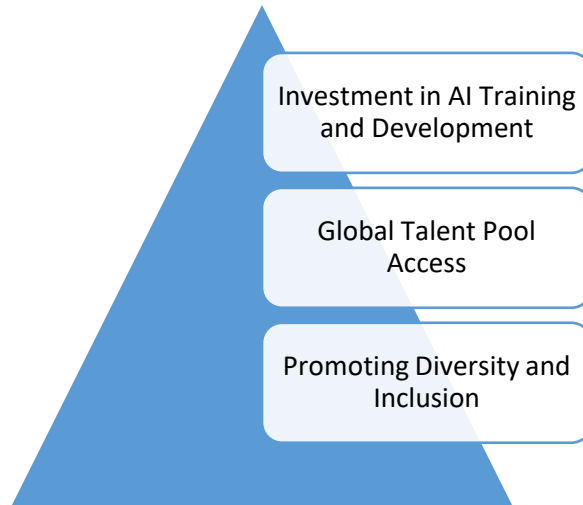


Figure 2: Strategic Approaches for Bridging the AI Talent Gap

In addition to outsourcing, companies can set up virtual collaboration platforms or remote work initiatives that let AI specialists operate from different places. In addition to expanding the talent pool, this flexibility raises the possibility of locating qualified applicants who can contribute a variety of talents and new viewpoints to the supply chain AI scene (Artar *et al.*, 2024; Revolution *et al.*, 2024). Working remotely can also promote international cooperation, allowing experts from many nations to exchange best practices and develop in the integration of AI.

In order to promote creativity and develop AI systems that are more inclusive and efficient, diversity in AI teams is essential. Organizations can foster creativity and problem-solving skills by bringing together people with different backgrounds, experiences, and viewpoints through the promotion of diversity and inclusion (Nishii and Leroy, 2022; Castelino and Shinde, 2023). Diversity can result in better solutions that meet the interests of various stakeholders, such as suppliers, buyers, and end users, when it comes to AI in supply chains. Additionally, diverse teams are more likely to create AI systems that are more representative and egalitarian, which lowers the possibility of algorithmic bias.

Attracting underrepresented groups to AI positions is a key component of advancing diversity in AI. In the AI workforce, women, members of racial and ethnic minorities, and people from low-income backgrounds are frequently underrepresented (Yarger *et al.*, 2023; Farahani and Ghasemi, 2024). Organizations can solve this by putting these groups at the center of their targeted recruitment strategy. Connecting businesses with diverse talent pools can also be facilitated by working with groups that prioritize diversity in STEM

(Science, Technology, Engineering, and Mathematics) disciplines.

Additionally, companies can promote inclusive workplaces by providing equal compensation, flexible work schedules, and chances for professional advancement. By fostering a more encouraging and welcoming work environment, these strategies not only draw in diverse talent but also aid in employee retention. Leaders in supply chain management must acknowledge the value of diversity and take proactive measures to remove the obstacles preventing underrepresented groups from succeeding in AI positions.

A diversified strategy is needed to close the AI talent gap in supply chain management. Businesses may build a competent staff that can use AI technology for supply chain optimization by investing in AI training and development. Overcoming local talent shortages can be achieved by increasing access to the global talent pool through outsourcing and remote labor. Furthermore, encouraging diversity and inclusion in AI teams guarantees that AI solutions are fair and inclusive of a range of stakeholders in addition to encouraging innovation. Organizations must adopt these tactics and work across industries to create a sustainable talent pipeline and promote AI innovation in supply chains as the need for AI in supply chain management keeps increasing (Shahzadi *et al.*, 2024; Gaikwad, 2024).

2.4 The Role of Technology in Bridging the Talent Gap

A major obstacle to attaining peak performance and efficiency is the talent gap, particularly in domains like

supply chain management and artificial intelligence (AI). One significant difficulty for companies looking to incorporate AI technologies into their operations is the lack of qualified experts in these areas. In order to close this gap, technology itself can be quite important. Organizations can improve workforce capabilities and boost operational efficiency and

scalability by utilizing automation, augmented intelligence, and AI-driven talent development technologies as shown in figure 3 (Agnihotri *et al.*, 2024; Kadirov *et al.*, 2024). By automating complicated activities and facilitating employee upskilling, these technologies lessen the need for highly specialized positions.

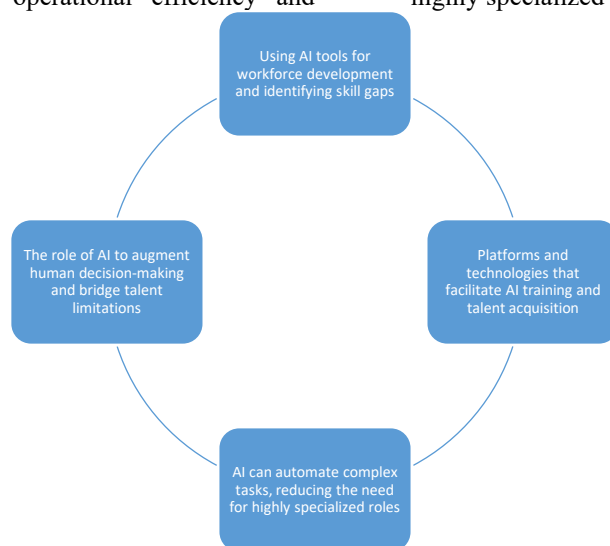


Figure 3: *The Role of Technology in Bridging the Talent Gap*

AI-driven talent development tools are transforming the way organizations approach workforce training and development. These tools use sophisticated algorithms and data analytics to assess current workforce capabilities, identify skill gaps, and recommend personalized learning paths for employees. Machine learning models can evaluate employees' strengths and weaknesses in real-time, providing tailored feedback and dynamically adjusting training materials based on individual learning styles and progress.

AI is being used more and more by platforms like Coursera, Udemy, and LinkedIn Learning to provide learning modules, certification programs, and tailored course suggestions that aim to bridge the skills gap (Bhatia *et al.*, 2022; Amin *et al.*, 2023). These platforms, which frequently collaborate with academic institutions or organizations that provide AI-focused content, give staff members access to excellent, on-demand training materials and courses. By allowing workers to learn at their own speed and from any location, this training approach democratizes access to AI education and gets beyond geographical restrictions.

AI tools can also make the talent recruiting process more efficient. Large volumes of resumes and job applications can be analyzed more quickly by

recruiting platforms that incorporate AI-powered applicant tracking systems (ATS) and machine learning algorithms than by human recruiters. These tools help firms find the best candidates more quickly by evaluating credentials, experience, and other pertinent variables. AI may also forecast a candidate's chances of success in a certain position based on their qualifications, background, and compatibility with the company's culture. This can guarantee the best candidate for AI positions in supply chains and other industries while cutting down on the time and expense of the hiring process.

The application of automation and augmented intelligence is another technological advancement that is essential to closing the talent gap. Augmented intelligence takes one step further by supporting human decision-making rather than taking the place of it, even while AI alone can handle organized and repetitive activities (Kim *et al.*, 2022; Mazurova and Standaert, 2024). Without requiring extensive AI skills, this technology helps professionals with jobs like supply chain management that call for cognitive judgment and insight. AI systems can offer actionable insights through predictive modeling and real-time data analysis, assisting staff members in making better decisions faster.

AI-powered systems, for instance, can more accurately forecast demand, optimize inventory levels, and anticipate supply chain interruptions. By providing pertinent information and choices, AI supports human decision-making in this way, freeing up experts to concentrate on strategic choices rather than mundane operational duties. Because workers with different degrees of experience may collaborate with AI systems to make complicated decisions, there is less need for highly specialized employment. Businesses can reduce their dependency on highly qualified AI specialists while streamlining operations, improving responsiveness, and minimizing human error by integrating augmented intelligence into supply chains.

Additionally, automation is essential in lowering the requirement for human involvement in laborious and low-level jobs. Employees may concentrate on higher-value jobs that call for creativity, critical thinking, and problem-solving skills by using AI to automate chores like data entry, order processing, and inventory management. Businesses can increase operational efficiency and reduce the need for human labor in various sectors by using AI to automate repetitive, complicated operations (Singh, 2024). Organizations can devote resources to more important areas that call for human intelligence, like invention and process improvement, while AI systems manage everyday tasks.

In businesses where there is a strong demand for AI skills but a limited supply, AI's ability to automate processes and enhance human decision-making is especially beneficial. AI technologies can provide the scale and flexibility required to close the skill gap in supply chain management, where effectiveness and flexibility are essential. Without having in-depth technical knowledge of AI, staff members with a basic understanding of supply chain operations can use AI tools to enhance performance. Technology plays a complex and more important role in closing the AI talent gap for businesses looking to stay competitive in the fast-paced commercial world of today. By offering individualized, on-demand learning experiences that assist staff in developing the skills required for AI integration, AI-driven talent development technologies streamline workforce training. By employing data-driven insights to find the most qualified applicants for AI positions, these platforms help enhance hiring procedures. Additionally, companies may optimize operations and lower the need for highly skilled expertise by combining automation and augmented intelligence. Businesses may overcome the difficulties presented by the AI talent gap and spur innovation in supply chain

management and other fields by utilizing these technologies to create a workforce that is more adept and adaptive (Kvirchishvili, 2023; Ononiwu *et al.*, 2024).

3. Conclusion

Businesses looking to increase productivity, save expenses, and maintain their competitiveness in a global market that is changing quickly must increasingly incorporate artificial intelligence (AI) into supply chain management. However, the widening skill gap is one of the biggest obstacles to the effective implementation of AI in this industry. A multifaceted strategy that encourages cooperation between businesses, academic institutions, and government agencies is needed to address this issue. Businesses may better position themselves to take advantage of AI's full potential by comprehending the essential competencies needed for AI integration, such as data science and machine learning, and creating creative ways to close this gap.

In order to develop customized educational programs that meet the quickly evolving needs of the AI-driven supply chain sector, cooperation between academics and business is crucial. While industry leaders should offer practical experience through internships and mentorship programs, universities must create curricula that incorporate the newest AI technologies. Government policies that encourage educational efforts and provide financial incentives for research and development can also help incentivise the creation of a professional AI workforce. Organizations can access a wealth of options for innovation, optimization, and the creation of new solutions that were previously inaccessible because of resource constraints once the skill gap is closed.

Future-focused research on AI talent development must continue to be a top emphasis. It will be crucial to implement strategic efforts targeted at upskilling the current workforce and consistently adjusting to technology changes. Furthermore, a sustainable pipeline of AI specialists with both technical skill and domain-specific knowledge will be ensured via long-term partnership between academia and industry. The development of AI technology in supply chain management is contingent upon both industry breakthroughs and a persistent endeavor to develop and retain the human capital required to propel these developments.

References

- Adaramola, T.S., Omole, O.M., Wada, I., Nwariaku, H., Arowolo, M.E. and Adigun, O.A., 2024. Internet of thing integration in green fintech for enhanced resource management in smart cities. *World Journal of Advanced Research and Reviews*, 23(2), pp.1317-1327.
- Adeoye, Y., Onotole, E.F., Ogunyankinnu, T., Aipoh, G., Osunkanmibi, A.A. and Egbemhenge, J., 2025. Artificial Intelligence in Logistics and Distribution: The function of AI in dynamic route planning for transportation, including self-driving trucks and drone delivery systems.
- Adeoye, Y., Osunkanmibi, A.A., Onotole, E.F., Ogunyankinnu, T., Ederhion, J., Bello, A.D. and Abubakar, M.A., 2025. Blockchain and Global Trade: Streamlining Cross Border Transactions with Blockchain.
- Adewuyi, A.Y., Anyibama, B., Adebayo, K.B., Kalinzi, J.M., Adeniyi, S.A. and Wada, I., 2024. Precision agriculture: Leveraging data science for sustainable farming. *International Journal of Scientific Research Archive*, 12(2), pp.1122-1129.
- Adhikari, A., Smallwood, S., Ezeamii, V., Biswas, P., Tasby, A., Nwaonumah, E., Ayo Farai, O., Das, S., Thapa, S., Obianyo, C. and Chanda, A., 2024, August. Investigating Volatile Organic Compounds in Older Municipal Buildings and Testing a Green and Sustainable Method to Reduce Employee Workplace Exposures. In *ISEE Conference Abstracts* (Vol. 2024, No. 1).
- Adigun, O.A., Falola, B.O., Esebre, S.D., Wada, I. and Tunde, A., 2024. Enhancing carbon markets with fintech innovations: The role of artificial intelligence and blockchain. *World Journal of Advanced Research and Reviews*, 23(2).
- Agarwal, R.K., 2021. MOOCS: Challenges & prospects in Indian higher education. *Management practices in digital world*.
- Agnihotri, A., Grover, V., Balusamy, B., Gite, S., Arockiam, D. and Shankar, A., 2024, June. Utilizing the potential of AI to Revolutionize talent management in contemporary organizations. In *IET Conference Proceedings CP881* (Vol. 2024, No. 7, pp. 1-11). Stevenage, UK: The Institution of Engineering and Technology.
- Ahmed, F., Fattani, M.T., Ali, S.R. and Enam, R.N., 2022. Strengthening the bridge between academic and the industry through the academia-industry collaboration plan design model. *Frontiers in Psychology*, 13, p.875940.
- Ajayi, A.M., Omokanye, A.O., Olowu, O., Adeleye, A.O., Omole, O.M. and Wada, I.U., 2024. Detecting insider threats in banking using AI-driven anomaly detection with a data science approach to cybersecurity.
- Ajibola, F.O., Onyeyili, I.N., Adabra, M.S., Obianyo, C.M., Ebubechukwu, D.J., Auwal, A.M. and Justina, E.C., 2024. Adverse health effects of heavy metal pollution in the Enugu Area, Southeastern Nigeria. *World Journal of Biology Pharmacy and Health Sciences*, 20(3), pp.10-30574.
- Aldoseri, A., Al-Khalifa, K. and Hamouda, A., 2023. A roadmap for integrating automation with process optimization for AI-powered digital transformation. *Preprints*. DOI: <https://doi.org/10.20944/preprints202310.1055.v1>.
- Amin, S., Uddin, M.I., Mashwani, W.K., Alarood, A.A., Alzahrani, A. and Alzahrani, A.O., 2023. Developing a personalized E-learning and MOOC recommender system in IoT-enabled smart education. *IEEE Access*, 11, pp.136437-136455.
- Ardichvili, A., 2022. The impact of artificial intelligence on expertise development: Implications for HRD. *Advances in Developing Human Resources*, 24(2), pp.78-98.
- Arefin, S., 2024. Leveraging AI for Healthcare Advancement in Africa. *Academic Journal of Science and Technology*, 7(1), pp.1-11.
- Ariyibi, K.O., Bello, O.F., Ekundayo, T.F. and Ishola, O., 2024. Leveraging Artificial Intelligence for enhanced tax fraud detection in modern fiscal systems.
- Arslan, A., Cooper, C., Khan, Z., Golgeci, I. and Ali, I., 2022. Artificial intelligence and human workers interaction at team level: A conceptual assessment of the challenges and potential HRM strategies. *International Journal of Manpower*, 43(1), pp.75-88.
- Artar, M., Balcioglu, Y.S. and Erdil, O., 2024. Improving the quality of hires via the use of machine learning and an expansion of the person–environment fit theory. *Management Decision*.
- Ayodele, T.O. and Zhou, S., 2024, July. Cultivating Knowledge Sharing in Universities: An Innovative Approach Integrating Deep Learning for Collaborative Learning Platforms. In *Intelligent Systems Conference* (pp. 415-437). Cham: Springer Nature Switzerland.

- Ayo-Farai, O., Obianyo, C., Ezeamii, V. and Jordan, K., 2023. Spatial Distributions of Environmental Air Pollutants Around Dumpsters at Residential Apartment Buildings.
- Bello, S., Wada, I., Ige, O., Chianumba, E. and Adebayo, S., 2024. AI-driven predictive maintenance and optimization of renewable energy systems for enhanced operational efficiency and longevity. *International Journal of Science and Research Archive*, 13(1).
- Bhatia, A., Asthana, A., Bhattacharya, P., Tanwar, S., Singh, A. and Sharma, G., 2022, July. A sentiment analysis-based recommender framework for massive open online courses toward Education 4.0. In *Proceedings of Third International Conference on Computing, Communications, and Cyber-Security: IC4S 2021* (pp. 817-827). Singapore: Springer Nature Singapore.
- Bukartaite, R. and Hooper, D., 2023. Automation, artificial intelligence and future skills needs: an Irish perspective. *European Journal of Training and Development*, 47(10), pp.163-185.
- Castelino, L.M. and Shinde, R., 2023. A review on evolution and importance of diversity education and inclusion in building an effective organizational culture. *International Journal of Case Studies in Business, IT and Education (IJCSBE)*, 7(3), pp.62-89.
- Christensen, J., 2021. AI in financial services. In *Demystifying AI for the Enterprise* (pp. 149-192). Productivity Press.
- Esmacilzadeh, P., 2024. Challenges and strategies for wide-scale artificial intelligence (AI) deployment in healthcare practices: A perspective for healthcare organizations. *Artificial Intelligence in Medicine*, 151, p.102861.
- Eyeghre, O.A., Dike, C.C., Ezeokafor, E.N., Oparaji, K.C., Amadi, C.S., Chukwuma, C.C., Obianyo, C.M. and Igbokwe, V.U., 2023. The impact of *Annona muricata* and metformin on semen quality and hormonal profile in Arsenic trioxide-induced testicular dysfunction in male Wistar rats. *Magna Scientia Advanced Research and Reviews*, 8(01), pp.001-018.
- Eyeghre, O.A., Ezeokafor, E.N., Dike, C.C., Oparaji, K.C., Amadi, C.S., Chukwuma, C.C., Ogbodo, O.N., Obianyo, C.M., Illah, C., Nwoko, S.O. and Umeasiegbu, A.C., 2023. The Impact of *Annona Muricata* on Semen Quality and Antioxidants Levels in Alcohol-Induced Testicular Dysfunction in Male Wistar Rats.
- Ezeamii, V., Adhikari, A., Caldwell, K.E., Ayo-Farai, O., Obianyo, C. and Kalu, K.A., 2023, November. Skin itching, eye irritations, and respiratory symptoms among swimming pool users and nearby residents in relation to stationary airborne chlorine gas exposure levels. In *APHA 2023 Annual Meeting and Expo*. APHA.
- Ezeamii, V., Ayo-Farai, O., Obianyo, C., Tasby, A. and Yin, J., 2024. A Preliminary Study on the Impact of Temperature and Other Environmental Factors on VOCs in Office Environment.
- Ezeamii, V., Jordan, K., Ayo-Farai, O., Obianyo, C., Kalu, K. and Soo, J.C., 2023. Diurnal and seasonal variations of atmospheric chlorine near swimming pools and overall surface microbial activity in surroundings.
- Farahani, M. and Ghasemi, G., 2024. Artificial intelligence and inequality: Challenges and opportunities. *Int. J. Innov. Educ*, 9, pp.78-99.
- Folorunso, A., Mohammed, V., Wada, I. and Samuel, B., 2024. The impact of ISO security standards on enhancing cybersecurity posture in organizations. *World Journal of Advanced Research and Reviews*, 24(1), pp.2582-2595.
- Folorunso, A., Wada, I., Samuel, B. and Mohammed, V., 2024. Security compliance and its implication for cybersecurity. *World Journal of Advanced Research and Reviews*, 24(01), pp.2105-2121.
- Foroughi, A., 2021. Supply chain workforce training: Addressing the digital skills gap. *Higher Education, Skills and Work-Based Learning*, 11(3), pp.683-696.
- Fosso Wamba, S., Queiroz, M.M., Guthrie, C. and Braganza, A., 2022. Industry experiences of artificial intelligence (AI): benefits and challenges in operations and supply chain management. *Production planning & control*, 33(16), pp.1493-1497.
- Gaikwad, M.P.P., 2024. Integration of artificial intelligence in supply chain management: Challenges and opportunities. *Migration Letters*, 21(S4), pp.989-999.
- Haque, S.M.S., 2023. The impact of remote work on HR Practices: Navigating challenges, embracing opportunities. *European Journal of Human Resource Management Studies*, 7(1).
- Helo, P. and Hao, Y., 2022. Artificial intelligence in operations management and supply chain

- management: An exploratory case study. *Production Planning & Control*, 33(16), pp.1573-1590.
- Hryhorak, M.Y., Harmash, O.M. and Popkowski, T., 2023. Artificial intelligence in supply chain management: opportunities and threats for professional competence. *Electronic scientific and practical publication in economic sciences*, p.24.
- Jampani, S., Avancha, S., Mangal, A., Singh, S.P., Jain, S. and Agarwal, R., 2023. Machine learning algorithms for supply chain optimisation. *International Journal of Research in Modern Engineering and Emerging Technology (IJRMEET)*, 11(4).
- Jerab, D. and Mabrouk, T., 2023. The evolving landscape of organizational structures: A contemporary analysis. Available at SSRN 4584643.
- Kadirov, A., Shakirova, Y., Ismoilova, G. and Makhmudova, N., 2024, April. AI in Human Resource Management: Reimagining Talent Acquisition, Development, and Retention. In *2024 International Conference on Knowledge Engineering and Communication Systems (ICKECS)* (Vol. 1, pp. 1-8). IEEE.
- Kazim, S.M., AlGhamdi, S.A., Lytras, M.D. and Alsaywid, B.S., 2024. Nurturing Future Leaders: Cultivating Research and Innovation Skills in Saudi Scientific Community. In *Transformative Leadership and Sustainable Innovation in Education: Interdisciplinary Perspectives* (pp. 231-265). Emerald Publishing Limited.
- Khedr, A.M., 2024. Enhancing supply chain management with deep learning and machine learning techniques: A review. *Journal of Open Innovation: Technology, Market, and Complexity*, p.100379.
- Kim, J., Davis, T. and Hong, L., 2022. Augmented intelligence: enhancing human decision making. In *Bridging Human Intelligence and Artificial Intelligence* (pp. 151-170). Cham: Springer International Publishing.
- King, I. and Lee, W.I., 2022. Global MOOC Landscape. In *A Decade of MOOCs and Beyond: Platforms, Policies, Pedagogy, Technology, and Ecosystems with an Emphasis on Greater China* (pp. 17-40). Cham: Springer International Publishing.
- Kvirchishvili, L., 2023, November. The Evolving Workforce: Technological Advancements and Their Impact on Employee Skills and Characteristics. In *International Scientific-Practical Conference* (pp. 81-96). Cham: Springer Nature Switzerland.
- Kwok, L., 2022. Labor shortage: A critical reflection and a call for industry-academia collaboration. *International Journal of Contemporary Hospitality Management*, 34(11), pp.3929-3943.
- Mazurova, E. and Standaert, W., 2024. Implementing artificial intelligence across task types: Constraints of automation and affordances of augmentation. *Information Technology & People*, 37(7), pp.2411-2440.
- Modgil, S., Singh, R.K. and Hannibal, C., 2022. Artificial intelligence for supply chain resilience: Learning from Covid-19. *The International Journal of Logistics Management*, 33(4), pp.1246-1268.
- Morandini, S., Fraboni, F., De Angelis, M., Puzzo, G., Giusino, D. and Pietrantonio, L., 2023. The impact of artificial intelligence on workers' skills: Upskilling and reskilling in organisations. *Informing Science*, 26, pp.39-68.
- Mu, Q. and Zhao, Y., 2024. Transforming entrepreneurship education in the age of artificial intelligence. *Resources Data Journal*, 3, pp.2-20.
- Muldoon, J., Cant, C., Graham, M. and Ustek Spilda, F., 2023. The poverty of ethical AI: Impact sourcing and AI supply chains. *AI & society*, pp.1-15.
- Muthuswamy, M. and Ali, A.M., 2023. Sustainable supply chain management in the age of machine intelligence: Addressing challenges, capitalizing on opportunities, and shaping the future landscape. *Sustainable Machine Intelligence Journal*, 3, pp.3-1.
- Nishii, L.H. and Leroy, H., 2022. A multi-level framework of inclusive leadership in organizations. *Group & organization management*, 47(4), pp.683-722.
- Obianyo, C., Das, S. and Adebile, T., 2024. Tick Surveillance on the Georgia Southern University Statesboro Campus.
- Obianyo, C., Ezeamii, V.C., Idoko, B., Adeyinka, T., Ejembi, E.V., Idoko, J.E., Obioma, L.O. and Ugwu, O.J., 2024. The future of wearable health technology: from monitoring to preventive healthcare. *World J Biol Pharm Heal Sci*, 20, pp.36-55.
- Ogunyankinnu, T., Onotole, E.F., Osunkanmibi, A.A., Adeoye, Y., Aipoh, G. and Egbemhenge, J., 2022. Blockchain and AI synergies for effective supply chain management.
- Ononiwu, M.I., Onwuzulike, O.C. and Shitu, K., 2024. The role of digital business transformation in enhancing organizational agility. *World*

- Journal of Advanced Research and Reviews*, 23(3), pp.285-308.
- Osunkanmibi, A.A., Adeoye, Y., Ogunyankinnu, T., Onotole, E.F., Salawudeen, M.D., Abubakar, M.A. and Bello, A.D., 2025. Cybersecurity and Data Protection in Supply Chains: AI's Role in Protecting Sensitive Financial Data across Supply Chains.
- Owolabi, O.S., Uche, P.C., Adeniken, N.T., Hinneh, E. and Attakorah, S., 2024. Integration of Decentralized Finance (DeFi) in the US Supply Chain Finance: Opportunities, Challenges, and Future Prospects. *International Journal of Computer Science and Information Technology*, 16(3), pp.121-141.
- Poo, M.C.P. and Qi, B., 2023, December. Review on the Applications of AI in Laboratory Experiments in Supply Chain Management Education. In *2023 4th International Conference on Computers and Artificial Intelligence Technology (CAIT)* (pp. 110-114). IEEE.
- Ramachandran, K.K., Srivastava, A., Panjwani, V., Kumar, D., Cheepurupalli, N.R. and Mohan, C.R., 2024. Developing AI-powered Training Programs for Employee Upskilling and Reskilling. *Journal of Informatics Education and Research*, 4(2), pp.1186-1193.
- Revolution, R., Nayak, A., Patnaik, A., Satpathy, I., Khang, A. and Patnaik, B.C.M., 2024. 4 The Power of Artificial. *AI-Oriented Competency Framework for Talent Management in the Digital Economy: Models, Technologies, Applications, and Implementation*, p.54.
- Riad, M., Naimi, M. and Okar, C., 2024. Enhancing Supply Chain Resilience Through Artificial Intelligence: Developing a Comprehensive Conceptual Framework for AI Implementation and Supply Chain Optimization. *Logistics*, 8(4), p.111.
- Richey Jr, R.G., Chowdhury, S., Davis-Sramek, B., Giannakis, M. and Dwivedi, Y.K., 2023. Artificial intelligence in logistics and supply chain management: A primer and roadmap for research. *Journal of Business Logistics*, 44(4), pp.532-549.
- Sey, A. and Mudongo, O., 2021. Case studies on AI skills capacity building and AI in workforce development in Africa. *Research ICT Africa*.
- Shahzadi, G., Jia, F., Chen, L. and John, A., 2024. AI adoption in supply chain management: A systematic literature review. *Journal of Manufacturing Technology Management*, 35(6), pp.1125-1150.
- Shahzadi, G., Jia, F., Chen, L. and John, A., 2024. AI adoption in supply chain management: A systematic literature review. *Journal of Manufacturing Technology Management*, 35(6), pp.1125-1150.
- Shan, Z. and Wang, Y., 2024. Strategic talent development in the knowledge economy: A comparative analysis of global practices. *Journal of the Knowledge Economy*, pp.1-27.
- Shiohira, K., 2021. Understanding the Impact of Artificial Intelligence on Skills Development. Education 2030. *UNESCO-UNEVOC International Centre for Technical and Vocational Education and Training*.
- Singh, S.K., 2024. Automating Routine Tasks to Improve. *Improving Entrepreneurial Processes Through Advanced AI*, p.99.
- Southworth, J., Migliaccio, K., Glover, J., Glover, J.N., Reed, D., McCarty, C., Brendemuhl, J. and Thomas, A., 2023. Developing a model for AI Across the curriculum: Transforming the higher education landscape via innovation in AI literacy. *Computers and Education: Artificial Intelligence*, 4, p.100127.
- Spring, M., Faulconbridge, J. and Sarwar, A., 2022. How information technology automates and augments processes: Insights from Artificial-Intelligence-based systems in professional service operations. *Journal of Operations Management*, 68(6-7), pp.592-618.
- Tariq, M.U., Poulin, M. and Abonamah, A.A., 2021. Achieving operational excellence through artificial intelligence: Driving forces and barriers. *Frontiers in psychology*, 12, p.686624.
- Uren, V. and Edwards, J.S., 2023. Technology readiness and the organizational journey towards AI adoption: An empirical study. *International Journal of Information Management*, 68, p.102588.
- Vishwanath, B. and Vaddepalli, S., 2023. The future of work: Implications of artificial intelligence on HR practices. *Tuijin Jishu/Journal of Propulsion Technology*, 44(3), pp.1711-1724.
- Wada, I.U., Izubili, G.O., Babayemi, T., Abdulkareem, A., Macaulay, O.M. and Emadoye, A., 2025. AI-driven cybersecurity in higher education: A systematic review and model evaluation for enhanced threat detection and incident response.
- Waqar, M., Bhatti, I. and Khan, A.H., 2024. AI-powered automation: Revolutionizing industrial processes and enhancing

- operational efficiency. *Revista de Inteligencia Artificial en Medicina*, 15(1), pp.1151-1175.
- Yarger, L., Smith, C. and Nedd, A., 2023. We cannot build equitable artificial intelligence hiring systems without the inclusion of minoritized technology workers. In *Handbook of Gender and Technology* (pp. 200-215). Edward Elgar Publishing.
- Yoon, B.K., Tae, H., Jackman, J.A., Guha, S., Kagan, C.R., Margenot, A.J., Rowland, D.L., Weiss, P.S. and Cho, N.J., 2021. Entrepreneurial talent building for 21st century agricultural innovation.
- Zamiri, M. and Esmacili, A., 2024. Methods and technologies for supporting knowledge sharing within learning communities: A systematic literature review. *Administrative Sciences*, 14(1), p.17.



Job Performance of Federal Road Safety Corps (FRSC) in Ogun State: A Perception of Commercial Drivers

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Abstract. Road traffic accidents have been a menace worldwide than any other form of epidemic diseases and its occurrence is still trending till date. The measures and means to reduce and curb this surge are to knowledge of road traffic safety consciousness within the society and this has not received adequate attention in transport research. Hence, this study aimed the perception of the commercial drivers on the job performance of FRSC personnel with the challenges confronting the FRSC personnel, attitude of commercial drivers towards the compliance of FRSC rules. The study observed that, the responses of the FRSC personnel on Lack of adequate funding were as follow 72%, the overall percentage of lack of adequate man power showed that 64% of the personnel affirmed with this assertion that the Agency lacks adequate manpower. Drivers' attitude towards traffic safety reflected that, 22.9% of the drivers do routine check on the vehicles before embarking on any journey while 77.1%, 69.2% of the drivers from proportion don't observe traffic regulations during course of operation, 77.2% do not fasten seatbelt when driving. In conclusion, despite effort made by Nigeria government in reducing rate of crashes on our roads, the law enforcement agents failed to achieve their purpose of establishment according to drivers' perception. But the trend of crashes between 2011 – 2020 dwindling negates the claim of drivers. Therefore, study recommended that, government at all level in the state speed up actions on traffic engineering exercise and legislate law to develop and improve existing safety education techniques in the state in general.

Keywords: Job Performance, Perception, Commercial drivers, Road safety, Road accident

1. Introduction

Transportation plays a gigantic role in human life, serving as a basic component of economic, environmental and social interactions. Generally defined, transportation refers to the physical movement of people, goods, and even services from one geographic location to another. It enhances mobility, connectivity, and pivots to different sectors, not excluding trade, commerce, and daily life.

Road mode of transportation has a well-established historical background and remains an important mode of mobility due to its door-to-door service and capability to provide accessibility for all categories of people. This adaptability contributes meaningfully to Nigeria economic development by fostering trade and social interactions. In Nigeria, road transportation is the majorly use mode of transport, consist different of vehicles such as bicycles, motorbikes, tricycles, cars, buses, lorries, trailers, and tankers, which are used to move people, goods, and services to their destinations with ease (Anyanwu, 1997). Despite the good roles, road transport is still associated with risks, which include death, injuries, and property damage. The alarming reoccurrence of road traffic accidents in Nigeria necessitated the establishment of the Federal Road Safety Commission (FRSC) in 1988, mandated to oversee road safety and implementing measures to curb frequent accidents and enhance road user safety (FRSC, 2007).

Road safety activities in Nigeria began with the introduction of motor vehicles in the 19th century. By independence, the number of vehicles had nearly doubled, leading to a significant rise in the number of people involved in road traffic crashes. Road transportation is predominantly due to its accessibility and widely utilized mode for the movement of goods and people across the country. Since its establishment, the FRSC has performed its function in accordance with worldwide practices, contributing to the cut down of frequency road accidents and severe fatalities. This has been achieved through comprehensive public awareness on road usage, first aid response services, obstruction removal, and effective patrol operations. A continuous process through which employees contribute to the growth and improvement of an organization is referring to as Job performance. This is apparently connected to employee productivity, as higher productivity leads to better performance for the attainment of organizational assigned goals. Productivity consists both effectiveness and efficiency, which is intertwined factors influencing overall job performance. In an organizational context, job performance mirrors the outcome to which employees achieved assigned goals.

One of the major challenges delaying progress in effective road safety awareness is the lack of systematic evaluation of road safety education programs (Okafor et al., 2014). A well-structured evaluation framework is crucial to assess whether educational programs effectively influence attitudes, behaviours, and skills, and to identify whether modifications are required or not due to negative consequences, such as bad behaviour or increased risk exposure. The societal value of driver training and road safety education may not be to eliminate crashes and casualties but rather in fostering a safety-conscious culture and providing mechanisms that ultimately contribute to reducing road traffic risks. Omosun (2014) says drivers who are to be controlled have different views to the ways they are performing their jobs; most of the commercial drivers have the thought that the FRSC personnel are being too excessive in performing their jobs. Corruption and misconduct among law enforcement officers undermine their ability to enforce traffic regulations appropriately. Traffic law enforcement officers involved in such unethical behaviour accept bribes from motorists, enabling them to operate overloaded and poorly maintained vehicles, as well as commit other traffic violations without consequence (Owoeye, 2011). Most of the research made did not consider what commercial drivers think on the job performance of the FRSC personnel. Therefore, the present study

aims at filling the gap by investigating the commercial drivers' opinion on the job performances of FRSC personnel in Ogun State.

2. Literature Review

Jacobs and Sayer (1983) pointed out the essential function of traffic law enforcement; he further said that a lack of awareness of traffic rules/regulations is a major factor contributing to poor road-user attitude in developing countries. O'Neill and Mohan (2002) advocated for the strict enforcement of traffic safety laws to regulate road user attitude effectively and recommended the establishment of national and regional road safety agencies to improve road safety management.

Mohan et al. (2008) observed that road safety policies often place insufficient emphasis on the protection of vulnerable road users, including pedestrians, cyclists, and two-wheeler operators. To address this gap, they proposed the development of comprehensive road traffic policies, such as the creation of pedestrian-friendly pathways, dedicated lanes for different vehicle categories, and stricter enforcement of traffic laws. This concern was echoed by Maduagwu (1998), who noted that many Nigerian drivers disregard traffic rules and regulations, frequently violating speed limits, ignoring road signs, engaging in reckless overtaking, and parking indiscriminately without considering other road users. The traffic situation was described as chaotic and unpredictable, with limited public interest in road safety issues and an absence of sustained policy interventions to address these concerns (FRSC, 2007).

Schroer and Peyton (2011) opined that drivers who willingly agreed to undergone vehicle inspections had lesser accident rates compare to those who did not. This finding was attributed to their level awareness of road safety issues rather than the inherent safety of their vehicles. Additionally, the study found that vehicles that failed to return for subsequent inspections had accident rates comparable to uninspected vehicles, implying that drivers who neglected their vehicles were more likely to operate defective automobiles that contributed to accidents. White (2010) further observed that many drivers do not take personal responsibility for the roadworthiness of their vehicles, relying instead on mandatory inspections. However, a limitation of random roadside inspections is their inability to detect all vehicle defects due to technical constraints.

Highlighting the need for traffic law enforcement, Jacobs and Sayer (1983) have pointed out that lack of

awareness of traffic rules is one of the major factors of low standard of road-user behavior in the developing world. O'Neill and Mohan (2002) have advocated for strict enforcement of traffic safety laws for challenging road user behavior and establishment of national and regional road safety agencies for improvement in road safety.

Mohan et al. (2008) have pointed out that there is less emphasis on the safety of vulnerable road users-pedestrians, bicyclists and two-wheeler drivers. They have suggested formulation of road traffic policies viz. pedestrian – friendly paths, separate lanes for heavy and light motor vehicles and strict implementation of traffic rules and regulations to enhance road safety. Maduagwu (1998) corroborated this when he states that most Nigerian drivers have no regard whatsoever to traffic rules and regulations. They do not observe speed limits or traffic signs on highways, many drivers overtake anywhere and anyhow on roads and highways, while some park their vehicles anyhow on the roads with no thought of other road users. The traffic situation then was described as chaotic and unpredictable, public interest on road safety matters was minimal and there was no concrete and sustained policy action to address road safety questions (FRSC, 2007).

3. Methodology

Ogun State is between latitude 6.3N and 7.8N and longitude 3.0E and 5.0E. The state is located in the south western part of Nigeria and it is bounded in the west by Benin Republic, in the south by Lagos State, in the north both by Oyo and Osun States and in the East by Ondo State. The state is approximately 17,542 square kilometers land area with the approximate population of 5,375,001 million (OSRP, 2018). Ogun state is made of four (4) regions which are: Remo, Ijebu, Iyewa and Egba.

The population of this study comprises of drivers and FRSC which made of eight hundred and twenty (820). Taro Yamane formula was employed to determine sample size which was four hundred (400) respondents. Cluster sampling technique was employed to select four (4) major motor parks (clusters) each in those regions as sample sites for this

survey. A random sampling technique was used to administer questionnaires to the respondents in each cluster.

4.0 Results and Discussion

This section discussed the responses of the respondents and presents the results of the data analysis. Also, descriptive and inferential statistics were employed to analyze the data gotten through data collection instrument (questionnaire).

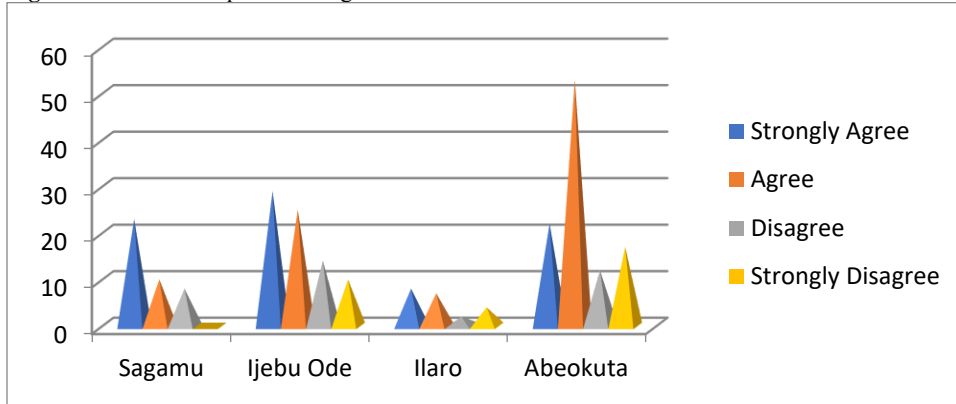
Challenges faced by FRSC personnel in the study area

The Challenges faced by FRSC personnel in general in the study area on certain aspect of safety such as lack of adequate funding, lack of Adequate Manpower, Assault and Harassment Cases, Corruption, Lack of inter-Agency Cooperation, Lack of Suitable Modern Traffic Infrastructures, were equally rated on a 4-liker scale of Strongly Agree, Agree, Strongly Disagree, Disagree. The first two attributes indicating YES to such parameters posing threat to FRSC personnel while the remaining two indices indicated NO to identified parameters.

3.1 Lack of adequate funding

Funding the Agency is done by the Federal government in which is used in purchasing equipment's and other necessary expenses. Less than adequate funding through annual budgetary releases to FRSC have not been enough to execute capital projects and cater for overhead costs. Right now, it is said that about 95% of residential and office accommodation in the Crops are rented. A lot of money is paid on maintenance of patrol vehicles, ambulances, motor bikes and rent leaving little or nothing for other projects like purchase of more heavy-duty tow vehicles for removal of obstructions on the highways and other services. The study observed that, the responses of the commercial drivers and FRSC personnel on Lack of adequate funding were as follow, 72% agreed while 28% disagreed. With the high proportion of the personnel in the study area, it shows that they lack adequate funding to discharge their duties. In all, 72% of all the personnel agreed that lack of adequate funding is a serious challenge to the Agency.

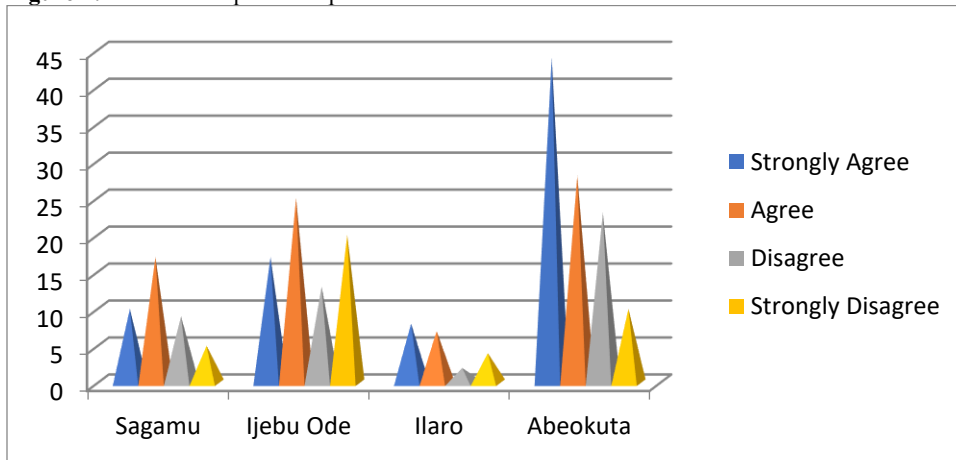
Figure 1: Lack of adequate funding



3.2 Lack of Adequate Manpower

The need to have officers and men well trained in related field like law to prepare them for prosecution of traffic offenders cannot be overemphasized. Other areas are rescue and emergency services, ICT and human resource development among others. This would build more confidence in staff to discharge their duties more firmly. Lack of adequate man power is a problem with the Agency and its personnel. The study observed that the overall percentage of lack of adequate man power showed that 64% of the personnel affirmed with this assertion that the Agency lacks adequate manpower.

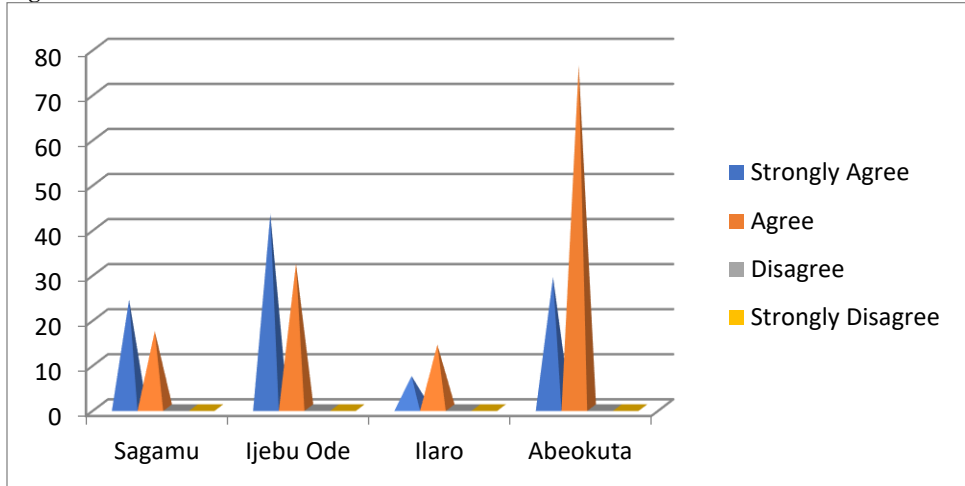
Figure 2: Lack of Adequate Manpower



3.3 Assault and Harassment Cases

Harassment and assault cases was observed to have been the most threatening challenges the personnel have been facing over the years as the proportion of the respondents agreeing to this, is on the high side with an overall average of 98%. Violent traffic offenders have physically assaulted Road Marshals on duty several times simply because these offenders see FRSC staffs as defenseless since members of the Crops are not armed.

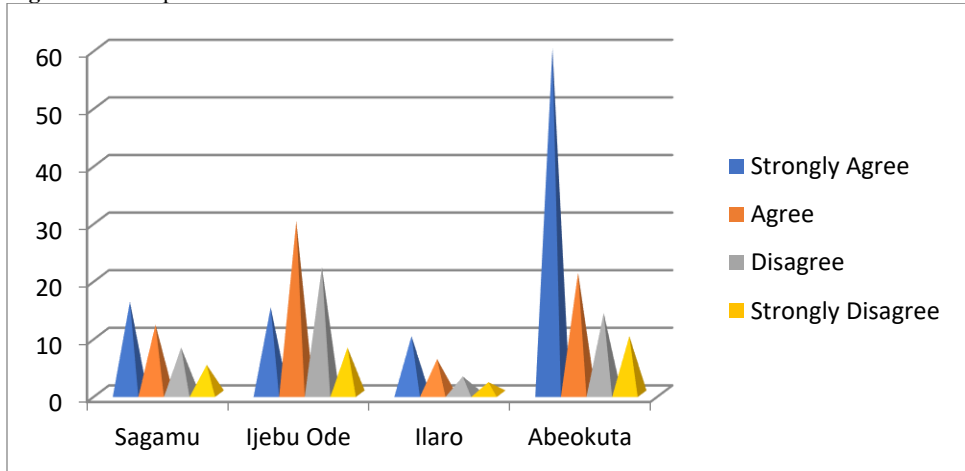
Figure 3: Assault and Harassment Cases



3.4 Corruption

The level of corruption of the personnel is on the high side. Corruption and misconduct on the part of law enforcement officers make them to compromise as observed in the study. Such officers collect bribes from motorists and allow them to ply the highways with overloaded and rickety vehicles among other traffic offences. This is why serials traffic offenders continue to violate traffic rules and regulation with impunity. The study observed the overall proportion of the FRSC agreed that corruption is a challenge with 72% agreeing to this.

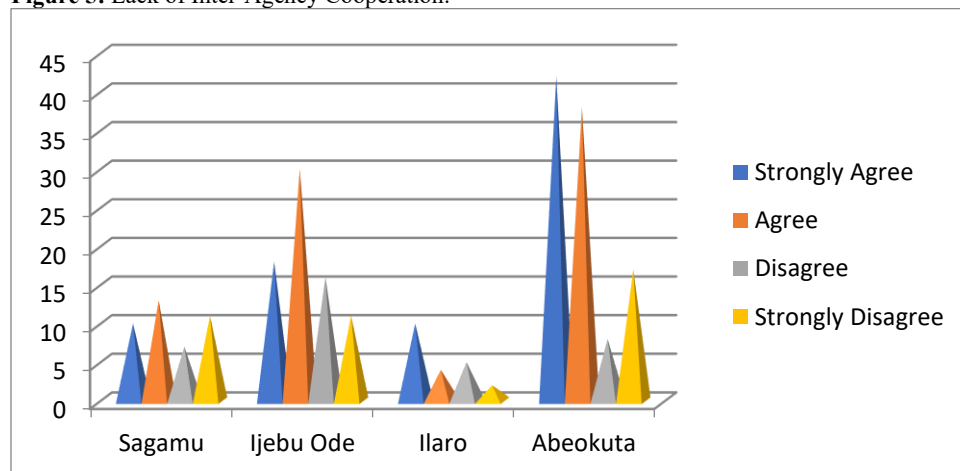
Figure 4: Corruption



3.5: Lack of Inter-Agency Cooperation:

The role and responsibilities of Traffic management Agencies such as FRSC, TRACE, Policemen, VIS, and so on; seem to be overlapped hence causing conflicts among the agencies. The study thus revealed that huge proportion of 75% of the FRSC personnel affirmed with this while 25% disagreed.

Figure 5: Lack of Inter-Agency Cooperation:



3.6: Perception of Commercial drivers on the effectiveness and performance of the FRSC

The performance of Road Traffic Safety Agencies in general in the study area on certain aspect of safety such as traffic control, enforcement of traffic rules as well as rescue and response services were equally rated on a 4 likert-scale of Strongly Agree, Agree, Strongly Disagree, Disagree. All the strongly agree and agree responses were lumped together under Agree while all the strongly disagree and Disagree were also lumped together under Disagree.

Traffic Control: Road traffic control involves directing vehicular and pedestrian traffic on the road, around a construction zone, accident or other disruption, thus ensuring the safety of the general public. The study observed that the combined performance of the safety agency as rated by the drivers in the study area showed a high proportion of 70% of the FRSC personnel to have helped maintain traffic discipline on the roads, 78% showed that they make sure they clear obstructions on any part of the highway. A high proportion of 78% of the respondent also shows that they are effective in reducing accidents on highways.

Enforcement of Traffic Rules: the enforcement of road traffic rules should be aimed primarily at causing general deterrence and not for the law enforcement officers to catch and punish road users but for them to encourage obeying traffic rules and regulations. The combined performance of the agency on the aspect of enforcement of traffic rules was seen to be working well enough. A small proportion of 18% disagree with standardization of highway traffic codes while a high proportion of 82% agreed to this, 65% disagreed that the Agency is not cooperating with other bodies or agencies in road safety activities or in prevention of accidents on the highways like the VIS, Police and so on, 76% shows they perform well by enforcing speed limits for all categories of roads and vehicles and controlling the use of speed limiting devices, 62% shows that they design and produce the driver's license to be used by various categories of vehicle operators and they are fast about it.

Rescue and Response Services: Rescue and response services of the agencies have to do with the prompt arrival of the officers when called upon and the arrival at the scene of accident/event to prevent more damages that might result from the aftermath effect of the scene. The performance of the agencies revealed a 67% in the proportion gives prompt attention and care to victims of road accident, thou 60% from the sampled respondent disagreed that the agency don't give timely announcement on medias for drivers to take alternative route when necessary, 66% also disagreed that the agency are not providing roadside and mobile clinics for the treatment of accident victims free of charge, while 63% of the respondents say they are punctual and fast to respond when called upon.

Table 1: Perception of Commercial Drivers on the effectiveness and performance of FRSC.

S/N	Statement	Agree	%	Disagree	%
1	FRSC officers are effective in reducing accidents	188	78%	54	22%
2	FRSC officers have actually helped to maintain traffic discipline on the roads.	174	70%	68	30%
3	As a driver that ply these roads daily, you know little of traffic rules and regulations	152	63%	90	37%
4	FRSC officers have been able to help reduce the rate of accidents.	128	53%	114	47%

5	Giving prompt attention and care to victims of accidents	162	67%	80	33%
6	Clearing obstructions on any part of the highways	188	78%	54	22%
7	Designing and producing the driver's license to be used by various categories of vehicle operators.	151	62%	91	38%
8	The standardization of highway traffic codes.	205	82%	37	18%
9	Educating Drivers on the proper use of highway	187	77%	55	23%
10	Timely announcement on medias for drivers to take alternative route when necessary	96	40%	146	60%
11	Providing roadside and mobile clinics for the treatment of accident victims free of charge.	81	34%	161	66%
12	Cooperating with bodies or agencies or groups in road safety activities or in prevention of accidents on the highways	82	35%	160	65%
13	Determining and enforcing speed limits for all categories of roads and vehicles and controlling the use of speed limiting devices	186	76%	56	24%
14	Punctuality when called upon	152	63%	90	37%

Source: Authors' Field Work, 2024

4. Conclusion and Recommendations

Despite effort made by Nigeria government in reducing rate of crashes on our roads, the law enforcement agents failed to achieve their purpose of establishment according to drivers' perception. The rate of crashes has been reducing gradually in Nigeria due to FRSC awareness but cannot be eliminated or eradicated as expected by drivers. It recommended that Traffic management agencies should drop the idea of raising money prioritize safety. FRSC should return to its core mandate and diligently patrol and enforce laws on Federal Highway while its personnel should be better trained, better equipped and where necessary, properly oriented for quality professional highway.

References

Anyanwu, J.C., Oaikhena, H., Oyefusi, A. and Dimowo, F.A. (1997). *The Structure of the Nigerian Economy (1960-1977)*. Onitsha: Joanne Educational Publishers Ltd.

FRSC, (2007). *Establishment Act. Federal Republic of Nigeria Official Gazette*. Lagos: Federal Government Printer.

Jacobs, G.D and Sayer, I. "Road Accidents in Developing Countries". *Accident Analysis & Pre-vention*, Vol. 15. No.5 1983, pp, 337-353.

Maduagwu A.D. (1998). *FRSC and the Imperatives on Road Traffic Safety in Nigeria: A Documentary on the Development of Safety Activities in Nigeria*. Jos: Chohu Business Ent

Mohan D, et al. (2008) *Road Traffic Injuries: A stocktaking*. *Best Pract Res ClinRheumatol*

O'Neil and Mohan, D (2002) "Reducing Motor Vehicle Crash Deaths and Injuries in Newly Motorizing Countries, *BMJ*, 324, PP 1142-1145.

Okafor, I. P. Odeyemi, K. A. Dolapo, D. C. Ilika, A. L. and Omosun, A. O. (2014). Effectiveness of road safety education in Nigeria using a quasi-experimental trial: Findings from the Road Safety Intervention Project. *African Safety Promotion Journal*, 12 (1), 1-17.

Owoeye, J. O. & Yara, P. O. (2011). School facilities and academic achievement of secondary school agricultural science in Ekiti State, Nigeria. *Asian Social Science*. 7(7): 64—74.

Schroer, B.J. & Peyton, W.F. (1979). The effects on automobile inspections on accident rates. *Accident Analysis & Prevention*, 11, 61-68.

White, W.T. (1988). A theory of how the period of vehicle inspection affects the evolution of defects and the probability of accidents. *Seminar Papers, Volume One, Road Traffic Safety Seminar*, 14-16 September, 1988: Road Traffic Safety Research Council, New Zealand.



Effective Transportation for Socio-Economic and Political Gain in the Contemporary Society

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Abstract. This study examined how effective transportation infrastructure can promote political engagement, empower marginalised communities, and enhance governance in Nigeria. Using the Public Goods Theory, the study investigates the role of transportation as a critical public resource that enables equitable political participation. The research addresses the problem of inadequate transportation systems, particularly in rural areas, which limits political inclusivity and reduces voter turnout. A qualitative research methodology was employed, drawing on recent studies and data to analyse the connection between transportation, political engagement, and governance. Findings revealed that reliable and accessible transportation empowers marginalised groups by providing access to essential services and enabling political participation, particularly in previously underserved regions. The study concludes that improving transportation infrastructure is key to fostering a more inclusive political environment, leading to better governance and national integration. The study recommended increasing government investment in integrated transport systems, promoting sustainable solutions, and ensuring transportation equity for marginalised populations to enhance political inclusivity and national development.

Keywords: Transportation Infrastructure, Political Engagement, Marginalized Communities, Governance, Voter Turnout.

1. Introduction

Transportation plays a pivotal role in shaping the socio-economic and political landscape of contemporary society. In developing countries like Nigeria, efficient transportation systems are fundamental for facilitating trade, enhancing mobility,

and promoting national cohesion. In contrast, inadequate or ineffective transportation infrastructures can hinder economic growth, exacerbate social inequalities, and create barriers to political engagement. As cities grow and societies become increasingly interconnected, the need for a robust transportation system is more crucial than ever. The importance of transportation in socio-economic development is well recognised by policymakers and scholars alike. However, there remains a significant gap in addressing how transportation directly influences political engagement and governance, particularly in Nigeria.

Transportation is a critical enabler of socio-economic development, providing access to markets, employment, healthcare, and education. In Nigeria, where the majority of the population resides in rural areas, transportation systems are vital for ensuring inclusivity in development initiatives. Despite various efforts to improve the transportation infrastructure, including the introduction of policies such as the National Integrated Infrastructure Master Plan (NIIMP), challenges such as poor road networks, congestion, and inadequate rail and water transportation persist (Adeleke, 2023; Onwuka & Adeoye, 2023). These challenges hinder economic growth, exacerbate poverty, and limit the political engagement of citizens, particularly those in remote areas.

Previous research on transportation in Nigeria has predominantly focused on its economic impacts, with less emphasis on the political dimensions. For example, Udeh et al. (2023) explored the economic benefits of improving road infrastructure but did not delve into the political implications. Similarly, a study by Ibrahim and Adegoke (2023) highlighted the challenges of urban transportation in Lagos, noting its

impact on business efficiency, but political aspects were largely ignored. This research aims to fill this gap by investigating how effective transportation systems can foster not only socio-economic but also political gains.

Nigeria's transportation sector continues to be a bottleneck to its socio-economic and political advancement. Despite being Africa's largest economy, Nigeria's infrastructural challenges significantly impact its development. The problem lies in the disjointed and underdeveloped transportation networks, which are not commensurate with the demands of a growing population and economy. The lack of reliable transportation also limits political participation, as citizens in rural and semi-urban areas find it difficult to access voting centres or participate in political activities (Eze & Ojo, 2023). This disconnect between transportation and political engagement has not been sufficiently addressed in both academic research and government policies.

While efforts have been made to improve road networks, the lack of emphasis on sustainable and integrated transportation systems, including rail and water transport, continues to undermine Nigeria's developmental goals. This has also had political ramifications, as certain regions remain marginalised due to inadequate infrastructure, affecting their representation in governance (Nwachukwu & Oluwole, 2024). Therefore, there is a pressing need to examine the broader implications of transportation beyond economic development, particularly its potential to promote political inclusivity and equity.

2. Review of Concepts

2.1 Transportation and Economic Growth

Transportation is a key driver of economic growth, as it facilitates the movement of goods and services, reduces costs, and increases efficiency within economies. In Nigeria, road networks play a central role in enabling trade and commerce, especially in rural areas where alternative modes of transport are limited (Adeyemi & Chukwuma, 2023). Studies have shown that the development of transportation infrastructure directly correlates with an increase in gross domestic product (GDP) due to improved access to markets and enhanced productivity (Ogunbiyi, 2023). Research by Afolabi and Njoku (2023) also reveals that investment in transport infrastructure leads to job creation, particularly in the construction sector, which further stimulates economic growth.

Similarly, foreign studies like that of Barnett (2024) highlight the positive economic effects of integrated transportation systems in developing economies, where efficient rail and water transport can reduce dependency on road networks, thereby minimising congestion and lowering transportation costs. Anderson (2023) emphasises the importance of multimodal transportation in promoting sustainable economic growth, arguing that diversifying transportation modes can significantly enhance productivity in sub-Saharan Africa, including Nigeria.

2.2 Transportation and Political Participation

Political participation in Nigeria is deeply affected by transportation accessibility, particularly in rural areas where poor infrastructure often limits citizens' ability to engage in political processes. A study by Eke and Udo (2024) highlights that inadequate transportation systems in rural communities contribute to low voter turnout during elections, as citizens are unable to reach polling stations. This aligns with research by Akpan and Adewale (2023), who note that transportation barriers disproportionately affect women and other marginalised groups, further reducing their political representation.

Scholars like Okoli and Bassey (2023) have explored how improving transportation infrastructure could foster political inclusivity, particularly by providing rural populations with better access to political activities. In foreign contexts, Johnson (2023) has drawn similar conclusions, noting that in many developing countries, transportation infrastructure improvements have led to increased political engagement, fostering a more participatory democracy.

2.3 Transportation and National Integration

Effective transportation systems are crucial for fostering national integration in multi-ethnic societies like Nigeria. The role of transportation in uniting diverse regions by facilitating movement and communication across state lines is well-documented (Nwosu & Adefemi, 2023). According to Dada and Olumide (2024), improved transportation networks help bridge the gap between rural and urban communities, fostering a sense of national cohesion. In Nigeria, where ethnic and regional divisions are often exacerbated by geographic isolation, transportation plays a key role in promoting unity and social harmony.

On an international level, studies like that of Patel (2024) suggest that transportation is a critical factor in

reducing regional disparities and fostering national integration in African countries with diverse ethnic groups. Anderson (2023) has also noted that integrated transportation systems promote cross-regional interactions, which are vital for national unity, particularly in countries with vast geographic and cultural divides like Nigeria.

2.4 Transportation and Urbanisation

Urbanisation has placed significant strain on Nigeria's transportation infrastructure, particularly in major cities like Lagos, Abuja, and Port Harcourt. The rapid growth of urban populations has led to increased traffic congestion, pollution, and pressure on existing transport systems (Ogunleye & Okoro, 2023). Research by Anayo and Fadeyi (2023) indicates that without substantial investment in urban transport infrastructure, cities will struggle to cope with the demands of urbanisation, leading to inefficiencies in movement and a decline in the quality of life for residents.

Globally, scholars like Thompson (2024) have noted similar trends, arguing that sustainable urban transport systems, such as mass transit solutions and non-motorised transport infrastructure, are essential in addressing the challenges posed by urbanisation. In Nigeria, Okeke and Ibe (2024) suggest that an integrated approach combining road, rail, and water transportation could mitigate the effects of urbanisation, improving the efficiency and sustainability of urban centres.

2.5 Transportation and Environmental Sustainability

The impact of transportation on environmental sustainability is another critical area of concern, particularly in the context of climate change. Nigeria's heavy reliance on road transport has contributed to increased greenhouse gas emissions, exacerbating environmental degradation (Akinsola & Etim, 2023). Research by Obi and Aluko (2024) shows that Nigeria's transport sector contributes significantly to air pollution, especially in urban areas, where vehicular emissions are highest.

Efforts to promote environmentally sustainable transport systems are gaining attention, with scholars like Adigun and Okonkwo (2023) advocating for the adoption of greener technologies, such as electric vehicles and renewable energy sources for public transport. Internationally, Anderson (2023) has highlighted the need for African countries to adopt sustainable transport practices, drawing on the

successes of countries that have integrated green transport systems to reduce their carbon footprints.

2.6 Transportation and Social Equity

Transportation equity is essential for promoting inclusivity and reducing social disparities. In Nigeria, poor transportation infrastructure disproportionately affects marginalised groups, including the rural poor, women, and persons with disabilities (Adebayo & Musa, 2024). A study by Nwankwo and Ede (2023) reveals that inadequate transport services in rural areas limit access to essential services such as healthcare, education, and employment, perpetuating cycles of poverty and exclusion.

Similarly, Kalu and Akinlade (2024) emphasise that improving transportation systems in underserved areas is crucial for enhancing social equity and reducing inequality. Internationally, research by Davis (2023) also underscores the importance of equitable transportation systems in fostering inclusive growth, suggesting that targeted investments in transport infrastructure can significantly improve the socio-economic status of disadvantaged communities.

2.7 Transportation and Trade Facilitation

Transportation plays a vital role in trade facilitation, both within Nigeria and across its borders. Efficient transport systems are essential for the movement of goods, which directly impacts trade volume and economic growth (Adetayo & Olamide, 2024). Research by Ogunjobi and Hassan (2023) indicates that poor road networks and inefficient port facilities are major barriers to trade in Nigeria, leading to increased costs and delays in the delivery of goods. Internationally, Juma (2024) notes that integrated transportation systems are crucial for facilitating trade within regional economic communities like the Economic Community of West African States (ECOWAS). Scholars like Roberts (2023) argue that improved transport infrastructure not only enhances domestic trade but also boosts Nigeria's competitiveness in global markets.

2.8 Transportation and Tourism Development

The relationship between transportation and tourism development is another important concept in this study. Efficient and reliable transportation networks are key to the growth of the tourism sector, as they provide accessibility to tourist destinations and improve the overall travel experience (Ifeyanyi & Umeh, 2023). In Nigeria, inadequate transport infrastructure has been identified as a significant

barrier to the development of the tourism industry, limiting its potential to contribute to national income and job creation (Adeoye & Lawal, 2023).

International studies, such as those by Mitchell (2024), highlight the positive correlation between transportation improvements and tourism growth, with evidence showing that countries with well-developed transport systems tend to attract more tourists. For Nigeria, this suggests that addressing transport challenges could unlock the potential of the tourism sector, boosting economic diversification.

3. Effective Transportation Infrastructure, Political Engagement and Governance

Transportation infrastructure plays a crucial role in fostering political engagement and strengthening governance, particularly in developing nations like Nigeria. Effective transportation systems enhance citizens' access to political spaces, including government offices, voting centres, and public forums where governance-related discussions take place. Studies by Adebayo and Uche (2023) indicate that areas with better road and rail networks experience higher levels of political participation because people can more easily attend rallies, town hall meetings, and legislative sessions. In contrast, regions with poor transportation infrastructure often witness low political involvement due to physical barriers, making it difficult for citizens to engage with their representatives or participate in governance processes.

Moreover, efficient transportation infrastructure allows political leaders to connect with more remote areas, thereby ensuring that governance is inclusive and responsive to all regions, not just urban centres. Research by Thompson (2023) shows that in many African countries, improved transportation systems have made it easier for political actors to implement policies that reach marginalised communities, promoting transparency and accountability. In Nigeria, enhancing road and rail networks in less developed areas could bridge the gap between the government and its citizens, thereby promoting a more participatory democracy (Ike & Amadi, 2024).

4. Ways in which Reliable and Accessible Transportation can Empower Marginalised Communities

Reliable and accessible transportation can have a transformative effect on marginalised communities by improving access to essential services such as healthcare, education, and employment, which are all critical for political empowerment. According to a

study by Onyekwere and Adeola (2024), communities in rural Nigeria often suffer from isolation due to poor transportation infrastructure, limiting their participation in political processes and their ability to advocate for their rights. By improving transportation systems, these communities can gain better access to government resources, enabling them to engage more fully in the political and socio-economic life of the country.

Additionally, accessible transportation allows for the physical mobility of citizens who might otherwise be left behind, such as women, people with disabilities, and the elderly. Okafor and Ibrahim (2023) argue that in regions where transportation is more reliable, marginalised groups have greater opportunities to organise, protest, and participate in political activities. In particular, rural women in Nigeria, who often bear the brunt of inadequate transportation, are better able to access markets, healthcare services, and political gatherings when transportation improves (Ayoade & Nwokedi, 2023). This leads to greater inclusion in decision-making processes, thereby fostering a more equitable political environment.

4.1 Reliable Transportation, Voter Turnout and Political Inclusivity

Transportation is directly linked to voter turnout, as the ability to access polling stations often determines whether citizens can participate in elections. Research by Fashola and Adejumo (2023) highlights that during Nigeria's elections, voter turnout in rural areas tends to be significantly lower than in urban centres, largely due to poor road networks and limited public transport options. Reliable transportation would ensure that voters, particularly in remote regions, can reach polling stations without undue difficulty, thus increasing overall voter turnout and political engagement. This is critical for strengthening democracy in Nigeria, where equitable participation across all regions is necessary for legitimate governance.

Furthermore, reliable transportation fosters political inclusivity by ensuring that all citizens, regardless of geographic location or socio-economic status, have equal opportunities to participate in political processes. In many Nigerian states, inaccessible transportation limits the ability of rural populations to engage with political candidates or attend debates and campaign events (Oluwole & Emeka, 2024). Improving transportation systems, particularly in marginalised areas, would thus lead to a more politically inclusive society, where every vote counts and every voice can be heard. This inclusivity is essential for the development of a robust, participatory

democracy, as it ensures that diverse groups, including women and youth, are represented in governance (Ndubuisi & Udeh, 2024).

5. Transportation Challenges in Urban and Rural Areas and Integrated and Sustainable Transportation Systems

Transportation challenges in Nigeria's urban and rural areas are multifaceted, often involving poor infrastructure, limited connectivity, and a lack of sustainable transport options. In urban areas, traffic congestion and inadequate public transport systems are major obstacles to efficient movement, which negatively affects economic productivity and political engagement. Research by Omotayo and Ezenwa (2023) suggests that integrating multiple modes of transportation, such as buses, trains, and water taxis, could alleviate congestion and improve mobility. Sustainable solutions, such as the adoption of electric buses and the expansion of rail networks, could also reduce environmental impacts while enhancing accessibility for urban populations.

In rural areas, the primary challenge lies in the lack of paved roads and public transportation systems, which isolates communities from the rest of the country. An integrated approach that connects rural regions to major urban centres through well-maintained roads, railways, and water transport can significantly reduce this isolation (Ogunfowora & Adejare, 2024). Scholars like Peters and Smith (2024) also advocate for the use of renewable energy in rural transport systems, such as solar-powered buses, to ensure sustainability. These integrated and sustainable transport systems would not only improve mobility but also promote economic development and political participation, particularly in previously marginalised areas of Nigeria.

6. Conclusion and Recommendations

The study underscores the critical role of transportation infrastructure in promoting political engagement, empowering marginalised communities, and fostering governance in Nigeria. Findings reveal that reliable and accessible transportation systems are not only fundamental for economic growth but also essential for political inclusivity, as they provide citizens, especially in rural and underdeveloped areas, with the ability to participate in political processes. By reducing physical barriers to political engagement, transportation can enhance voter turnout, empower previously marginalised groups, and promote national integration. The study highlights that inadequate transportation continues to be a major challenge in

Nigeria, limiting political participation and stifling governance, particularly in remote and economically disadvantaged areas.

Based on these findings, it is evident that transportation infrastructure is a crucial public good that requires sustained governmental investment and attention.

The government should prioritise the development of integrated and sustainable transportation systems to bridge the gap between urban and rural areas.

Investment in road and rail infrastructure should be increased, particularly in remote regions, to ensure all citizens have equal access to political processes.

Sustainable transport solutions, such as renewable energy-powered vehicles, should be introduced to minimise environmental impacts while enhancing mobility.

Public-private partnerships should be encouraged to fund and expand Nigeria's transportation networks, improving efficiency and reach.

Government policies should focus on ensuring transportation inclusivity for marginalised groups, including women, people with disabilities, and the elderly, to foster equitable political participation.

References

- Adebayo, I., & Musa, L. (2024). Transportation and Social Equity: A Case Study of Rural Nigeria. *Nigerian Journal of Social Development*, 15(1), 65-83.
- Adebayo, I., & Uche, F. (2023). The Role of Transportation Infrastructure in Enhancing Political Engagement in Nigeria. *Journal of Nigerian Political Studies*, 19(2), 33-52.
- Ayoade, K., & Nwokedi, A. (2023). Women and Transportation: A Pathway to Political Empowerment in Rural Nigeria. *African Journal of Gender and Development*, 14(3), 61-78.
- Adeleke, T. (2023). Road Transport Infrastructure and Economic Development in Nigeria. *Journal of African Development*, 12(3), 45-59.
- Adeoye, J., & Lawal, M. (2023). Transport Infrastructure and Tourism Development in Nigeria. *Journal of Nigerian Tourism Studies*, 18(2), 91-105.
- Adetayo, S., & Olamide, A. (2024). The Role of Transportation in Trade Facilitation in

- Nigeria. *West African Trade Review*, 12(1), 44-58.
- Adeyemi, T., & Chukwuma, I. (2023). The Economic Impact of Road Networks in Nigeria. *African Economic Journal*, 9(4), 22-39.
- Afolabi, R., & Njoku, F. (2023). Transport Infrastructure and Economic Growth in Nigeria: A Longitudinal Study. *Nigerian Journal of Development Economics*, 13(2), 50-68.
- Akinsola, B., & Etim, A. (2023). Green Transportation and Environmental Sustainability in Nigeria. *Journal of Nigerian Environmental Policy*, 10(3), 33-48.
- Akpan, K., & Adewale, Y. (2023). Transportation and Political Participation in Rural Nigeria. *Journal of Political Studies in Africa*, 11(2), 12-28.
- Anayo, C., & Fadeyi, O. (2023). Urbanisation and Transportation Challenges in Nigeria's Mega Cities. *Nigerian Urban Development Review*, 14(1), 77-89.
- Anderson, B. (2024). The Role of Transportation in Political Engagement: A Case Study of Sub-Saharan Africa. *African Studies Review*, 18(2), 65-81.
- Barnett, G. (2024). Transportation Systems and Economic Growth in Developing Economies. *Journal of Global Infrastructure Development*, 19(1), 55-70.
- Collins, B., & Abiodun, S. (2024). The Role of Public Goods in National Development: A Case of Nigerian Transportation. *Journal of African Economic Policy*, 19(1), 43-58.
- Dada, S., & Olumide, A. (2024). Transportation Infrastructure and National Integration in Nigeria. *Nigerian Journal of Political Economy*, 15(2), 101-117.
- Davis, H. (2023). Transportation Equity and Inclusive Growth in Developing Countries. *International Journal of Social Development*, 21(3), 64-82.
- Dike, P. & Anumudu, C. (2023). Transportation Reforms and Their Socio-Economic Impacts in Nigeria. *Journal of Contemporary African Studies*, 32(4), 77-95.
- Eke, I., & Udo, A. (2024). The Role of Transportation in Enhancing Voter Turnout in Nigeria's Rural Areas. *Journal of Political Science in Nigeria*, 16(1), 23-39.
- Eze, N. & Ojo, T. (2023). Transportation Barriers and Political Participation in Rural Nigeria. *Nigerian Journal of Social Sciences*, 14(1), 23-38.
- Fashola, O., & Adejumo, R. (2023). Transportation and Voter Turnout: A Case Study of Nigeria's Rural Areas. *Journal of African Electoral Studies*, 22(1), 43-58.
- Ibrahim, A. & Adegoke, S. (2023). Urban Transportation and Business Efficiency in Lagos. *International Journal of Urban Planning*, 11(2), 89-105.
- Ifeanyi, N., & Umeh, B. (2023). Transportation and Tourism Development: Evidence from Nigeria. *Journal of African Tourism Studies*, 9(3), 65-79.
- Ike, E., & Amadi, S. (2024). Road Networks and Political Accountability in Nigeria. *Nigerian Journal of Governance*, 12(1), 25-39.
- Johnson, P. (2023). The Role of Infrastructure in Political Engagement: Lessons from Developing Economies. *Journal of Political Infrastructure*, 22(2), 59-78.
- Juma, K. (2024). Transport and Trade Facilitation in Africa: The Role of Regional Economic Communities. *Journal of African Trade and Policy*, 15(1), 41-59.
- Kalu, E., & Akinlade, O. (2024). Transportation Infrastructure and Social Equity in Nigeria. *Journal of African Social Policy*, 19(2), 33-50.
- Mitchell, R. (2024). The Impact of Transportation on Tourism Development in Emerging Markets. *Global Journal of Tourism Economics*, 18(2), 87-102.
- Ndubuisi, P., & Udeh, J. (2024). Political Inclusivity through Transportation Development in Nigeria. *Journal of African Political Economy*, 18(2), 73-89.
- Nwachukwu, K. & Oluwole, J. (2024). Infrastructure Development and Regional Marginalisation: The Case of Nigeria's South East. *Journal of Political Economy in Africa*, 15(1), 101-120.
- Nwafor, K., & Eze, M. (2023). Public Goods and Political Engagement: Exploring the Nexus in Nigeria. *Nigerian Journal of Governance and Public Policy*, 17(2), 24-40.
- Nwankwo, S., & Ede, O. (2023). Transport Infrastructure and Poverty Reduction in Rural Nigeria. *Nigerian Journal of Social Policy*, 14(4), 88-106.
- Ogunbiyi, S. (2023). The Relationship between Transportation Networks and Economic Growth in Nigeria. *Journal of African Economic Development*, 12(2), 45-66.
- Ogunfowora, B., & Adejare, G. (2024). Addressing Rural Transportation Challenges in Nigeria: The Role of Integrated Systems. *Journal of Rural Infrastructure and Development*, 18(2), 34-50.
- Ogunjobi, T., & Hassan, M. (2023). Improving Port Infrastructure for Trade Facilitation in

- Nigeria. *Journal of African Maritime Studies*, 11(3), 67-85.
- Okafor, T., & Ibrahim, B. (2023). Accessible Transportation and Political Participation in Nigeria. *Journal of Social and Political Development*, 21(1), 48-66.
- Okeke, J., & Ibe, T. (2024). Urban Transportation in Nigeria: Challenges and Prospects. *Journal of Nigerian Urban Studies*, 20(1), 43-61.
- Okoli, P., & Bassey, M. (2023). Transportation and Political Inclusivity in Nigeria. *Nigerian Journal of Political Science*, 13(3), 29-47.
- Oluwole, M., & Emeka, E. (2024). Transportation Barriers and Political Engagement in Nigeria's Rural Areas. *Nigerian Journal of Rural Development*, 17(1), 27-45.
- Omotayo, J., & Ezenwa, F. (2023). Urban Transportation Challenges and Integrated Solutions in Nigerian Cities. *International Journal of Urban Planning*, 10(3), 101-120.
- Onwuka, R. & Adeoye, D. (2023). The Role of Transportation Infrastructure in National Development: The Nigerian Experience. *African Infrastructure Review*, 10(3), 54-72.
- Onyekwere, U., & Adeola, T. (2024). Transportation Infrastructure and Marginalised Communities: A Nigerian Perspective. *Journal of African Development Studies*, 15(3), 57-73.
- Patel, A. (2024). Transportation and National Integration: Case Studies from Sub-Saharan Africa. *Journal of African Development Studies*, 17(1), 88-104.
- Peters, M., & Smith, L. (2024). Sustainable Transportation Solutions for Rural Africa: Opportunities and Challenges. *Global Journal of Sustainable Development*, 19(1), 89-106.
- Roberts, T. (2023). The Role of Transport Infrastructure in Global Competitiveness: An African Perspective. *Journal of Global Trade and Infrastructure*, 23(1), 71-90.
- Samuelson, P. A. (1954). The Pure Theory of Public Expenditure. *The Review of Economics and Statistics*, 36(4), 387-389.
- Thompson, L. (2024). Sustainable Urban Transportation in Developing Economies: Challenges and Opportunities. *International Journal of Urban Planning*, 29(1), 54-73.
- Thompson, R. (2023). Transportation Systems and Governance in Developing Countries: A Case Study of Nigeria. *Journal of African Governance Studies*, 17(4), 45-64.
- Udeh, M., Okeke, E., & Uzo, A. (2023). Road Networks and Economic Growth in Nigeria. *Journal of Nigerian Economic Policy*, 29(2), 33-49.



Financial Inclusion and Economic Growth in Nigeria

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Abstract. The study investigated the link between financial inclusion and economic growth in Nigeria over the period 2009 to 2023. The specific objectives of the study were to find out whether automated teller machine (ATM), number of registered mobile money accounts (RMM), private credit to GDP (PCR), number of bank branches (NBB) and total volume of mobile money transactions to GDP (VMM) significantly affected economic growth. For this reason, the fully modified ordinary least squares (FMOLS) method was employed for the analysis of data and the results obtained indicated that automated teller machine (ATM), private credit to GDP (PCR), number of bank branches (NBB) and total volume of mobile money transactions to GDP (VMM) had significant positive relationship with economic growth; while the number of registered mobile money account (RMM) does not have any significant impact on economic growth in Nigeria. The study therefore concludes that financial inclusion is a significant determinant of economic growth in Nigeria within the period of investigation. Thus, it is recommended that, since automated teller machine (ATM) is a significant determinant of economic growth in Nigeria, regulators and indeed, management of banks must constantly provide the enabling environment for expansion of the use and functionality of automated teller machines (ATMs) so that it will continue to make positive impact on the Nigerian economy.

Keywords: Financial inclusion, Economic growth, Automated teller machine, Mobile money.

1. Introduction

Nigeria, one of Africa's biggest economies in terms of Gross Domestic Product (GDP), is at a crossroad between long-standing structural issues and economic potentials. The National Bureau of Statistics (NBS) has stated that Nigeria's GDP grew by 3.40% in 2024. This growth is primarily driven by the non-oil sector,

especially the services sector, which accounted for 57.38% of the total. Agriculture and industry followed with 25.59% and 17.03%, respectively, as well as the recovery in the crude petroleum and natural gas sectors (NBS, 2024). Despite these indications of expansion, the nation nevertheless faces a challenging economic environment marked by pervasive unemployment, poverty, and income disparity. Approximately 54% of Nigerians, according to World Bank (2024) estimates live below the national poverty line. Furthermore, NBS reports that in the second quarter of 2024, unemployment was 4.3%. Concerns regarding the sustainability and inclusivity of Nigeria's growth trajectory are raised by these numbers, which highlight the unequal distribution of economic gains. In order to solve these problems, economic growth is essential. In order to pull people out of poverty, lessen inequality, and guarantee widespread involvement in economic activities, inclusive growth is more important than GDP expansion alone (Todaro & Smith 2020). A key tactic for fostering equitable economic growth in this regard is financial inclusion (Demirgüç-Kunt, Klapper, & Singer, 2017). Particularly in emerging nations like Nigeria, where a sizable section of the populace is still unbanked or underbanked, financial inclusion is becoming more widely recognized as a critical engine of economic growth. Limited access to financial services hinders Nigeria's capacity for progress by exacerbating poverty and economic inequality in the country. By enabling marginalized groups to participate in and profit from economic activity, financial inclusion democratizes access to financial services and promotes sustainable growth (Beck, Demirgüç-Kunt, & Levine, 2010). By improving access to credit, savings, and investment opportunities, financial inclusion can promote productivity, entrepreneurship and the effective use of resources. Additionally, financial inclusion helps strengthen small and medium-sized businesses (SMEs), which are essential for reducing poverty and creating jobs (Eton, Mwosi, Okello-Obura,

Turyehbwa, & Uwonda, 2021). Moreover, the regulatory environment and the caliber of financial services determine how well financial inclusion promotes economic growth. But in spite of these possible advantages, Nigeria still faces issues like high rates of financial exclusion and inadequate financial infrastructure, which begs the question of how financial inclusion will actually affect the nation's economic growth trajectory (World Bank, 2024).

Over the past 20 years, financial inclusion in Nigeria has evolved in response to the nation's bigger socioeconomic issues. The Central Bank of Nigeria (CBN) launched a microfinance policy in 2005 with the goal of using microfinance organizations to offer financial services to the unbanked populace (CBN, 2011). The groundwork for further financial inclusion initiatives was established by this strategy. With the audacious objective of lowering the percentage of adults who are financially excluded from 46.3% in 2010 to 20% by 2020, the CBN unveiled the National Financial Inclusion Strategy (NFIS) in 2012 (CBN, 2018). Nevertheless, the goal was not met by 2020, as only 64.1% of people were financially included; by 2024, 74% of individuals were financially included (EFInA, 2024). Notwithstanding this deficiency, new developments in digital technology, especially mobile banking and financial technology breakthroughs, have made the push for financial inclusion even more urgent. The relevance of financial inclusion cannot be overemphasized; it helps people save, invest, and manage their financial risks. It also boosts capital formation and resource allocation, which contributes to the growth of the national economy (Demirgüç-Kunt et al., 2017).

There have been conflicting findings from prior studies investigating the link amid financial inclusion and economic growth in Nigeria. A number of scholars, including Oyadeyi (2024) and Adedokun and Ağa (2023), claim a positive correlation between increased financial inclusion and a higher rate of economic growth, encouraging investments, savings, and job creation. According to these results, improving financial services accessibility may boost economic activity and help many Nigerians escape poverty. Other investigations, on the other hand, such as that by Nkwede (2015) showed a negative link between financial inclusion and economic growth and contend that the significant degree of financial exclusion of bankable individuals from Nigeria's financial system was the possible cause of the outcome. In order to reconcile the available literature and shed light on the true nature of this link, these conflicting findings call for additional research.

Furthermore, it is important to address methodological flaws in past investigations because a large number of studies have mostly used Ordinary Least Squares (OLS) procedures, which are recognized to have drawbacks such as omitted variable bias and inefficiency when estimating long-run associations (Greene, 2018). However, by resolving possible endogeneity and serial correlation problems, Fully Modified Ordinary Least Squares (FMOLS) offers a strong substitute that produces estimates of long-term correlations that are more reliable (Pedroni, 2001). Despite its efficiency, not enough research has been done on the use of FMOLS to analyze how financial inclusion affects economic growth in Nigeria. This work intends to eliminate this methodological gap by using FMOLS to offer a more precise analysis of the link between economic growth and financial inclusion, ultimately adding to the conversation about economic policy in Nigeria.

2. Literature Review

2.1 Conceptual Literature

Financial inclusion, a complex idea, has been defined and explained distinctly by different academics, demonstrating its ever-changing and dynamic nature. Financial inclusion, as opined by Demirgüç-Kunt et al. (2017), is the accessibility and use of formal financial services by people and firms to fulfill their financial needs. They highlight how it can help alleviate poverty and promote economic growth. Another dimension is provided by Chikalipah (2017), who argues that financial inclusion includes expanding access to financial services to groups that have historically been excluded, such as low-income households and small businesses. Lastly, Ozili (2020) offers a comprehensive definition, claiming that financial inclusion entails giving low-income and underprivileged groups of people access to financial services at reasonable prices in order to improve their ability to participate in the economy and maintain financial stability. Combining these definitions, financial inclusion can be viewed as an all-encompassing approach to increase access to and the efficient utilization of a wide array of financial services for all individuals and firms, especially those from marginalized communities with a view to fostering economic growth and lower inequality.

Examining the various dimensions of financial inclusion is essential to comprehending it completely. The first dimension is the accessibility of physical financial infrastructure, which is frequently assessed using metrics like the number of ATMs per 100,000 adults and bank branches. Based on World Bank's

Global Financial Development Database (2022) estimates, Nigeria has modest levels of accessibility in 2020, with 4.4 bank branches per 100,000 adults, 16.1 ATMs per 100,000 adults, and 1310.4 bank accounts per 1,000 adults. But since most of these numbers are concentrated in cities, rural populations are underserved. The second dimension pertains to digital financial services, especially mobile money, which has experienced rapid expansion in the past few years. As of 2024, there were 2.1 billion active mobile money accounts in Nigeria (GSMA, 2025). This figure demonstrates the growing dependence on mobile technologies for financial transactions in a nation with insufficient traditional banking infrastructure. The credit market is another crucial dimension. Another important metric, the private sector credit to GDP ratio, was 13% in 2022, which was among the lowest in sub-Saharan Africa (World Bank, 2025). In 2024, mobile money transaction volumes grew by 20 percent year-on-year, while transaction values surged by 16 percent, up from a 13 percent growth in 2023. Around 108 billion transactions, representing over \$1.68 trillion, were processed using mobile money accounts in 2024 (GSMA, 2025). Together, these dimensions show the strengths and weaknesses of Nigeria's financial inclusion initiatives, highlighting the need for more focused approaches to reduce current gaps, particularly in rural areas.

2.2 Empirical Literature

The impact of financial inclusion on economic growth in Nigeria has been a subject of empirical inquiry, with various studies indicating positive, negative and mixed results between the two variables. Oyadeyi (2024) explored the effects of financial inclusion and banking innovation on Nigeria's economic growth using mixed data sampling (MIDAS) and autoregressive distributed lag (ARDL) models with monthly and quarterly data from 2009 to 2021 which was sourced from the CBN Statistical Bulletin and the World Development Indicator. The researcher revealed that financial inclusion and banking innovations, particularly ATMs and mobile transactions, exert a consistent positive effect on economic growth with both analytical techniques. POS and web transactions also contributed to growth but showed inconsistent results between the MIDAS and ARDL methods, while cheque transactions did not significantly affect economic growth in the ARDL model. Notably, POS transactions had the most substantial impact, followed by ATMs, mobile, and web transactions. The researcher closed by suggesting that financial inclusion and innovations in the banking industry are crucial for engendering economic growth in Nigeria.

Adedokun and Ağa (2023) examined the relationship between financial inclusion and economic growth in Sub-Saharan Africa (SSA) from 2004 to 2017. Utilizing the GMM and Dumitrescu–Hurlin causality test, the study developed a composite index for financial inclusion using principal component analysis. The results show a significant positive impact of financial inclusion on economic growth in SSA, signifying that improved access to financial services facilitates economic activities and growth. Additionally, the study uncovers a short-run causality from economic growth to financial inclusion, implying that as economies grow, financial inclusion tends to improve, creating a reinforcing cycle that promotes further growth.

Ben Abdallah, Becha, Kalai, and Helali (2023) analyzed the connection between traditional financial services, digital financial inclusion, and economic growth in 14 Middle-East and North Africa (MENA) nations from 2000 to 2021. Employing the PMG-ARDL and GMM-system procedures to capture both short-run and long-run associations, the study found that digital financial inclusion exerted a positive effect on GDP per capita, outperforming traditional financial services. The study also identified internet usage and mobile subscriptions as major influencing variables of digital financial inclusion in the MENA area. These findings imply that enhancing digital financial services can significantly contribute to economic growth in the area, highlighting the importance of technology and digital infrastructure in the financial sector.

Chinoda and Kapingura (2023) examined the influence of institutional quality and governance on the relationship between digital financial inclusion and economic growth in Sub-Saharan Africa (SSA) from 2014 to 2020. Using the GMM procedure to control for endogeneity, the research focused on four main factors: digital financial inclusion index, governance, GDP per capita growth and institutional quality. The result revealed a substantial positive effect of institutional quality and governance on the nexus amid digital financial inclusion and economic growth. Moreover, the research discovered that trade and population growth positively affected economic growth, while inflation had a negative impact in the area. These results suggest that robust institutions and sound governance structures enhance the positive impacts of digital financial inclusion on economic growth within SSA.

Ibechiale (2023) assessed the impact of financial inclusion on Nigeria's economic growth from 1992 to 2021 using secondary data sourced from the Central Bank of Nigeria's statistical bulletins. The study used

commercial bank loans to rural areas, bank deposits from rural areas, and credits to small and medium-scale enterprises (SMEs) as proxies for financial inclusion, while GDP represented economic growth. Through regression analysis employing the OLS technique, the research revealed that bank loans and deposits to and from rural areas had a significantly positive impact on GDP. In contrast, credits to SMEs showed a negative and insignificant relationship with GDP. The study concluded that financial inclusion, primarily through rural banking services exert a positive and significant connection with economic growth in Nigeria.

Avouba, Akougbe, and Ondze (2023) examined the nonlinear connection amid financial inclusion and economic growth within the West African Economic and Monetary Union (WAEMU) using a panel-corrected standard error (PCSE) model for eight nations from 2014 to 2018. The findings indicated a U-shaped correlation amid the extended banking rate and economic growth. The results implied that economic growth exhibited two different behaviors depending on the regime relative to the inflection point of financial inclusion. This non-linear association implies that at different levels of financial inclusion, the impact on economic growth varies, thereby suggesting that under- and over-financial inclusion could possess distinct implications for economic growth in the WAEMU region.

Ifediora, Offor, Eze, Takon, Ageme, Ibe, & Onwumere (2022) investigated the impact of financial inclusion on economic growth across 22 SSA countries between 2012 and 2018 employing a system GMM approach. A combined index of financial inclusion, alongside each indicator, was used to examine different facets of financial inclusion including availability and penetration. The results indicated that both the availability, penetration dimensions as well as the combined index of composite financial inclusion (the entire indicators combined) significantly and positively influenced economic growth, whereas the usage dimension does so insignificantly. More so, bank branches and ATMs are found to have a substantial positive effect, deposit accounts and outstanding loans enhance economic growth but insignificantly whilst outstanding deposits negatively impacted growth. Mobile money indicators present a mixed picture: mobile money agents are detrimental to expansion, whereas mobile money accounts and transactions have a positive, though insignificant, effect. The study suggests that financial education strategies should be followed to maximize the benefits of financial inclusion, indicating that mere

access is insufficient without adequate knowledge and trust in financial services.

Emara and El Said (2021) analysed the relationship between financial inclusion, governance, and economic growth in the Middle East and North Africa (MENA) area using a system GMM dynamic panel model with annual data spanning from 1990 to 2018. The study employed various indicators of financial inclusion, comprising the number of bank branches and bank accounts, households' and firms' access to finance, percentage of enterprises utilizing banks to finance investments, as well as the proportion of enterprises employing bank loans to finance working capital. The outcomes revealed that financial inclusion significantly boosts GDP per capita growth in the MENA region. However, the positive impact of businesses' access to finance is only significant when strong institutions are present. This suggests that the gains of financial inclusion are contingent on the existence of robust governance structures, including the rule of law, political stability and judicial independence. Hence, the study concludes that nations with low levels of financial access, including those in the MENA area, could greatly profit from improving governance to optimize the benefit of financial inclusion on economic growth.

Liu, Luan, Wu, Zhang, and Hsu (2021) explored the relationship between digital financial inclusion and economic growth in China by employing a Bayesian macroeconomic analysis framework and provincial panel data from 2011 to 2019. They introduce the degree of internet development as a threshold variable to examine the potential mediating effects. Their findings suggest that digital financial inclusion substantially propels economic growth, especially when considering the internet threshold effect. Furthermore, they identified two primary channels through which digital financial inclusion fosters growth: promoting entrepreneurship among SMEs and stimulating consumer spending. The study implied that digital financial inclusion can drive economic expansion by leveraging internet infrastructure to enhance financial services access.

Ali, Hashmi, Nazir, Bilal, and Nazir (2021) analysed the link amid financial inclusion and economic growth of member nations of Islamic Development Bank (IsDB) using a financial inclusion index (FII). The research analyzed data from 45 countries from 2000 to 2016 utilizing a range of econometric techniques including the GMM, panel vector autoregressive (VAR), two-stage least squares (2SLS) and Granger causality tests. Results indicates that financial inclusion exerts appositve effect on economic growth,

with the Granger causality analysis revealing a bidirectional association amid financial inclusion indicators and economic growth and a unidirectional causality amid the FII and economic growth. These findings suggest that enhancing financial inclusion can foster economic development in IsDB member countries, and, reciprocally, economic growth can promote greater financial inclusion.

Enueshike and Okpebru (2020) assessed the effects of financial inclusion on Nigeria's economic growth from 2000 to 2018 using archival data from the Central Bank of Nigeria. The investigation used variables such as loans to SMEs (LSME), and rural bank deposits (RBD), as well as inflation (INF) as control variable. Unit roots and co-integration were performed. Employing the ARD for analysis, they found that LSME, RBD and INF exert a positive and considerable effect on economic growth. The researchers further confirmed long-run relationships among the variables, indicating that policies aimed at increasing loans to SMEs and enhancing rural banking services can exert a substantial effect on Nigeria's economic growth.

Adegboyegun, Ademola, & Kazeem (2020) investigated the impact of financial inclusion on Nigeria's economic growth and using Auto Regressive Distributed Lag (ARDL) and causality techniques to analyze data spanning from 1986 to 2018. They included variables such as GDP, loans to rural areas, number of bank branches, deposits from rural areas and interest rates. Their results indicated that financial inclusion positively affected economic growth, whereas high-interest rates negatively impacted it. Additionally, causality tests reveal a unidirectional causality flowing from economic growth to financial inclusion, primarily facilitated via loans to rural areas. This finding suggests that fostering economic growth can, in turn, enhance financial inclusion, especially in underserved areas.

Nkwede (2015) used time series data from 1981 to 2013 to investigate the impact of financial inclusion on the expansion of the African economy, with a particular emphasis on Nigeria. The results of the multiple regression analysis employing the OLS estimate approach showed that financial inclusion had a considerable but negative impact on the Nigerian economy. The significant degree of financial exclusion of bankable individuals from Nigeria's financial system was attributed by the researcher as the possible cause of the outcome.

3. Data and Methodology

3.1. Data

The study investigated the correlation between financial inclusion and economic growth in Nigeria from 2001 to 2023. The population of study included data of the entire financial inclusion and economic growth indices in Nigeria. Due to the difficulty in obtaining the data for the entire variations of financial inclusion indices affecting economic growth in Nigeria, the study's sample was restricted to the variables of the study such as the number of ATMs per 100,000 adults, number of registered mobile money accounts per 1,000 adults, private credit to GDP, number of bank branches per 100,000 adults, total volume of mobile money transactions as a percentage of GDP, and real gross domestic product. The study employed time series data obtained from the CBN annual statistical bulletin (2023), NBS annual bulletin, Enhancing Financial Innovation & Access (EFInA) annual survey (2023) and the World Bank for the period under review.

3.2. Theoretical Framework and Model Specification

The poverty gap theory, which emphasizes the difference between the income of the poor and the poverty line, provides the foundation for this investigation. The works of Sen (1976) and other development economists had a major influence on this hypothesis. Sen (1976) made a significant contribution by defining poverty in a way that takes into account capacities and the multifaceted nature of poverty rather than just income levels. According to the poverty gap theory, poverty encompasses both a lack of money and access to necessary services, such as financial services that can enable people to improve their financial situation (Alkire & Foster, 2011). The poverty gap hypothesis offers a framework for understanding how financial services access may help close this gap within the context of financial inclusion, encouraging economic engagement among the impoverished and stimulating economic growth in general. The poverty gap theory highlights the possible influence that financial inclusion exerts on economic growth within the Nigerian setting. By following this hypothesis, Nigeria can enhance economic activity and growth by shrinking the poverty gap through greater financial inclusion.

The regression model for this study was adapted from previous research conducted by Sophia, Adesina-Uthman, and Joshua (2023). Their model is presented as follows:

$$GRT_t = \alpha_0 + \beta_1BLR_t + \beta_2ATM_t + \beta_3BRC_t + \beta_4M2_t + \beta_5CAP_t + \beta_6LAB_t + \mu_t \dots\dots\dots (3.1)$$

The current study modifies the model of Sophia et al. (2023) by incorporating financial inclusion metrics such as the number of automated teller machines per 100,000 adults (ATM), number of registered mobile money accounts per 1,000 adults (RMM), private credit to GDP (PCR), number of bank branches per 100,000 adults (NBB), and total volume of mobile money transactions as a percentage of GDP (VMM) as independent variables.

The functional form of the modified model is expressed as follows:

$$RGDP_t = f(ATM_t, RMM_t, PCR_t, NBB_t, VMM_t) \dots\dots\dots (3.2)$$

The functional model is expressed in its econometric form as:

$$RGDP_t = \beta_0 + \beta_1ATM_t + \beta_2RMM_t + \beta_3PCR_t + \beta_4NBB_t + \beta_5VMM_t + \varepsilon_t \dots\dots\dots(3.3)$$

Where: RGDP_t = Real gross domestic product at time t; ATM_t = Number of ATMs per 100,000 adults at time t; RMM_t = Number of registered mobile money accounts per 1,000 adults at time t; PCR_t = Private credit to GDP at time t; NBB_t = Number of bank branches per 100,000 adults at time t; VMM_t = Total volume of mobile money transactions as a percentage of GDP at time t; β₀, β₁ - β₅ = Parameters to be estimated; ε_t = Error term capturing other elements not reflected in the model

3.4 Operationalization of Variables

The operationalizations of all the variables of the study are presented below:

Table 3.1: Operationalization of Variables

Variable	Type	Measurement	Source
Real Gross Domestic Product (RGDP)	Dependent	Measured in billions of local currency, adjusted for inflation (real terms)	Adedokun and Aḡa (2023)
Number of automated teller machines per 100,000 adults (ATM)	Independent	Total number of ATMs per 100,000 adults	Ibechiale (2023)
Number of registered mobile money accounts per 1,000 adults (RMM)	Independent	Total registered mobile money accounts per 1,000 adults	Ifediora et al. (2022)
Private credit to GDP (PCR)	Independent	Ratio of private credit issued by financial institutions to GDP (%)	Oyadeyi (2024)
Number of bank branches per 100,000 adults (NBB)	Independent	Total number of bank branches per 100,000 adults	Adegboyegun, et al. (2020)
Total volume of mobile money transactions as a percentage of GDP (VMM)	Independent	Total mobile money transaction volume as a percentage of GDP (%)	Ifediora et al. (2022)

Source: Authors' compilations (2025).

4. Results and Discussion

4.1 Unit Root Testing

The Augmented Dickey-Fuller (ADF) test was used to examine unit roots. Table 4.1 shows results at level and first difference. ADF statistics and 95% critical values appear in columns two to six. At level, all variables except NBB were non-stationary (panel 1). After first differencing, all became stationary (panel 2) which means they are

The a priori expectation for the independent variables are as follows: β₁>0: ATMs is expected to have a positive relationship with RGDP; β₂>0: RMM is expected to have a positive relationship with RGDP; β₃>0: PCR is expected to have a positive relationship with RGDP; β₄>0: NBB is expected to have a positive relationship with RGDP; β₅>0: VMM is expected to have a positive relationship with RGDP. Thus, the expected signs of the parameters are: β₁>0, β₂>0, β₃>0, β₄>0, β₅>0

3.3 Estimation Procedure

This study utilised the Fully Modified Ordinary Least Squares (FMOLS) procedure to evaluate the impact of financial inclusion on Nigeria’s economic growth. Statistical tests such as the t-test, R-squared, and F-test were used to validate the results. Time series data were analyzed for stationarity using the ADF test. A cointegration test followed to determine if non-stationary variables shared a long-run equilibrium relationship. Additionally, unit root tests confirmed the integration order suitability for the chosen model. After cointegration was established, an ECM was introduced to accommodate the short-run dynamics while upholding the long-run equilibrium among variables.

difference-stationary. This confirms the presence of unit roots implying that the variables are integrated of order one (i.e. I[1]) and achieve stationarity only after first differencing.

Table 4.1: Unit Root Test for Variables in Levels

Variables	At Level (Panel 1)			At First Difference (Panel 2)				
	ADF Statistic	Test	95% Critical ADF Value	Remark	ADF Statistic	Test	95% Critical ADF Value	Remark
RGDP	2.06971		-3.004861	Non-Stationary	-6.176673		-3.020686	Stationary
ATM	-0.084332		-3.004861	Non-stationary	-4.515343		-3.012363	Stationary
RMM	-3.01065		-3.104861	Non-Stationary	-5.264028		-3.020686	Stationary
PCR	-2.151163		-3.012363	Non-stationary	-4.344422		-3.020686	Stationary
NBB	-3.932976		-3.004861	Stationary	-5.663601		-3.012363	Stationary
VMM	-1.729455		-3.012363	Non-stationary	-4.947547		-3.02997	Stationary"

Source: Authors' Computation (2025)

4.2 Cointegration Analysis

After confirming that the time series in the analysis are not stationary in their levels, we proceed to ascertain whether they are cointegrated. The Johansen system of cointegration technique was employed as indicated in Table 4.2 below.

Table 4.2: Johansen Multivariate Cointegration Tests Results

Trace Test				Maximum Eigenvalue Test		
Null Hypothesis	Test Statistic	Critical Value	Prob.	Test Statistic	Critical Value	Prob.
R = 0*	244.5764	95.75366	0.0000*	118.1394	40.07757	0.0000*
$r \leq 1$	126.4370	69.81889	0.0000*	57.45622	33.87687	0.0000*
$r \leq 2$	68.98078	47.85613	0.0002*	41.48700	27.58434	0.0005*
$r \leq 3$	27.49378	29.79707	0.0901	13.17721	21.13162	0.4361
$r \leq 4$	14.31657	15.49471	0.0746	9.603628	14.26460	0.2393
$r \leq 5$	4.712943	3.841466	0.0299*	4.712943	3.841466	0.0299*

Source: Authors' Compilations (2025)

The Eigenvalue test (λ -max) and the trace test statistics show that there are about eight (8) significant cointegrating vectors between financial inclusion and economic growth in Nigeria. This suggests the presence of long-run connection amongst these hypothesized variables.

4.3 The Fully Modified Least Squares (FMOLS) Estimates

Table 4.3: Financial Inclusion and Economic Growth in Nigeria (FMOLS)

Variables	Coefficient	T-Ratio	Prob.
ATM	0.0001	13.67694	0.0000**
RMM	4.39E-05	1.98109	0.065
PCR	1534.784	4.080435	0.0009**
NBB	1873.779	2.260745	0.0381*
VMM	2.46E-05	8.326563	0.0000**
Constant	-1340324	-2.248105	0.039
$R^2 = 0.98; \bar{R}^2 = 0.97$			

*Source: Authors' Compilations (2025): Note: **sig at 1% level; *sig at 5% level.*

The results of the FMOLS estimation of financial inclusion and economic growth in Nigeria is shown in table 4.3. The diagnostic indicator is outstanding from the outcomes. The high R squared score of 0.98 indicates that the model has demonstrated a good capacity for prediction. This demonstrates that changes in the explanatory variables account for more

than 98% of the systematic variance in Nigeria's economic growth as measured by RGDP. The model's excellent predictive power is indicated by the equally high corrected R-squared value of 0.97%.

On the specifics, the coefficient of the volume of automated teller machines transactions (ATM) has

significant positive relationship with economic growth in Nigeria, and was significant at the 1% level, meaning that as the volume of automated teller machines rises; economic growth in Nigeria improves by 0.000100%. This suggests that the use of ATM machines by banks' customers is a significant factor for economic growth in Nigeria.

The coefficient of number of registered mobile money accounts (RMM) has a weak positive link with economic growth in Nigeria. The variable failed the 5% significance level. Thus, in determining economic growth in Nigeria, number of registered mobile money account (RMM) is not a relevant factor to be considered.

On the other hands, private credit to GDP (PCR) is seen to also exert significant and positive impact on economic growth at the 1% level of significance. The implication of this is that the total amount of credit/loans granted to the private sector of the economy as a ratio of general economic activities is a potent factor for determining or enhancing economic growth in Nigeria.

The coefficient of the number of bank branches (NBB) is positively signed passing the 5 percent significant level. Thus, with increases in rural and urban banks branches, there is a corresponding increase in economic activities by approximately 1873.779%. It reveals that financial inclusion with respect to the number of bank branches (NBB) is also a key determining factor of economic growth in Nigeria.

The total volume of mobile money transactions to GDP (VMM) exerts a significant positive association with economic growth (RGDP) and passed the 1% significance level. By implication, the result suggests that total volume of mobile money transactions to GDP (VMM) play significant role in Nigeria's economic growth during the period of investigation. This is simply a signal that financial inclusion as it relates to total volume of mobile money transactions to GDP has significantly contributed to the general growth of the Nigerian economy overtime.

5. Conclusion and Policy Recommendations

The growing significance of financial inclusion as a driving force for economic growth is increasingly recognized. It is now widely viewed as a fundamental right and essential for promoting social inclusion, improving living standards, and empowering the economically disadvantaged. This study investigated the association amid financial inclusion and economic growth in Nigeria from 2001 to 2023 using various indicators of financial inclusion such as ATM, RMM,

PCR, NBB, and VMM. Real GDP served as the proxy for economic growth. The analysis was conducted using the FMOLS technique. The findings revealed that ATM usage, private credit to GDP, number of bank branches, and mobile money transaction volumes positively and significantly influenced economic growth. However, the number of registered mobile money accounts did not show a significant impact. The study concludes that financial inclusion plays an essential task in propelling economic growth in Nigeria during the study period.

In light of the study's findings, the following key recommendations are offered:

- Since automated teller machine (ATM) is a significant factor of economic growth in Nigeria, regulators and indeed, management must constantly provide the enabling environment for expansion of the use and functionality of ATMs so that it will continue to provide positive impact on the Nigerian economy.
- The CBN should continue to initiate policies that will encourage deposit money banks in the country to advance loans and credit facilities to the real sector and this will in turn spur rapid growth of the economy.
- The government and relevant policy makers in the country should deliberately pursued policy of giving quality access to credits facilities, affordability of products, enhance sustainability, and outreach to the mainly financially excluded Nigerians. This will make financial inclusion to have more positive effect on economic growth in Nigeria.

References

- Adedokun, M. W., & Ağa, M. (2023). Financial inclusion: A pathway to economic growth in Sub-Saharan African economies. *International Journal of Finance & Economics*, 28(3), 2712-2728. <https://doi.org/10.1002/ijfe.2559>
- Adegboyegun, A. E., Ademola, A. O., & Kazeem, B. L. (2020). Financial inclusion and economic growth in Nigeria. *The Social and Management Scientist*, 12(1), 91-106. https://www.researchgate.net/publication/356470852_Financial_Inclusion_and_Economic_Growth_In_Nigeria
- Ali, M., Hashmi, S. H., Nazir, M. R., Bilal, A., & Nazir, M. I. (2021). Does financial inclusion enhance economic growth? Empirical

- evidence from the IsDB member countries. *International Journal of Finance & Economics*, 26(4), 5235-5258. DOI: 10.1002/ijfe.2063.
- Alkire, S. & Foster, J. (2011). Counting and multidimensional poverty measurement. *Journal of Public Economics*, 95(7-8), 476-487. <https://doi.org/10.1016/j.jpubeco.2010.11.006>
- Avouba, F. N., Akougbe, A. I., & Ondze, C. (2023). Non-linearity between financial inclusion and economic growth in Sub-Saharan Africa: What implications for the West African Economic and Monetary Union (WAEMU)? *Cogent Economics and Finance*, 11(1), 1-18. <https://doi.org/10.1080/23322039.2022.2158630>
- Beck, T., Demirgüç-Kunt, A., & Levine, R. (2010). Financial institutions and markets across countries and over time: The updated financial development and structure database. *The World Bank Economic Review*, 24(1), 77-92. <https://doi.org/10.1093/wber/lhp016>
- Ben Abdallah, A., Becha, H., Kalai, M., Helali, K. (2023). Does digital financial inclusion affect economic growth? New insights from MENA region. In: Jallouli, R., Bach Tobji, M.A., Belkhir, M., Soares, A.M., Casais, B. (eds) Digital economy, emerging technologies and business innovation. ICDEc 2023. *Lecture Notes in Business Information Processing*, vol 485. Springer, Cham. https://doi.org/10.1007/978-3-031-42788-6_13.
- Central Bank of Nigeria (2011). *Revised microfinance policy framework for Nigeria*. <https://www.cbn.gov.ng/Out/2011/pressrelease/gvd/Reviewed%20Microfinance%20Policy%20April%202011.pdf>
- Central Bank of Nigeria (2018). *National financial inclusion strategy*: Revised edition. <https://www.cbn.gov.ng/out/2019/ccd/national%20financial%20inclusion%20strategy.pdf>
- Central Bank of Nigeria (2023). Annual statistical bulletin. <https://www.cbn.gov.ng/documents/Statbulletin.html>
- Chikalipah, S. (2017). What determines financial inclusion in Sub-Saharan Africa? *African Journal of Economic and Management Studies*, 8(1), 8-18. <https://doi.org/10.1108/AJEMS-01-2016-0007>
- Chinoda, T., & Kapingura, F. M. (2024). Digital financial inclusion and economic growth in Sub-Saharan Africa: The role of institutions and governance. *African Journal of Economic and Management Studies*, 15(1), 15-30. <https://doi.org/10.1108/AJEMS-09-2022-0372>
- Demirgüç-Kunt, A., Klapper, L., & Singer, D. (2017). Financial inclusion and inclusive growth: A review of recent empirical evidence. *World Bank Policy Research Working Paper No. 8040*. SSRN: <https://ssrn.com/abstract=2958542>
- Emara, N., & El Said, A. (2021). Financial inclusion and economic growth: The role of governance in selected MENA countries. *International Review of Economics & Finance*, 75, 34-54. <https://doi.org/10.1016/j.iref.2021.03.014>
- Enhancing Financial Innovation & Access (EFInA). (2024). *Financial inclusion factsheet: A State-by-State perspective of access to financial services in Nigeria*. <https://a2f.ng/a2f-2023-financial-inclusion-state-factsheet/>
- Enhancing Financial Innovation & Access (EFInA) (2023). *Annual survey*. <https://efina.org.ng/wp-content/uploads/2024>
- Enueshike, P., & Okpebru, O. O. (2020). Effects of financial inclusion on economic growth in Nigeria (2000-2018). *IOSR Journal of Research & Method in Education*, 10(1), 44-49. DOI: 10.9790/7388-1001014449
- Eton, M., Mwosi, F., Okello-Obura, C., Turyehewa, A., & Uwonda, G. (2021). Financial inclusion and the growth of small medium enterprises in Uganda: Empirical evidence from selected districts in Lango sub-region. *Journal of Innovation and Entrepreneurship*, 10(23), 1-23. <https://doi.org/10.1186/s13731-021-00168-2>
- Greene, W. H. (2018). *Econometric analysis* (8th ed.). London: Pearson Education Limited.
- GSMA (2025). *The State of the industry report on mobile money 2025*. <https://www.gsma.com/sotir/>
- Ibechirole, O. C. (2023). Effect of financial inclusion on economic growth in Nigeria. *African Banking and Finance Review Journal*, 5(5), 1-13. <https://www.abfrjournal.com/index.php/abfr/article/view/80>
- Ifediora, C., Offor, K. O., Eze, E. F., Takon, S. M., Ageme, A. E., Ibe, G. I., & Onwumere, J. U. (2022). Financial inclusion and its impact on economic growth: Empirical evidence from Sub-Saharan Africa. *Cogent Economics and*

- Finance*, 10(1), 2060551. 1-27. DOI: 10.1080/23322039.2022.2060551.
- Liu, Y., Luan, L., Wu, W., Zhang, Z., & Hsu, Y. (2021). Can digital financial inclusion promote China's economic growth? *International Review of Financial Analysis*, 78, 101889. <https://doi.org/10.1016/j.irfa.2021.101889>
- National Bureau of Statistics (NBS). (2024). *Nigerian Gross Domestic Product Report Q4 2024*. <https://www.nigerianstat.gov.ng/>.
- Nkwede, F. (2015). Financial inclusion and economic growth in Africa: Insight from Nigeria. *European Journal of Business and Management*, 7(35), 71-80. <https://www.iiste.org/Journals/index.php/EJBM/article/view/27498/28213>
- Oyadeyi, O. (2024). Banking innovation, financial inclusion and economic growth in Nigeria. *Journal of the Knowledge Economy*, 15(2), 7014-7043. <http://dx.doi.org/10.1007/s13132-023-01396-5>
- Ozili, P. K. (2020). Financial inclusion research around the world: A review. *Forum for Social Economics*, 50(4), 457-479. <https://dx.doi.org/10.2139/ssrn.3515515>
- Pedroni, P. (2001). Purchasing power parity tests in cointegrated panels. *The Review of Economics and Statistics*, 83(4), 727-731. <https://doi.org/10.1162/003465301753237803>
- Sen, A. (1976). Poverty: An Ordinal Approach to Measurement. *Econometrica*, 44(2), 219-231. <https://doi.org/10.2307/1912718>
- Sophia, U.C., Adesina-Uthman, G.A., Joshua, C.O., (2023), Economy impact of financial inclusion on economic growth in Nigeria. *Journal of Arid Zone Economy*, 2(1), 104-116. <https://resources.jaze.com.ng/index.php/jaze/article/view/57>.
- Todaro, M. P., & Smith, S. C. (2020). *Economic Development*. Thirteenth Edition United Kingdom: Pearson Education Limited
- World Bank. (2022). Global financial development database. <https://databank.worldbank.org/source/Global-Financial-Development/preview/on>
- World Bank (2024). Poverty, prosperity, and planet report 2024 - pathways out of the Polycrisis. <https://openknowledge.worldbank.org/bitstreams/8f505de6-d365-4f10-aa5a-353c39616895/download>.
World Bank (2025). Domestic credit to private sector (% of GDP) – Nigeria. <http://data.worldbank.org/indicators/FS.AST.PR.VY>



Public-Private Partnerships in Advancing AI-Based Logistics

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Abstract. The logistics sector is under increasing pressure to improve sustainability, resilience, and efficiency as global supply chains become more intricate. With its potential for real-time decision-making, autonomous systems, predictive analytics, and route optimization, artificial intelligence (AI) is becoming a disruptive force. Public-Private Partnerships (PPPs) are frequently the most effective way to meet the requirements for implementing AI in logistics, which include significant investment, cross-sector expertise, and favorable regulatory regimes. This examines how important PPPs are to hastening the creation and implementation of AI-powered logistics solutions. PPPs can overcome major obstacles to the adoption of AI in logistics by fusing the private sector's potential for innovation with the public sector's infrastructure, policy backing, and long-term vision. In order to demonstrate how joint ventures have improved operational efficiency, cost savings, and service quality, the study looks at successful case studies such as smart port operations, last-mile delivery programs, and military logistics modernization. It also examines the difficulties that come with these kinds of collaborations, such as data governance, moral dilemmas, interoperability, and goal alignment. Public-Private Partnerships (PPPs) are not only advantageous but also necessary for achieving the full potential of AI in logistics. They provide a viable pathway to scalable, sustainable, and inclusive innovation, ensuring that logistical networks around the world are better prepared to respond to the challenges of the 21st century. Additionally, this research outlines strategic frameworks for effective collaboration, emphasizing the importance of agile

regulation, shared risk models, open data policies, and stakeholder trust.

Keywords: Public-private partnerships, Advancing, AI-based, Logistics

1. Introduction

In the context of logistics and supply chain management, PPPs are increasingly recognized as crucial for integrating advanced technologies, particularly artificial intelligence (AI). Public-Private Partnerships (PPPs) are a powerful mechanism for driving innovation and infrastructure development in a variety of sectors, including transportation, healthcare, and energy (Ezeamii *et al.*, 2023; Obianyo *et al.*, 2024). A PPP is generally defined as a cooperative agreement between government agencies and private sector entities with the goal of accomplishing common goals. These partnerships leverage the complementary strengths of each sector: the public sector's regulatory oversight, policy-making capacity, and infrastructure investments, and the private sector's agility, technological innovation, and operational efficiency (Folorunso *et al.*, 2024; Bello *et al.*, 2024). When structured effectively, PPPs can enable the development and large-scale deployment of cutting-edge AI technologies in logistics.

By automating repetitive tasks, improving decision-making, and decreasing inefficiencies, artificial intelligence is transforming the logistics sector. Predictive analytics for risk assessment and route planning, robotics for warehouse automation and last-

mile delivery, and machine learning algorithms for demand forecasting and inventory optimization are examples of AI technologies frequently utilized in logistics (Ayo-Farai *et al.*, 2023; Ezeamii *et al.*, 2023). Furthermore, the use of drones and driverless cars for cargo transportation is growing in popularity since they may save labor costs and delivery times. In supply chains, these innovations have the potential to increase customer satisfaction, sustainability, and cost-effectiveness in addition to efficiency.

A number of converging variables highlight the significance of investigating PPPs in furthering AI-based logistics. First, globalization, the expansion of e-commerce, and changing customer expectations are all contributing to the complexity and interdependence of global supply chains (Adigun *et al.*, 2024; Ajayi *et al.*, 2024). Because of this complexity, logistics systems need to be smarter and more flexible in order to react quickly to changes in the market and disruptions. Second, while AI holds transformative potential, its development and integration frequently demand significant finance, data infrastructure, and regulatory guidance resources that are not always completely available within the private sector alone (Ariyibi *et al.*, 2024; Adewuyi *et al.*, 2024). Governments are perfect partners for AI-driven projects because they are constantly looking for new ways to improve infrastructure and public services.

Third, PPPs offer a scalable model for implementing AI technologies across national and regional logistics networks. Because of their collaborative nature, PPPs are especially well-suited for complex AI implementations that call for systemic change and cross-sector coordination. Through shared data platforms, co-development of solutions, and joint funding, PPPs can create environments where innovation is tested and scaled more efficiently. They also create opportunities for setting industry standards, ensuring data privacy and security, and addressing ethical concerns surrounding the use of AI.

In this regard, the nexus of PPPs and AI offers a substantial chance to transform the logistics industry. This study examines the advantages and difficulties of implementing such partnerships, the ways in which they can be set up to optimize the use of AI in logistics, and the strategic frameworks that can direct fruitful cooperation. PPPs can be crucial in creating future logistics systems that are more intelligent, robust, and responsive by utilizing the strengths of both public and private players (Jayasena *et al.*, 2021; Ampratwum *et al.*, 2023).

2. Methodology

A systematic literature review was conducted to explore the role of public-private partnerships (PPPs) in advancing AI-based logistics. The review followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines to ensure transparency and reproducibility in the research process. Academic databases including Scopus, Web of Science, IEEE Xplore, and Google Scholar were searched for relevant studies published between 2013 and 2024. Keywords used in the search included combinations of terms such as "public-private partnership," "PPP," "artificial intelligence," "AI," "logistics," "supply chain," and "smart logistics." Boolean operators (AND, OR) were applied to refine the search strategy and capture a comprehensive set of results.

The inclusion criteria required that studies be peer-reviewed, published in English, and directly address the intersection of PPPs and AI applications within the logistics or supply chain domain. Articles focusing solely on either PPPs or AI without integration into logistics were excluded. Grey literature, editorials, and opinion pieces were also omitted to ensure academic rigor.

After initial screening of titles and abstracts, duplicates were removed and full texts were reviewed for relevance and quality. Out of 823 identified records, 74 full-text articles were assessed for eligibility, and 29 studies met the inclusion criteria. A PRISMA flow diagram was developed to illustrate the selection process and reasons for exclusion at each stage.

Data from the selected studies were extracted and synthesized based on themes such as the nature and structure of PPPs, key stakeholders involved, AI technologies employed, logistical outcomes targeted, and measurable impacts observed. Thematic analysis enabled the identification of recurring patterns, strategic frameworks, and policy implications. The synthesis also considered geographical distribution, types of logistics sectors involved (e.g., urban mobility, freight, warehousing), and technological maturity.

Bias was minimized by involving two independent reviewers throughout the screening and selection process, with disagreements resolved through consensus or by a third reviewer. The methodological rigor of the included studies was evaluated using a standardized appraisal checklist tailored to multi-

disciplinary research involving technology, public policy, and industrial operations.

2.1 The Role of AI in Modern Logistics

The logistics sector is undergoing a rapid transformation thanks to artificial intelligence (AI), which is providing creative answers to persistent operational problems. The logistics industry must adopt intelligent systems that can manage complexity, variability, and real-time decision-making as global supply chains get more dynamic and customer demands rise (Boujarra *et al.*, 2024; Adaramola *et al.*, 2024). AI is becoming a key enabler of next-generation logistics because of its capacity to process enormous volumes of data and extract useful insights as shown in figure 1. The main uses of AI in logistics are examined in this section, along with the many advantages it offers the sector.

Route optimization is among the most significant applications of AI in logistics. Real-time factors including traffic patterns, weather variations, and delivery window timings are frequently overlooked by traditional routing models. The most efficient routes are found using AI algorithms that examine both historical and real-time data, cutting down on emissions, travel time, and fuel use. AI-driven route planning systems have already been implemented by UPS and DHL, resulting in notable operational efficiencies (Soumpenioti and Panagopoulos, 2023; Suraj *et al.*, 2024).

Demand forecasting is another important field, where AI and machine learning algorithms project future demand based on industry patterns, past sales data, and external factors. Better inventory management, less stockouts or overstocking, and just-in-time delivery models are all made possible by accurate forecasting (Pal, 2023; Bharadwaj, 2024). Forecasts driven by AI are particularly useful during market turbulence and during interruptions like pandemics or geopolitical wars.

AI is also revolutionizing warehouse automation. Picking, packing, sorting, and moving items in warehouses are increasingly being done by intelligent robotics systems driven by computer vision and deep learning (Soori *et al.*, 2023; Ayoola *et al.*, 2024). These solutions boost throughput, decrease manual labor, and optimize workflows. Amazon's deployment of AI-powered Kiva robots is a prime example of how warehouse operations may be made faster and more accurate.

For contemporary logistics operations, real-time tracking and visibility are crucial. AI-enabled solutions give end-to-end awareness of items in transit by combining data from supply chain management systems, GPS, and Internet of Things sensors (Chauhan *et al.*, 2021; Veena *et al.*, 2024). This transparency not only improves operational coordination but also enhances trust with customers and partners by enabling proactive issue resolution and timely updates.

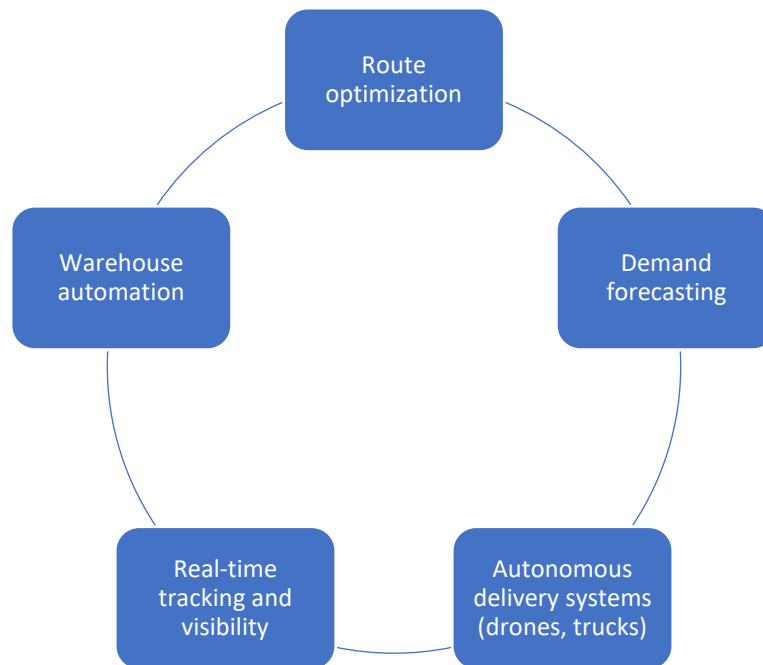


Figure 1: Core AI Applications

Lastly, AI is leading the way in autonomous delivery systems, such as delivery drones and self-driving vehicles. These technologies promise to lower labor costs and enable round-the-clock delivery operations, but they are still in the developmental and regulatory stages. The viability of autonomous delivery in regulated settings is already being shown by pilot projects run by businesses like Waymo and Zipline. Significant cost savings result from the application of AI technologies in several fields. Businesses can drastically reduce operating costs by automating labor-intensive procedures, decreasing fuel consumption, optimizing routes, and avoiding errors. By seeing problems before they become serious, predictive maintenance, another AI use, also helps prevent expensive equipment failures (Achouch *et al.*, 2022; Keleko *et al.*, 2022).

AI significantly increases efficiency as well. Intelligent algorithms optimize workflows and remove bottlenecks, and automated systems run continually without getting tired. AI speeds up processing and improves order accuracy in inventory and storage management, making supply chains nimbler and leaner.

Increased client satisfaction is another important advantage. AI makes it possible for more individualized services, increased transparency, and quicker deliveries. Virtual assistants and AI chatbots improve customer service even further by responding to inquiries promptly and precisely.

Furthermore, AI helps logistics operations become more sustainable. Greenhouse gas emissions are decreased via fuel-efficient driving habits and optimized routes. Energy consumption can be reduced by automated warehousing, while waste and overproduction can be prevented with accurate inventory forecasting. AI will play a key role in attaining ecologically conscious logistics practices as governments and corporations pledge to achieve carbon neutrality targets (Shin *et al.*, 2021; Arena *et al.*, 2021). AI is radically changing the logistics sector

by providing revolutionary technologies for more efficient, sustainable, and intelligent operations. AI is propelling innovation across the supply chain, from demand forecasting and route planning to warehouse automation and self-driving delivery. Logistics companies hoping to stay competitive and responsive in a world market that is changing quickly will need to keep integrating these technologies.

2.2 Importance of Public-Private Collaboration

Collaboration between the public and commercial sectors is essential for promoting innovation, especially in fields with high investment costs, complexity, and quick technical advancement. Collaboration between public and private organizations is becoming not only advantageous but also necessary as artificial intelligence (AI) and related technologies become more prevalent in logistics, transportation, healthcare, and other vital industries as shown in figure 2 (Damoah *et al.*, 2021; Singh *et al.*, 2022). This synergy reduces the inherent risks of innovation, speeds up implementation at scale, and permits more effective resource allocation.

Closing the knowledge and resource gap is one of the main benefits of public-private cooperation. Regulatory supervision, policy frameworks, and vital infrastructure are usually under the jurisdiction of governments. These resources offer the fundamental setting for innovation, guaranteeing the safe and moral implementation of new technology. Private companies, on the other hand, contribute cutting-edge technology skills, an innovative culture, and agile development methods. For instance, in the context of AI-driven logistics, private technology companies provide state-of-the-art machine learning algorithms, autonomous systems, and digital platforms, while public agencies may provide access to infrastructure, traffic data, and public transportation networks (Mohsen, 2024; Poudel, 2024). The complementary nature of these roles fosters a holistic development process where both technical feasibility

and regulatory compliance are simultaneously addressed.

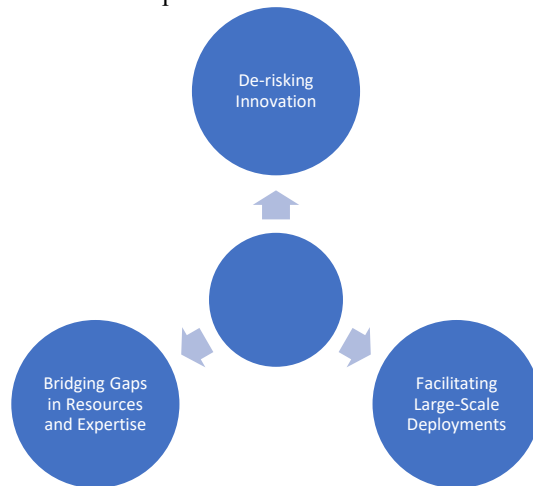


Figure 2: Importance of Public-Private Collaboration

In addition to coordinating resources and knowledge, public-private cooperation is crucial for enabling extensive AI system deployments. Large datasets, reliable computer infrastructure, and real-world testing environments are frequently required for the creation and application of AI technology. By providing access to anonymised public datasets and establishing regulatory sandboxes that permit experimental deployment under controlled circumstances, governments can meet these demands. Meanwhile, commercial organizations possess the tools and procedures to operationalize and scale AI products effectively. The shift from pilot projects to national or international implementations is accelerated by the combination of private innovation and government backing. This is especially crucial in AI-based logistics since system-wide optimization and real-time data integration necessitate close collaboration between the public and commercial sectors.

De-risking innovation is another important benefit of public-private collaborations. There is a great deal of uncertainty and financial risk involved in the development and commercialization of new technology. Scalability, public confidence, ethical issues, and regulatory compliance are some of the obstacles that many AI-based projects must overcome. In order to lessen the financial burden on private companies, public institutions may co-invest in or subsidize R&D projects through risk-sharing methods made possible by public-private partnership (Oyegbade *et al.*, 2022; Albrycht *et al.*, 2024). Companies are able to explore ambitious technologies that might otherwise be considered too risky because of this shared investment approach, which promotes experimentation and long-term vision.

Furthermore, by combining knowledge from both industries, public-private cooperation improves standard-setting and policy-making. Governments are able to create more intelligent and flexible policies as a result of their increased comprehension of the potential and constraints of technology (Kem, 2022; Riez *et al.*, 2024). Clearer regulations also assist private companies by lowering uncertainty surrounding compliance and encouraging innovation in a safe environment. It is impossible to overestimate the significance of public-private cooperation in the advancement of AI and other cutting-edge technologies. These collaborations act as a catalyst for advancements in technology and society by pooling resources, enabling scale deployments, and lowering the risk of creative endeavors. To fully utilize AI in industries like logistics, where data, infrastructure, and operational effectiveness are linked, cooperation is crucial. Sustained cooperation between public institutions and private innovators will continue to be a cornerstone of future-ready, intelligent, and resilient systems.

2.3 Examples of PPPs in AI-Based Logistics

PPPs, or public-private partnerships, have become a key tool for facilitating the advancement and application of AI in logistics. PPPs create environments that are favorable to experimentation and large-scale implementation by combining the technological innovation and operational efficiency of private firms with the infrastructure, resources, and regulatory support of the public sector. The logistics industry has emerged as a focal point for these kinds of partnerships because to its heavy reliance on data, timing, and coordination (Diehlmann *et al.*, 2021;

Xiao *et al.*, 2024). This section examines actual PPP cases that have improved AI integration in logistics across a range of industries.

The conversion of the Port of Rotterdam in the Netherlands into a "smart port" is among the most well-known instances of a successful PPP in AI-based logistics. Rotterdam, the biggest harbor in Europe, has teamed up with government organizations like the Dutch Ministry of Infrastructure and the Port Authority, as well as IT companies like IBM and Cisco, to deploy an AI-driven logistics system. In order to optimize port operations, such as vessel berthing, container handling, and traffic flow, the project combines data from sensors, Internet of Things devices, and satellite feeds.

Predicting vessel arrival times, reducing delays, and coordinating logistics with inland transport networks are all made possible by IBM's Watson AI platform. As a result, port congestion is lessened, emissions are reduced because of shorter idle periods, and cargo is handled more effectively. This PPP shows how AI can greatly improve maritime logistics efficiency when paired with private innovation and strategic government cooperation. Traffic jams, inadequate infrastructure, and the increasing need for quick delivery are some of the particular difficulties that urban logistics, and last-mile delivery in particular, face. In order to create data-driven city logistics systems, Sidewalk Labs, an urban innovation division of Alphabet Inc., has worked with local governments, including Toronto (Kollar, 2022; Artyushina, 2023). These programs use AI technologies for delivery route optimization, curb management, and traffic prediction.

In Toronto, Sidewalk Labs collaborated with government agencies to create a logistics model that optimized loading zones and coordinated delivery schedules using artificial intelligence. The project provided a compelling illustration of how PPPs can co-design intelligent urban infrastructure, despite its eventual cancellation. AI's potential to increase last-mile efficiency and alleviate urban congestion was demonstrated by the project, which matched private-sector delivery models with city planning. Through programs like the Defense Innovation Unit (DIU), the U.S. Department of Defense (DoD) has partnered with private AI companies to improve its logistical operations, utilizing AI more and more. Through the use of AI-powered decision support tools, autonomous systems, and predictive analytics, these partnerships seek to revolutionize military logistics.

The DoD's collaboration with firms like C3.ai and Palantir to create AI platforms that can predict equipment requirements, optimize supply chain routes, and manage inventories across international bases is one noteworthy example (Trautman *et al.*, 2023). These artificial intelligence (AI) systems have been incorporated into military logistics networks to improve resource allocation and response times. This example shows how advanced AI technology can be applied in mission-critical logistics systems through government-backed PPPs.

PPPs aimed at integrating AI also benefit national postal services. In order to improve its predictive delivery skills, the USPS, for instance, has partnered with tech companies such as NVIDIA and Accenture. These partnerships seek to use machine learning algorithms to expedite truck routing, forecast package delivery times, and enhance mail sorting.

USPS has increased its operational efficiency and logistics accuracy by implementing AI, especially during peak times like holidays. Artificial intelligence (AI) systems predict package surges, optimize transportation timetables, and even predict delivery vehicle maintenance needs (He *et al.*, 2022; Honrao and Mantri, 2023). These initiatives show how government organizations and private AI developers can collaborate to update antiquated logistics systems and satisfy changing customer demands.

These case studies demonstrate the variety of AI applications in logistics made possible by well-thought-out PPPs. PPPs have made it possible for scalable and creative AI solutions to be used in everything from national postal systems and military operations to smart cities and international shipping hubs. These partnerships open the door to more intelligent, responsive, and sustainable logistics systems around the world by bringing public objectives and private innovation into alignment (Mariani *et al.*, 2022; McDonald, 2024).

2.4 Challenges and Risks

Even though PPPs have shown a great deal of promise in developing AI technologies, they also come with a number of risks and difficulties that need to be managed to guarantee responsible and successful results (Eyeghre *et al.*, 2023; Wada *et al.*, 2025). Complex concerns about data governance, legal compliance, system compatibility, stakeholder alignment, and ethics arise when AI is integrated into vital infrastructure and services through PPPs. Designing collaborative frameworks that are robust, transparent, and sustainable requires a methodical analysis of these hazards.

Data security and privacy are among the top issues with AI-enabled PPPs. Access to large and varied datasets is crucial for AI systems, and many of them come from public sources such as health databases, transportation networks, and citizen records (Ajibola *et al.*, 2024; Ezeamii *et al.*, 2024). Significant privacy concerns are raised by the usage of such sensitive data, particularly when government-controlled data is made available to private enterprises. Strong encryption, access control, and anonymization methods must be used; however it is still difficult to apply these strategies uniformly across platforms and industries. Furthermore, data breaches whether brought on by cyberattacks or poor management present a serious threat to institutional credibility and public trust.

The difficulty presented by legal and regulatory frameworks is closely related. The creation of relevant laws and regulatory frameworks frequently lags behind the quick speed of AI progress. Regulations pertaining to data use, algorithmic responsibility, and liability in AI-driven systems may be ambiguous or out-of-date as a result of public institutions' inability to keep up with changing technological advancements (Adhikari *et al.*, 2024; Obianyo *et al.*, 2024). Different legal requirements might make compliance and coordination even more difficult in multinational deployments or cross-border collaborations. In the absence of unified and progressive regulations, PPPs could encounter legal challenges, operational snags, or public opposition.

The interoperability of systems presents another major obstacle. Organizations in the public and private sectors usually use different technology infrastructures, protocols, and standards. It is difficult and frequently expensive to integrate these into coherent AI systems. For instance, private companies' AI-driven routing tools in logistics need to communicate with public agencies' legacy transportation infrastructure. Inefficiencies, data silos, and restricted scalability may arise from the absence of standardized data formats, communication protocols, and software design (Eyeghre *et al.*, 2023; Adeoye *et al.*, 2025). It is frequently challenging to organize the cooperative planning, standardization, and open-data initiatives necessary to ensure interoperability.

Another strategic risk to the success of cooperative AI projects is the misalignment of incentives between public and commercial partners. While private companies are motivated by profitability, speed-to-market, and competitive advantage, governments usually place a higher priority on long-term public value, inclusivity, and regulatory compliance.

Conflicts over project objectives, resource allocation, intellectual property rights, and timetables may arise from these divergent agendas (Osunkanmibi *et al.*, 2025). PPPs run the danger of collapsing, mission drifting, or stagnating in the absence of well-defined governance frameworks and common performance indicators.

Finally, ethical issues in the application of AI provide a multifaceted problem with significant ramifications. Sensitivity and foresight are required when addressing issues like algorithmic prejudice, lack of transparency, surveillance, and the replacement of human work. When AI systems are used without ethical supervision, they may inadvertently perpetuate social injustices or behave in ways that are not accountable. Since economic incentives could not always coincide with public ethical norms, the presence of both public and private players intensifies these difficulties. To guarantee that AI applications serve the general public interest, it is essential to establish transparent audit procedures, inclusive stakeholder involvement, and ethical review committees (ADEOYE *et al.*, 2025). Public-private partnerships have significant chances to speed up the adoption of AI, but they also bring with them difficult problems that need to be handled with strong frameworks, reciprocal trust, and constant communication. Building robust and reliable AI ecosystems requires addressing issues with data protection, legislative gaps, technical integration, incentive misalignment, and ethical hazards. Stakeholders can more effectively utilize AI's promise while maintaining the values of justice, security, and public accountability by recognizing and carefully managing these dangers (Ogunyankinnu *et al.*, 2022; Folorunso *et al.*, 2024).

2.5 Strategies for Successful PPPs

Public-Private Partnerships (PPP) are becoming more and more acknowledged as a successful strategy for incorporating advanced technology into logistics, such as artificial intelligence (AI). However, to handle the challenges of deploying AI solutions at scale, successful PPPs need careful planning, precise goals, and cooperative frameworks. A number of tactics must be used to guarantee efficient cooperation between the public and commercial sectors in order for AI-based logistics systems to be successful (Onukwulu *et al.*, 2023; Alliou *et al.*, 2023). This section examines five key tactics: open data initiatives, flexible policy frameworks, transparent and equitable contracting, shared measurements of success, and explicit governance structures.

The creation of transparent governance frameworks is one of the key components for a PPP's success. By ensuring that roles, responsibilities, and decision-making procedures are clearly defined, effective governance reduces conflict and facilitates effective project execution. Both public and commercial entities must be aware of their responsibilities and authority in AI-based logistics initiatives, where technology, data, and legislation all come together. Establishing specialized project management teams or combined steering committees with members from both industries can help achieve this. Timelines, communication protocols, and operating procedures should also be agreed upon by these institutions. PPPs guarantee transparent decision-making and real-time project adaptation to suit changing needs by instituting explicit governance structures (Batjargal and Zhang, 2021; Darko *et al.*, 2023).

Fair and transparent contracting is another essential tactic for PPP success. Contracts must precisely outline the scope of work, deadlines, financial commitments, intellectual property rights, and risk-sharing procedures because AI integration is frequently complicated. Building trust between public and private stakeholders through transparency in the contracting process guarantees that each party bears equal responsibility for the project's results. Additionally, fair contracting guarantees that public and private partners share the financial risks of AI development, including the price of data gathering, algorithm training, and infrastructure deployment.

Both public and private stakeholders must agree on common success indicators in order to assess a PPP's efficacy. These metrics will guide the collaboration toward shared goals and constitute the foundation for project assessment and performance evaluation. Success criteria for AI-based logistics initiatives might include cost savings, scalability of AI solutions, improvements in customer satisfaction, and operational efficiency (e.g., shorter delivery times or fuel usage) (Sorooshian *et al.*, 2022; Rinchi *et al.*, 2024). By ensuring that both parties are pursuing quantifiable results that complement the partnership's overarching objectives—such as technical innovation, sustainability, or economic growth—the adoption of common metrics also helps to reduce the likelihood of disputes.

The adoption of AI in logistics is a dynamic process, requiring flexibility and adaptation to new challenges, technologies, and legal constraints. To guarantee that PPPs continue to be flexible in the face of these developments, agile policy frameworks are crucial. Given the rapid speed of technology advancement,

public sector partners must embrace legislative strategies that permit the iterative development and implementation of AI solutions. In actuality, this can entail creating lenient rules that permit pilot projects, data-sharing campaigns, or short-term regulatory breaks to promote AI testing in logistics. Additionally, governments can track the development of AI initiatives using agile policy frameworks and make real-time revisions in response to new information, difficulties, or public concerns (Ahmed *et al.*, 2024; George, 2024).

Lastly, the success of AI-based logistics PPPs depends on trust-building and open data initiatives. Large datasets are necessary for AI systems to operate efficiently, and for these systems to succeed, partners in the public and private sectors must exchange pertinent data in an open, secure way. Open data platforms, which give stakeholders access to non-sensitive data and promote creativity and cooperation, should be promoted by governments.

Building trust between public and private partners is also crucial, especially in the context of AI applications that may have privacy implications, like predictive analytics in urban mobility (Burgese and Cha, 2024; Kandanaarachchi *et al.*, 2024). Open data initiatives can be supplemented by policies that ensure privacy and security, establishing clear guidelines on data usage, ownership, and sharing. Transparent communication about data usage and AI outcomes, coupled with public accountability, can foster trust and reduce concerns about data misuse.

AI-driven logistics systems must be successfully implemented through PPPs, which calls for careful planning and well-defined frameworks for collaboration. Key tactics that support the successful and long-term implementation of AI in logistics include establishing strong governance frameworks, guaranteeing contract transparency, coordinating on common success metrics, developing flexible policy frameworks, and supporting open data initiatives (Gamlath *et al.*, 2024; Egbumokei *et al.*, 2024). By using these tactics, PPPs can foster an atmosphere that encourages innovation and results in future logistics systems that are more effective, adaptable, and durable.

2.6 Future Outlook

Artificial intelligence (AI) is developing at a quick pace and has the potential to revolutionize a number of sectors. One of the most promising fields for its use is logistics. In order to create resilient, effective, and climate-conscious supply chains, cooperation between

public and private organizations will be essential as AI technologies develop further (Solehudin *et al.*, 2023; Kulal *et al.*, 2024). Key developments that tackle global issues and present previously unheard-of chances for efficiency and creativity characterize the future of AI-driven logistics.

The development of robust supply networks is one of the most important areas where AI will be crucial. Global supply networks have experienced many interruptions in recent years, ranging from pandemics and natural disasters to geopolitical conflicts and unstable economies. By making systems more sensitive, adaptable, and predictive, artificial intelligence (AI) holds promise for reducing these risks. Large volumes of data can be analyzed by machine learning algorithms, which can then provide real-time solutions and predict supply chain problems like delays, inventory shortages, or demand spikes. Public-private partnerships are crucial in this field because private enterprises offer state-of-the-art artificial intelligence (AI) technologies and industry knowledge, while governments supply the infrastructure and regulatory frameworks (Omurzakova *et al.*, 2022; Liu *et al.*, 2024). Together, they can create more agile supply chains capable of quickly adapting to unforeseen events, ensuring the continuity of critical services and goods.

AI has the potential to significantly contribute to the development of climate-conscious logistics in addition to improving supply chain resilience. Reducing the carbon footprint of logistics and transportation systems is becoming more and more important as the globe struggles with climate change. AI can lower energy use, improve routes for fuel economy, and facilitate more environmentally friendly logistics operations. To maximize delivery routes and reduce fuel use, machine learning models can examine past data on traffic patterns, meteorological conditions, and vehicle performance (Nama *et al.*, 2021; Ang *et al.*, 2022). By controlling charging schedules, battery health, and fleet efficiency, AI can also help with the shift to electric and driverless vehicles. AI-driven logistics systems can significantly lower greenhouse gas emissions by integrating these technologies. In order to advance these solutions, public-private partnerships are essential. While private companies develop and expand AI-powered solutions, governments can enact laws and incentives to promote the use of green technologies.

The changing role of governments in digital innovation will become more significant as AI continues to influence the logistical landscape. Governments have historically acted as regulators,

guaranteeing the security and equity of technical advancements. Governments must, however, play a more active role in fostering innovation as AI technology grows more pervasive in daily life. This entails establishing public-private collaborations, sponsoring research and development in AI and related domains, and investing in infrastructure that enables AI applications. To ensure that AI systems are utilized responsibly and openly, governments will also need to develop legislative frameworks that strike a balance between innovation and ethical considerations (Yigitcanlar *et al.*, 2021; Lescrauwaet *et al.*, 2022). Furthermore, governments will play a crucial role in promoting digital literacy, ensuring that the workforce is equipped with the skills necessary to thrive in an AI-driven economy.

The possibility of global cooperation and standards is another fascinating aspect of AI's future. Global issues including supply chain disruptions, cybercrime, and climate change necessitate coordinated responses, and AI technology transcends national boundaries. Governments, businesses, and academic institutions working together internationally will be essential to creating common norms for the use of AI, data privacy, and ethical principles. The creation of global guidelines and standards will guarantee the ethical and uniform application of AI technology in all geographical areas. Additionally, this will lessen the likelihood of problems like algorithmic bias, data sovereignty, and intellectual property disputes resulting from disparate national rules. By harmonizing standards and regulations, international collaborations can accelerate the development and adoption of AI solutions that address global challenges, while fostering a cooperative environment for innovation (Adedokun, 2024; Roberts *et al.*, 2024).

With its enormous potential to revolutionize supply chains, advance sustainability, and boost resilience, artificial intelligence in logistics has a promising future. However, achieving this potential would necessitate ongoing public-private sector cooperation in addition to the creation of international norms and laws. Governments must take the initiative to promote innovation, develop laws that encourage it, and make sure AI is used in a way that is morally and inclusively acceptable (Jhurani *et al.*, 2023; Tariq, 2024). AI has the potential to propel global logistics toward a more resilient, climate-conscious, and effective future by coordinating the activities of all stakeholders.

3. Conclusion

Several important points have come to light in this investigation of public-private partnerships (PPPs) in

promoting AI-driven logistics. First, PPPs fill important knowledge and resource gaps. Private enterprises provide innovative technology and cutting-edge infrastructure, while governments supply regulatory frameworks, data access, and infrastructure. Second, these partnerships make it possible to implement AI systems on a big scale, which is especially useful in the logistics industry where strong infrastructure and enormous datasets are crucial. Third, PPPs provide increased experimentation and scalability by sharing operational and financial risks, which helps de-risk innovation. However, it is necessary to carefully handle obstacles including data protection, regulatory frameworks, interoperability, unbalanced incentives, and ethical considerations.

The transformative potential of PPPs in AI-driven logistics lies in their ability to create more resilient, efficient, and sustainable supply chains. AI technologies, when paired with the capabilities of public-private collaboration, can optimize routing, enhance real-time decision-making, and facilitate climate-conscious logistics, offering significant improvements in operational efficiency and environmental sustainability. Furthermore, these collaborations offer unique opportunities for global cooperation, enabling the development of shared standards and fostering innovation across borders.

For these transformative potentials to be fully realized, a call to action is needed for all stakeholders—governments, private companies, and research institutions. Governments must play a more proactive role in fostering innovation through supportive policies, funding, and regulation. Private companies should continue to innovate while aligning their goals with broader societal needs, ensuring ethical AI development. Lastly, ongoing dialogue and collaboration between these sectors are essential to overcoming challenges, aligning incentives, and ensuring the responsible deployment of AI technologies. By doing so, PPPs can serve as a cornerstone for shaping a sustainable and resilient future for logistics, benefiting both businesses and society at large.

References

- Achouch, M., Dimitrova, M., Ziane, K., Sattarpanah Karganroudi, S., Dhoubib, R., Ibrahim, H. and Adda, M., 2022. On predictive maintenance in industry 4.0: Overview, models, and challenges. *Applied Sciences*, 12(16), p.8081.
- Adaramola, T.S., Omole, O.M., Wada, I., Nwariaku, H., Arowolo, M.E. and Adigun, O.A., 2024. Internet of thing integration in green fintech for enhanced resource management in smart cities. *World Journal of Advanced Research and Reviews*, 23(2), pp.1317-1327.
- Adedokun, A., 2024. Global ai regulatory landscape challenges, trends, and future outlook. *Trends, and Future Outlook (February 29, 2024)*.
- Adeoye, Y., Onotole, E.F., Ogunyankinnu, T., Aipoh, G., Osunkanmibi, A.A. and Egbemhenge, J., 2025. Artificial Intelligence in Logistics and Distribution: The function of AI in dynamic route planning for transportation, including self-driving trucks and drone delivery systems.
- Adeoye, Y., Osunkanmibi, A.A., Onotole, E.F., Ogunyankinnu, T., Ederhion, J., Bello, A.D. and Abubakar, M.A., 2025. Blockchain and Global Trade: Streamlining Cross Border Transactions with Blockchain.
- Adewuyi, A.Y., Anyibama, B., Adebayo, K.B., Kalinzi, J.M., Adeniyi, S.A. and Wada, I., 2024. Precision agriculture: Leveraging data science for sustainable farming. *International Journal of Scientific Research Archive*, 12(2), pp.1122-1129.
- Adhikari, A., Smallwood, S., Ezeamii, V., Biswas, P., Tasby, A., Nwaonumah, E., Ayo Farai, O., Das, S., Thapa, S., Obianyo, C. and Chanda, A., 2024, August. Investigating Volatile Organic Compounds in Older Municipal Buildings and Testing a Green and Sustainable Method to Reduce Employee Workplace Exposures. In *ISEE Conference Abstracts* (Vol. 2024, No. 1).
- Adigun, O.A., Falola, B.O., Esebre, S.D., Wada, I. and Tunde, A., 2024. Enhancing carbon markets with fintech innovations: The role of artificial intelligence and blockchain. *World Journal of Advanced Research and Reviews*, 23(2).
- Ahmed, M.S., Jannat, S. and Tanim, S.H., 2024. Artificial Intelligence in Public Project Management: Boosting Economic Outcomes through Technological Innovation. *International Journal of Applied Engineering and Technology (London)*, 6, pp.47-63.
- Ajayi, A.M., Omokanye, A.O., Olowu, O., Adeleye, A.O., Omole, O.M. and Wada, I.U., 2024. Detecting insider threats in banking using AI-driven anomaly detection with a data science approach to cybersecurity.
- Ajibola, F.O., Onyeyili, I.N., Adabra, M.S., Obianyo, C.M., Ebubechukwu, D.J., Auwal, A.M. and

- Justina, E.C., 2024. Adverse health effects of heavy metal pollution in the Enugu Area, Southeastern Nigeria. *World Journal of Biology Pharmacy and Health Sciences*, 20(3), pp.10-30574.
- Albrycht, I., Antunes, D., Burian, W., Cederlöf, J., Gray, C., Gieroń, M., Górska, P., Jędrzejczak, Ł., Mazur, M., Marsili, M. and Mole, M., 2024. Dual-use Technology: Cross-sector Cooperation in the Cybersecurity Sector.
- Allioui, H., Allioui, A. and Mourdi, Y., 2023. AI-Based Logistics Solutions to Tackle COVID-19 Pandemic and Ensure a Sustainable Financial Growth. In *Advanced AI and Internet of Health Things for Combating Pandemics* (pp. 359-382). Cham: Springer International Publishing.
- Ampratwum, G., Tam, V.W. and Osei-Kyei, R., 2023. Critical analysis of risks factors in using public-private partnership in building critical infrastructure resilience: A systematic review. *Construction Innovation*, 23(2), pp.360-382.
- Ang, K.L.M., Seng, J.K.P., Ngharamike, E. and Ijamaru, G.K., 2022. Emerging technologies for smart cities' transportation: geo-information, data analytics and machine learning approaches. *ISPRS International Journal of Geo-Information*, 11(2), p.85.
- Arena, F., Collotta, M., Luca, L., Ruggieri, M. and Termine, F.G., 2021. Predictive maintenance in the automotive sector: A literature review. *Mathematical and Computational Applications*, 27(1), p.2.
- Ariyibi, K.O., Bello, O.F., Ekundayo, T.F. and Ishola, O., 2024. Leveraging Artificial Intelligence for enhanced tax fraud detection in modern fiscal systems.
- Artyushina, A., 2023. Can a smart city exist as commons. *Governing smart cities as knowledge commons*, pp.248-266.
- Ayo-Farai, O., Obianyo, C., Ezeamii, V. and Jordan, K., 2023. Spatial Distributions of Environmental Air Pollutants Around Dumpsters at Residential Apartment Buildings.
- Ayoola, V.B., Osam-nunoo, G.E.O.R.G.E., Umeaku, C.H.I.M.A. and Awotiwon, B.O., 2024. IoT-driven Smart Warehouses with Computer Vision for Enhancing Inventory Accuracy and Reducing Discrepancies in Automated Systems.
- Batjargal, T. and Zhang, M., 2021. Review of key challenges in public-private partnership implementation. *Journal of Infrastructure, Policy and Development*, 5(2), p.1378.
- Bello, S., Wada, I., Ige, O., Chianumba, E. and Adebayo, S., 2024. AI-driven predictive maintenance and optimization of renewable energy systems for enhanced operational efficiency and longevity. *International Journal of Science and Research Archive*, 13(1).
- Bharadwaj, N.K., 2024. Application of Optimization Techniques to Solve Inventory Problems. *International Journal of Mathematics Trends and Technology-IJMTT*, 70.
- Boujarra, M., Lechhab, A., Al Karkouri, A., Zrigui, I., Fakhri, Y. and Bourekadi, S., 2024. Revolutionizing logistics through deep learning: Innovative solutions to optimize data security. *Journal of Theoretical and Applied Information Technology*, 102(4), pp.1593-1607.
- Burgese, L. and Cha, K.J., 2024. Investigating trust leap with AI: A consumer's behavioural model on autonomous vehicle acceptance. *International Journal of Technological Learning, Innovation and Development*, 15(4), pp.449-475.
- Chauhan, S., Singh, R., Gehlot, A., Akram, S.V., Twala, B. and Priyadarshi, N., 2022. Digitalization of supply chain management with industry 4.0 enabling technologies: A sustainable perspective. *Processes*, 11(1), p.96.
- Damoah, I.S., Ayakwah, A. and Tingbani, I., 2021. Artificial intelligence (AI)-enhanced medical drones in the healthcare supply chain (HSC) for sustainability development: A case study. *Journal of Cleaner Production*, 328, p.129598.
- Darko, D., Zhu, D., Quayson, M., Hossin, M.A., Omoruyi, O. and Bediako, A.K., 2023. A multicriteria decision framework for governance of PPP projects towards sustainable development. *Socio-Economic Planning Sciences*, 87, p.101580.
- Diehlmann, F., Lüttenberg, M., Verdonck, L., Wiens, M., Zienau, A. and Schultmann, F., 2021. Public-private collaborations in emergency logistics: A framework based on logistical and game-theoretical concepts. *Safety Science*, 141, p.105301.
- Egbumokei, P.I., Dienagha, I.N., Digitemie, W.N., Onukwulu, E.C. and Oladipo, O.T., 2024. Cost-effective contract negotiation strategies for international oil & gas projects. *International Journal of Multidisciplinary Research and Growth Evaluation*, 5(4), pp.2582-7138.

- Eyeghre, O.A., Dike, C.C., Ezeokafor, E.N., Oparaji, K.C., Amadi, C.S., Chukwuma, C.C., Obianyo, C.M. and Igbokwe, V.U., 2023. The impact of *Annona muricata* and metformin on semen quality and hormonal profile in Arsenic trioxide-induced testicular dysfunction in male Wistar rats. *Magna Scientia Advanced Research and Reviews*, 8(01), pp.001-018.
- Eyeghre, O.A., Ezeokafor, E.N., Dike, C.C., Oparaji, K.C., Amadi, C.S., Chukwuma, C.C., Ogbodo, O.N., Obianyo, C.M., Illah, C., Nwoko, S.O. and Umeasiegbo, A.C., 2023. The Impact of *Annona Muricata* on Semen Quality and Antioxidants Levels in Alcohol-Induced Testicular Dysfunction in Male Wistar Rats.
- Ezeamii, V., Adhikari, A., Caldwell, K.E., Ayo-Farai, O., Obiyano, C. and Kalu, K.A., 2023, November. Skin itching, eye irritations, and respiratory symptoms among swimming pool users and nearby residents in relation to stationary airborne chlorine gas exposure levels. In *APHA 2023 Annual Meeting and Expo*. APHA.
- Ezeamii, V., Ayo-Farai, O., Obianyo, C., Tasby, A. and Yin, J., 2024. A Preliminary Study on the Impact of Temperature and Other Environmental Factors on VOCs in Office Environment.
- Ezeamii, V., Jordan, K., Ayo-Farai, O., Obiyano, C., Kalu, K. and Soo, J.C., 2023. Diurnal and seasonal variations of atmospheric chlorine near swimming pools and overall surface microbial activity in surroundings.
- Folorunso, A., Mohammed, V., Wada, I. and Samuel, B., 2024. The impact of ISO security standards on enhancing cybersecurity posture in organizations. *World Journal of Advanced Research and Reviews*, 24(1), pp.2582-2595.
- Folorunso, A., Wada, I., Samuel, B. and Mohammed, V., 2024. Security compliance and its implication for cybersecurity. *World Journal of Advanced Research and Reviews*, 24(01), pp.2105-2121.
- Gamlath, G.R.M., Nanthagopan, Y., Williams, N.L. and Kengatharan, L., 2024. Optimizing organisational value: crafting a constructively aligned thematic framework for project governance enhancement. *Sri Lanka Journal of Social Sciences*, 46(02).
- George, A.S. and George, A.H., 2024. Towards a Super Smart Society 5.0: Opportunities and Challenges of Integrating Emerging Technologies for Social Innovation. *Partners Universal International Research Journal*, 3(2), pp.01-29.
- He, L., Liu, S. and Shen, Z.J.M., 2022. Smart urban transport and logistics: A business analytics perspective. *Production and Operations Management*, 31(10), pp.3771-3787.
- Honrao, Y. and Mantri, S., 2023, December. Artificial Intelligence in Trucking Business Operations—A Systematic Review. In *International conference on Information and Communication Technology for Competitive Strategies* (pp. 121-131). Singapore: Springer Nature Singapore.
- Jayasena, N.S., Chan, D.W. and Kumaraswamy, M., 2021. A systematic literature review and analysis towards developing PPP models for delivering smart infrastructure. *Built Environment Project and Asset Management*, 11(1), pp.121-137.
- Jhurani, J., Reddy, P. and Choudhuri, S.S., 2023. Fostering A Safe, Secure, And Trustworthy Artificial Intelligence Ecosystem In The United States. *International Journal of Applied Engineering and Technology (London)*, 5, pp.21-27.
- Kandanaarachchi, T.B., Nelson, J.D. and Ho, C.Q., 2024. Conceptualising trust and collaboration among stakeholders in MaaS ecosystems. *Transport Policy*, 157, pp.98-110.
- Keleko, A.T., Kamsu-Foguem, B., Ngouna, R.H. and Tongne, A., 2022. Artificial intelligence and real-time predictive maintenance in industry 4.0: A bibliometric analysis. *AI and Ethics*, 2(4), pp.553-577.
- Kem, D., 2022. Personalised and adaptive learning: Emerging learning platforms in the era of digital and smart learning. *International Journal of Social Science and Human Research*, 5(2), pp.385-391.
- Kollar, J.M., 2022. Failure to innovate: Urban technocracy and the making and unmaking of Sidewalk Labs' smart city.
- Kulal, A., Rahiman, H.U., Suvama, H., Abhishek, N. and Dinesh, S., 2024. Enhancing public service delivery efficiency: Exploring the impact of AI. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(3), p.100329.
- Lescrauwaet, L., Wagner, H., Yoon, C. and Shukla, S., 2022. Adaptive legal frameworks and economic dynamics in emerging technologies: Navigating the intersection for responsible innovation. *Law and Economics*, 16(3), pp.202-220.

- Liu, B., Li, J., Wang, D., Liu, H., Wu, G. and Yuan, J., 2024. Public-private partnerships: A collaborative framework for ensuring project sustainable operations. *Engineering, Construction and Architectural Management*, 31(1), pp.264-289.
- Mariani, L., Trivellato, B., Martini, M. and Marafioti, E., 2022. Achieving sustainable development goals through collaborative innovation: Evidence from four European initiatives. *Journal of Business Ethics*, 180(4), pp.1075-1095.
- McDonald, S.D., 2024. Navigating the Tech Landscape: Implementing Innovation in Vietnam's Logistics. In *Transforming Logistics in a Developing Nation: Vietnam's Technology Imperative* (pp. 73-189). Singapore: Springer Nature Singapore.
- Mohsen, B.M., 2024. AI-driven optimization of urban logistics in smart cities: Integrating autonomous vehicles and iot for efficient delivery systems. *Sustainability*, 16(24), p.11265.
- Nama, M., Nath, A., Bechra, N., Bhatia, J., Tanwar, S., Chaturvedi, M. and Sadoun, B., 2021. Machine learning-based traffic scheduling techniques for intelligent transportation system: Opportunities and challenges. *International Journal of Communication Systems*, 34(9), p.e4814.
- Obianyo, C., Das, S. and Adebile, T., 2024. Tick Surveillance on the Georgia Southern University Statesboro Campus.
- Obianyo, C., Ezeamii, V.C., Idoko, B., Adeyinka, T., Ejembi, E.V., Idoko, J.E., Obioma, L.O. and Ugwu, O.J., 2024. The future of wearable health technology: From monitoring to preventive healthcare. *World J Biol Pharm Heal Sci*, 20, pp.36-55.
- Ogunyankinnu, T., Onotole, E.F., Osunkanmibi, A.A., Adeoye, Y., Aipoh, G. and Egbemhenghe, J., 2022. Blockchain and AI synergies for effective supply chain management.
- Omurzakova, A., Shalbolova, U. and Mukhanova, G., 2022. Risk assessment of social public-private partnership projects. *Public Policy and Administration*, 21(2).
- Onukwulu, E.C., Agho, M.O. and Eyo-Udo, N.L., 2023. Developing a framework for AI-driven optimization of supply chains in energy sector. *Global Journal of Advanced Research and Reviews*, 1(2), pp.82-101.
- Osunkanmibi, A.A., Adeoye, Y., Ogunyankinnu, T., Onotole, E.F., Salawudeen, M.D., Abubakar, M.A. and Bello, A.D., 2025. Cybersecurity and Data Protection in Supply Chains: AI's Role in Protecting Sensitive Financial Data across Supply Chains.
- Oyegbade, I.K., Igwe, A.N., Ofodile, O.C. and Azubuike, C., 2022. Advancing SME financing through public-private partnerships and low-cost lending: A framework for inclusive growth. *Iconic Research and Engineering Journals*, 6(2), pp.289-302.
- Pal, S., 2023. Advancements in AI-enhanced Just-in-Time inventory: elevating demand forecasting accuracy. *International Journal for Research in Applied Science and Engineering Technology*, 11(11), pp.282-289.
- Poudel, N., 2024. The Impact of Big Data-Driven Artificial Intelligence Systems on Public Service Delivery in Cloud-Oriented Government Infrastructures. *Journal of Artificial Intelligence and Machine Learning in Cloud Computing Systems*, 8(11), pp.13-25.
- Rice, S., Crouse, S.R., Winter, S.R. and Rice, C., 2024. The advantages and limitations of using ChatGPT to enhance technological research. *Technology in Society*, 76, p.102426.
- Rinchi, O., Alsharoua, A., Shatnawi, I. and Arora, A., 2024. The role of intelligent transportation systems and artificial intelligence in energy efficiency and emission reduction. *arXiv preprint arXiv:2401.14560*.
- Roberts, H., Hine, E., Taddeo, M. and Floridi, L., 2024. Global AI governance: Barriers and pathways forward. *International Affairs*, 100(3), pp.1275-1286.
- Roschier, S., Pursiainen, R., Degerman, R., Moisio, M., Sepponen, S., Hyytinen, K., Hämäläinen, H. and Valkokari, K., 2022. Collaboration for Success: International benchmark of innovation partnership models.
- Shin, W., Han, J. and Rhee, W., 2021. AI-assistance for predictive maintenance of renewable energy systems. *Energy*, 221, p.119775.
- Singh, J., Sajid, M., Gupta, S.K. and Haidri, R.A., 2022. Artificial intelligence and blockchain technologies for smart city. *Intelligent Green Technologies for Sustainable Smart Cities*, pp.317-330.
- Solehudin, H., Darmayanti, R., Agustin, F.W. and Santoso, C.R., 2023. Navigating the Future: AI, Floods, Politics, and Entrepreneurship in Management Operations for Resilient Societies in Jakarta. *Revenue Journal: Management and Entrepreneurship*, 1(1), pp.87-109.

- Soori, M., Arezoo, B. and Dastres, R., 2023. Artificial intelligence, machine learning and deep learning in advanced robotics, a review. *Cognitive Robotics*, 3, pp.54-70.
- Sorooshian, S., Khademi Sharifabad, S., Parsaee, M. and Afshari, A.R., 2022. Toward a modern last-mile delivery: Consequences and obstacles of intelligent technology. *Applied System Innovation*, 5(4), p.82.
- Soumpenioti, V. and Panagopoulos, A., 2023, September. AI Technology in the Field of Logistics. In *2023 18th International Workshop on Semantic and Social Media Adaptation & Personalization (SMAP) 18th International Workshop on Semantic and Social Media Adaptation & Personalization (SMAP 2023)* (pp. 1-6). IEEE.
- Suraj, P., Shetty, P.P., Suhas, B.E. and Pranav, H.M., 2024, November. Predictive Analytics and AI in Logistics: Driving Operational Excellence and Cost Reduction. In *2024 8th International Conference on Computational System and Information Technology for Sustainable Solutions (CSITSS)* (pp. 1-6). IEEE.
- Svigova, B. and Betz, J., 2021. DESIGNING PUBLIC-PRIVATE INNOVATION PARTNERSHIPS.
- Tariq, M.U., 2024. The role of emerging technologies in shaping the global digital government landscape. *Emerging developments and technologies in digital government*, pp.160-180.
- Trautman, L.J., Voss, W.G. and Shackelford, S., 2023. How we learned to stop worrying and love AI: Analyzing the rapid evolution of generative pre-trained transformer (gpt) and its impacts on law, business, and society. *Business, and Society* (July 20, 2023).
- Veena, G., B Balamurugan, B., Mariofanna, M. and A Yovan, F., 2024. Blockchain, IoT, and AI Technologies for Supply Chain Management: Apply Emerging Technologies to Address and Improve Supply Chain Management.
- Wada, I.U., Izibili, G.O., Babayemi, T., Abdulkareem, A., Macaulay, O.M. and Emadoye, A., 2025. AI-driven cybersecurity in higher education: A systematic review and model evaluation for enhanced threat detection and incident response.
- Xiao, G., Wang, Y., Wu, R., Li, J. and Cai, Z., 2024. Sustainable maritime transport: A review of intelligent shipping technology and green port construction applications. *Journal of Marine Science and Engineering*, 12(10), p.1728.
- Yigitcanlar, T., Corchado, J.M., Mehmood, R., Li, R.Y.M., Mossberger, K. and Desouza, K., 2021. Responsible urban innovation with local government artificial intelligence (AI): A conceptual framework and research agenda. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(1), p.71.

Part Two
Social Psychology



Evaluating the Influence of Social Media Celebrity-Endorsed Sports Betting Advertisements as on Youth Gambling Behaviour in Offa, Nigeria.

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Abstract. This study evaluates the influence of social media celebrity-endorsed sports betting advertisements as an advertising management strategy and their impact on youth gambling behaviour in Offa. With the increasing reliance on celebrity endorsements in gambling promotions, concerns have emerged regarding their role in shaping gambling perceptions and behaviours. Using a quantitative survey approach, data were collected from 398 respondents to assess the extent to which these advertisements influence gambling participation, perceptions, and ethical considerations. Findings reveal that celebrity-endorsed sports betting advertisements moderately influence gambling engagement ($M = 1.81$, $SD = 0.94$), reinforcing the perception of gambling as socially acceptable and financially rewarding ($M = 2.26$, $SD = 0.954$). Respondents acknowledge the appeal of celebrity promotions but exhibit limited awareness of gambling-related risks ($M = 2.64$, $SD = 1.167$). The study highlights the ethical concerns surrounding the normalisation of gambling through celebrity endorsements and the need for responsible advertising strategies. It recommends stronger regulatory oversight, clearer risk disclaimers, and further research on the long-term effects of repeated exposure to such advertisements, particularly among vulnerable audiences.

Keywords: Celebrity endorsements, sports betting advertisements, advertising management, youth gambling behaviour, ethical concerns

1. Introduction

Social media is today an ubiquitous aspect of contemporary communication and commercial activity, especially among young digital natives

(Smith, 2019). Sudden expansion in digital media has offered businesses a platform to promote their goods and services, including sport betting, via influencer and celebrity endorsements (Jones et al., 2020). Celebrities, especially those in the entertainment and sports sectors, wield enormous influence over their fans, who primarily look up to them as role models (Brown, 2018). As such, their use within adverts and promotions of brands has a considerable influence on public attitudes and behavior, especially on gambling (Taylor, 2021).

Among the trends in advertising management is the celebrity endorsement strategy, where famous athletes and actors endorse various brands to their massive following (Lee & Kim, 2022). Celebrity endorsements are now a prevailing marketing trend in the sports betting market, where high-profile individuals partner with betting firms in return for hefty sponsorship fees (Miller & White, 2019). Although this marketing technique raises brand recognition and consumer interaction (Smith, 2019), it also raises moral and societal issues regarding the advertising of potentially risky behaviour like gambling (Jones & Brown, 2020). The literature shows that exposure to gambling adverts sponsored by celebrities has a significant effect on betting attitudes, especially among young people, and escalates participation rates and gambling normalisation (Garcia et al., 2021).

Gambling is a prevalent activity undertaken for entertainment purposes, typically with excitement, thrill, and monetary gain (Johnson, 2018). It also carries significant risks, such as addiction and financial loss (Clark, 2020). The psychology of gambling is multifaceted, with cognitive, affective, and behavioural aspects (Roberts & White, 2019). Reinforcement is one of the primary psychological

determinants of gambling behaviour (Skinner, 1953). Operant conditioning theory holds that behaviours that are reinforced will be repeated (Watson, 2017). In gambling, money prizes are effective reinforcements, and therefore, repeated behaviour is the result (Wilson, 2016). The prospect of rewards stimulates the mesolimbic dopamine system of the brain, which is associated with motivation and pleasure (Berridge & Kringelbach, 2015). Therefore, the prospect of winning fosters repeated gambling behaviour (Jones et al., 2018). Furthermore, the timing of partial reinforcements that are normally employed in gambling games add to its additive component (Smith & Johnson, 2018), rendering betting behavior more resilient to termination (Skinner, 1953).

Online betting has seen considerable growth in revenue and popularity over the last several years, mainly as a result of the growth of online betting websites and the heightened exposure of sports betting advertisements across media outlets (Garcia et al., 2020). However, concerns have been raised over the use of celebrity endorsements in gambling advertisements, specifically with respect to their impact on the gambling behavior of young people (Brown & Clark, 2021). Research supports that exposure to gambling adverts featuring celebrity sponsors is linked to increased gambling activity and problem gambling (Wilson & Garcia, 2019). Browne et al. (2019) state that exposure to betting adverts on social media elevates the chances of young adults forming intentions to gamble. The implication is that celebrity endorsements within gambling adverts will similarly lead to betting activity in at-risk groups. Likewise, Derevensky and Gainsbury (2018) observe that young adults are most vulnerable to celebrity endorsement appeal in gambling ads, considering their tendency for risk-taking behavior at this stage of development.

In Nigeria, the sports betting business has experienced astronomical expansion, driven by improved internet penetration and digital accessibility (Akinola, 2021). Celebrities like Nollywood actresses have been utilized by companies like Bet9ja, NairaBet, and SportyBet to increase their market base. Nevertheless, concerns regarding the general social effect of such adverts on young people, especially in urban and semi-urban towns like Offa, where sports betting has emerged as a more popular mode of leisure, still exist. The increased youth gambling rate has brought about concerns regarding addiction, exposure to money, and long-term social consequences. The research thus seeks to analyze social media influencer-supported sports betting adverts as a means of ad administration and their influence on Offa's youth gambling behavior. The research will discuss the benefits along with

ethical concerns of these adverts, offering recommendations on responsible advertising and regulation.

1.1 Statement of the Problem

The increased use of social media celebrity endorsements as an ad management strategy in sports betting has caused controversy regarding its influence on young people's gambling behaviors. While the proponents of using these ads mention that they are effective in brand engagement and market expansion, critics are of the view that the ads normalise gambling, potentially leading to increased gambling involvement, financial problems, and problem gambling behaviors (Hing et al., 2020; Omokri, 2024). Research indicates that exposure to gambling adverts sponsored by celebrities generates aspirational representations of success and wealth and trivializes potential risks, thereby increasing gambling intention among youths (Gainsbury et al., 2020; Olaore & Olusola, 2021).

In spite of the increased number of research on online gambling and marketing, few empirical studies have evaluated the use of social media celebrity endorsement as a management promotion strategy in the Nigerian environment, most especially in semi-urban towns such as Offa. Past literature is overshadowed by gambling addiction, policy interventions, and ethics (Lopez-Gonzalez et al., 2020; Okeke & Adejumo, 2022), with a lack of strategic efficacy of celebrity-supported advertisements and the impact on the gambling behavior of youth. Western evidence suggests that celebrity endorsement has an impact on attitudes and participation in gambling (Deans et al., 2020; Thomas et al., 2021), but comparative studies specific to the Nigerian online space and socio-economic conditions are required.

This research aims at filling this knowledge gap through the assessment of social media celebrity-endorsed sports betting adverts as an ad management strategy and their impact on the gambling behavior of youths in Offa. The research will ascertain how the ads construct gambling attitude, reinforce risky behavior, and legitimize the culture of betting. The study will also offer recommendations on accountable advertising practices, control measures, and strategic recommendations for ethical betting adverts in Nigeria.

1.2 Objectives of the Study

- To evaluate the extent to which social media celebrity-endorsed sports betting advertisements influence youth engagement in gambling.

- To examine how celebrity endorsements shape youths' perceptions of gambling as a socially acceptable and financially rewarding activity.
- To investigate the ethical and social concerns associated with using celebrity endorsements as an advertising management strategy in sports betting.

1.3 Literature (Conception and Theoretical Review)

1.3.1 Sports Betting

Sport betting refers to the act of predicting the outcome of a sports event and placing a wager on that prediction. This practice encompasses various forms, including fixed-odds betting, exchange betting, and spread betting (Forrest & Simmons, 2003). The process relies on factors such as statistical analysis, team performance, player form, and an element of chance (Griffiths & Auer, 2011). While often viewed as a form of entertainment, sport betting can also be considered a financial investment with potential economic and social consequences (Sproston & Erens, 2004). In Nigeria, the industry has seen significant growth, with entrepreneurs like Akinola Alabi pioneering online sports betting platforms, thereby influencing the nation's economic landscape (Akinola, 2021). However, concerns have been raised about the social implications of widespread betting, leading to calls for regulatory measures to mitigate potential negative impacts (Omokri, 2024).

1.3.2 Sports Betting Adverts

Sport betting advertisements are promotional campaigns designed to attract bettors by highlighting odds, bonuses, and betting opportunities through various media channels. In recent years, social media has become a dominant platform for these adverts due to its vast reach and targeted advertising capabilities (Griffiths & Lopez-Gonzalez, 2020). The global rise in online sportsbooks, coupled with increasing sports fan engagement, has fueled heavy investment in betting advertisements (Lopez-Gonzalez et al., 2021).

In Nigeria, betting companies such as Bet9ja and NairaBet have leveraged celebrity endorsements to boost their market presence. Popular figures like singer Davido, footballer Jay-Jay Okocha, and media personality Ebuka Obi-Uchendu have been featured in sports betting adverts, using their influence to attract young bettors (Akinola, 2021). Similarly, international betting firms like Bet365 and Ladbrokes engage football clubs and tournaments for sponsorships,

further strengthening their visibility (Gordon et al., 2020).

However, the increasing presence of betting advertisements has raised ethical concerns, particularly about the exposure of young and vulnerable individuals to gambling-related content (Lopez-Gonzalez et al., 2020). Regulatory bodies in Nigeria and other countries have called for stricter measures to control the impact of these ads, including restrictions on celebrity endorsements and targeted digital campaigns (Omokri, 2024).

While sports betting advertisements play a crucial role in business growth, they must be implemented responsibly. Stakeholders must balance profitability with consumer protection by promoting ethical marketing practices, ensuring regulatory compliance, and mitigating gambling-related risks (Griffiths & Barnes, 2020).

The prevalence of sports betting adverts on social media represents a paradigm shift in advertising strategies, driven by the convergence of technological advancements, shifting regulatory landscapes, and evolving consumer behaviours. While these adverts offer unparalleled opportunities for engagement and market expansion, they also underscore the importance of ethical considerations and responsible advertising practices to mitigate potential harms and safeguard vulnerable individuals in society.

1.3.3 Celebrities and Influencers

A celebrity is an individual who has gained widespread public recognition due to their achievements, media presence, or cultural influence (Turner, 2014). Celebrities are often associated with entertainment industries such as film, music, and sports, and their visibility is maintained through media coverage, endorsements, and personal branding (Rojek, 2001). In Nigeria, figures such as Davido, Tiwa Savage, and Jay-Jay Okocha exemplify celebrity status due to their achievements in music and sports, respectively. An influencer is a person who has built credibility within a specific niche and has the ability to affect the opinions, behaviours, and purchasing decisions of their audience, primarily through digital platforms (Abidin, 2016). Unlike traditional celebrities, influencers gain prominence through social media by engaging directly with followers and creating content tailored to their audience's interests (Freberg et al., 2011). In Nigeria, influencers such as Toke Makinwa and Mr Macaroni leverage platforms like Instagram and Twitter to shape trends and promote brands

1.3.4 Social Media and Gambling Advertising

The rise of social media has revolutionised advertising strategies, allowing brands to reach highly targeted audiences through influencer marketing and digital promotions. In the gambling industry, sports betting companies have increasingly turned to social media platforms such as Instagram, Twitter, and YouTube to market their services. Studies show that social media advertising, particularly those featuring celebrities, enhances the perceived credibility and attractiveness of gambling platforms (Griffiths & Lopez-Gonzalez, 2020).

Research by Hsu et al. (2018) indicates that digital gambling advertisements often utilise persuasive tactics such as aspirational imagery, high reward promises, and endorsements from respected public figures. These strategies can significantly influence young audiences, making sports betting appear more socially acceptable and less risky. The interactive nature of social media further amplifies this effect, as users engage with betting content through likes, shares, and comments, fostering a sense of community around gambling activities.

1.3.5 Influence of Celebrity Endorsements on Gambling Attitudes

Celebrities and influencers play a significant role in shaping consumer behaviour and influencing purchasing decisions across various industries. Their endorsements create brand awareness, foster consumer trust, and enhance brand perception (De Veirman et al., 2017). In recent years, the sports betting industry has experienced tremendous growth, with more people engaging in online betting on various sporting events. To stand out in an increasingly competitive market, betting companies have turned to celebrity endorsements and influencer marketing to promote their services.

Internationally, major sports betting brands have engaged top athletes and public figures to legitimise and promote their platforms. For example, DraftKings partnered with NBA legend Michael Jordan, leveraging his global reputation to boost brand credibility and attract a broader audience (Jones, 2018). Similarly, Bet365 has utilised high-profile footballers such as Wayne Rooney in its advertising campaigns, reinforcing trust and appeal among sports enthusiasts. The rationale behind these partnerships lies in the credibility and aspirational appeal that celebrities bring, making sports betting appear more mainstream and socially acceptable (Lu et al., 2020). The rise of social media has further amplified this

trend, with influencers now serving as powerful brand ambassadors. With millions of followers across platforms such as Instagram, YouTube, and TikTok, influencers can engage directly with their audience, making advertisements feel organic and personal (Hsu et al., 2018).

In Nigeria, where football is a national passion, the sports betting industry has expanded significantly, driven by digital accessibility and increasing consumer interest. Betting companies such as Bet9ja, NairaBet, and SportyBet have capitalised on the influence of celebrities to promote their services. Former Super Eagles captain Jay-Jay Okocha has been a prominent ambassador for BetKing, using his legendary status to attract football fans. Similarly, Afrobeat superstar Davido has partnered with 1xBet, leveraging his massive social media following to engage young bettors (Akinola, 2021). Other celebrities such as Phyno, Kizz Daniel, and Zlatan Ibile have also endorsed sports betting brands, further normalising betting culture in Nigeria. The strategy is clear—by associating with trusted public figures, betting companies create an impression of legitimacy and reliability, making consumers more likely to engage with their platforms.

Influencers have also played a crucial role in this marketing approach. Social media personalities such as Tunde Ednut and Mr Macaroni have collaborated with betting platforms, using their online reach to push betting promotions and referral bonuses. Unlike traditional celebrities, influencers engage more directly with their followers, fostering a sense of community and trust (Freberg et al., 2011). This interactive approach makes sports betting advertisements feel less like direct marketing and more like friendly recommendations, increasing their effectiveness. Social media's ability to provide real-time engagement also means influencers can respond to queries, conduct live betting tutorials, and share personal betting experiences, further enhancing consumer trust (Hsu et al., 2018).

While the involvement of celebrities and influencers in sports betting advertising has contributed to the commercial success of the industry, concerns have emerged regarding its ethical implications. The widespread visibility of betting ads featuring high-profile figures increases the exposure of young and vulnerable individuals to gambling (Lopez-Gonzalez et al., 2020). In Nigeria, where unemployment and economic hardship have driven many young people toward betting as a source of income, the normalisation of gambling through celebrity endorsements has sparked debates on responsible

advertising and regulatory control (Omokri, 2024). Some critics argue that influencers and celebrities should be more selective about the brands they promote to avoid misleading their audiences. Furthermore, there are concerns about the authenticity of endorsements, as some celebrities may be driven primarily by financial incentives rather than a genuine belief in the betting platforms they promote (Djafarova & Rushworth, 2017).

The sports betting industry's increasing reliance on digital channels underscores the growing influence of celebrity and influencer marketing. While this trend presents unprecedented opportunities for brand promotion and user acquisition, it also highlights the need for ethical considerations and regulatory compliance to ensure consumer protection. Brands must prioritise transparency, responsible gambling messages, and alignment with ethical advertising practices to maintain public trust. As the industry continues to evolve, stakeholders must strike a balance between effective marketing strategies and social responsibility, ensuring that the excitement of sports betting does not overshadow the potential risks associated with gambling.

A study by Browne et al. (2019) found that young adults exposed to celebrity-endorsed betting advertisements were more likely to develop positive attitudes towards gambling and engage in betting activities. This effect is particularly pronounced among individuals who admire the endorsing celebrities and aspire to emulate their perceived success. The implications of such endorsements warrant critical examination, particularly regarding their potential to promote compulsive gambling behaviours.

1.3.6 Ethical and Social Concerns of Celebrity Betting Adverts

The ethical implications of celebrity-endorsed gambling advertisements have been widely debated. Critics argue that such promotions exploit the admiration that young audiences have for celebrities, encouraging risky financial decisions. Research by Lopez-Gonzalez et al. (2020) highlights concerns about the normalisation of gambling through social media advertising, which may lead to an increase in gambling-related harms such as addiction and financial distress.

In Nigeria, regulatory bodies such as the National Lottery Regulatory Commission (NLRC) have called for stricter guidelines on gambling advertisements, particularly those targeting young audiences. Some

researchers advocate for mandatory disclaimers, responsible gambling messages, and age restrictions on betting advertisements to mitigate their negative impact (Omokri, 2024). Ensuring ethical advertising practices is crucial in balancing commercial interests with consumer protection, particularly among impressionable youth populations.

1.3.7 Advertising Management Strategy

Advertising management strategy refers to the systematic planning, execution, and evaluation of advertising campaigns to achieve business objectives effectively. It involves selecting the appropriate media channels, messaging strategies, and promotional techniques to engage target audiences and maximise brand impact (Belch & Belch, 2021). Effective advertising management requires an understanding of consumer behaviour, market trends, and regulatory considerations to ensure ethical and persuasive communication (Kotler & Keller, 2020).

In the context of social media and celebrity endorsements, advertising management strategies leverage influential figures to enhance brand credibility and consumer trust (Erdogan, 2020). The sports betting industry has increasingly relied on such strategies, capitalising on the aspirational appeal of celebrities to normalise and legitimise gambling (Hing et al., 2020). However, while these strategies drive engagement, they also raise concerns about responsible marketing practices, particularly when targeting young audiences (Gainsbury et al., 2020). Research indicates that advertisements featuring celebrities tend to evoke stronger emotional responses and behavioural intentions among consumers, making them a powerful yet controversial tool in advertising management (Deans et al., 2020).

Given the ethical and social implications of celebrity-endorsed gambling advertisements, advertising management strategies in this domain must balance commercial objectives with consumer protection. Regulatory bodies and marketers must consider transparency, responsible messaging, and safeguards against misleading claims to ensure ethical advertising practices (Lopez-Gonzalez et al., 2020). This study aims to explore the effectiveness and impact of social media celebrity endorsements as an advertising management strategy in sports betting, particularly in shaping gambling attitudes among youths in Offa.

1.3.8 Theoretical Framework

1.3.8.1 Social Learning Theory (SLT)

Social Learning Theory (SLT), was propounded by Bandura in the 1960s. It highlights the role of observational learning and modelling in shaping behaviour (Bandura, 1977). The theory posits that individuals acquire new behaviours by observing others and assessing the consequences of their actions. The theory underscores that learning occurs within a social context, even in the absence of direct reinforcement that is where individuals are influenced by witnessing others being rewarded for specific behaviours. This theory has often been called a bridge between behaviourist learning theories and cognitive learning theories because it encompasses attention, memory, and motivation. (Muro & Jeffrey 2008). Extensive research has demonstrated the applicability of SLT across multiple domains, including advertising and media influence. In the context of this study, SLT suggests that youths may be influenced by celebrities featured in sports betting advertisements, particularly when these figures are portrayed as successful, glamorous, or socially esteemed. Through vicarious reinforcement, students may develop favourable attitudes towards gambling, perceiving it as a desirable or rewarding activity endorsed by admired personalities (Newman B.M. & P.R, 2007). The principles of SLT, especially vicarious reinforcement, are crucial in explaining how repeated exposure to these adverts can lead youths to associate sports betting with success and prestige. Over time, youths may internalise these messages and replicate gambling behaviours, believing they can achieve similar financial or social gains. Recognising the impact of media in shaping behaviour is essential for understanding contemporary gambling trends among youths.

3. Data Presentation

Table 1: Assessing the extent to which social media celebrity sports betting adverts influence youths’ likelihood of engaging in gambling.

Extent to which social media celebrity sports betting adverts influence undergraduates’ attitudes towards gambling	Frequency	Percentage
Celebrity advert influence my likelihood of participating in sport gambling		
SA	205	52.6
A	105	26.9
SD	26	6.7
D	54	13.8
Total	390	100%
(M=1.87, SD=1.111)		
My Confidence in placing sports bets is heightened by exposure to social media celebrity endorsements		
SA	200	51.3
A	100	47.9
SD	40	1.5
D	50	12.8
Total	390	100%
(M=1.85, SD=1.052)		
Social media sports betting adverts generate my curiosity to try sports gambling.		
SA	200	51.3
A	100	47.9

2. Methodology

This study adopted a quantitative research design to collect data from youths in Offa, Kwara State. A quantitative research approach involves the collection and analysis of numerical data to answer research questions objectively (Wilson, 2019). The survey method, which allows researchers to gather data from respondents through self-reported measures such as questionnaires, interviews, and observations, was employed to gain insights into their attitudes, behaviours, opinions, and perceptions of sports betting advertisements (Kumar, 2020).

According to the National Population Commission (NPC), the total youth population in Offa is estimated to be 88,975, forming the study's population. The sample size was drawn using the Taro Yamane formula, ensuring a 95% confidence level. The calculation is presented as follows:

$$N = N / (1 + N(e)^2)$$

Where: N = Sample size required N = Population size (88,975) e = Margin of error (0.05)

$$\text{Substituting: } N = 88,975 / (1 + 88,975(0.0025)) N = 88,975 / (1 + 222.44) N = 88,975 / 223.44 N \approx 390$$

Thus, a sample size of 398 was selected for this study. The purposive sampling technique was employed, targeting respondents who had knowledge and experience with sports betting and celebrity-endorsed advertisements. Questionnaires were used as the primary instrument for data collection. Data was analysed descriptively.

SD	50	12.8
D	40	1.5
Total	390	100%
(M=1.82, SD=1.011)		
The level of popularity of the celebrity used in the advert influences my decisions on sport betting		
SA	154	39.5
A	145	37.2
SD	52	13.3
D	39	10.0
Total	390	100%
(M=1.94, SD=0.963)		
How often the celebrity endorsement advert occurs raises my interest in gambling		
SA	200	51.3
A	150	38.5
SD	30	7.7
D	10	2.6
Total	390	100%
(M=1.62, SD=0.739)		

Source: Field work 2025

Note: 2 is the cut-off point between strongly agree and disagree on this table, M=Mean, SD; Standard Deviation.

Overall respondents show that social media celebrity sports betting advertisements have a moderate influence on youths' likelihood of engaging in gambling (M = 1.81, SD = 0.94). The highest agreement was recorded in the statement that celebrity adverts influence participation in sports gambling (M = 1.87, SD = 1.111), with over half (52.6%) of respondents strongly agreeing. Similarly, exposure to celebrity endorsements was found to heighten confidence in placing bets (M = 1.85, SD = 1.052) and generate curiosity to try sports gambling (M = 1.82, SD = 1.011).

Additionally, the level of celebrity popularity was reported to influence sports betting decisions (M = 1.94, SD = 0.963), suggesting that well-known figures play a role in shaping betting behaviour. Furthermore, the frequency of celebrity-endorsed adverts raised gambling interest among respondents (M = 1.62, SD = 0.739), indicating that repeated exposure reinforces engagement.

The overall implication is that social media celebrity endorsements have a measurable impact on youths' gambling attitudes, influencing both their likelihood of participation and perception of betting. These findings suggest that the persuasive power of celebrities in gambling advertisements requires ethical advertising measures to ensure responsible gambling behaviour among young audiences.

Table 2: Showing Ways Celebrity Sports Betting Adverts Shape Youths' Perceptions of Gambling

Ways celebrity sports betting adverts shape undergraduates' perceptions of gambling	Frequency	Percentage
Social media adverts for sports betting increase the likelihood of recommending sports gambling to others.		
SA	150	38.5
A	200	51.3
SD	0	10.3
D	40	5.1
Total	390	100%
(M=1.82, S.D=0.874)		
Celebrity sports betting advertisements make me believe that gambling is a fun and entertaining activity		
SA	100	47.9
A	130	33.3
SD	120	30.8
D	40	10.3
Total	390	100%
(M=2.26, S.D=0.954)		
celebrity endorsements in sports betting ads influence my view on the likelihood of winning when gambling		
SA	200	51.3
A	50	12.8
SD	10	2.6
D	130	33.3
Total	390	100%
(M=2.18, S.D=1.358)		
celebrity sports betting advertisements make me feel that gambling is a socially accepted activity among young adults		

SA	200	51.3
A	49	12.6
SD	100	47.9
D	41	10.5
Total	390	100%
(M=1.95, S.D=1.091)		
celebrity sports betting advertisements make gambling appear less risky		
SA	150	38.5
A	200	51.3
SD	10	2.6
D	30	7.7
Total	390	100%
(M=1.79, S.D=0.823)		

Source: Field work 2025

Note: 2 is the cut-off point between strongly agree and disagree on this table, M=Mean, SD; Standard Deviation

Overall respondents show that celebrity endorsement sport betting advert has an effect on their perception to gambling. (M=2, SD= 0.9, Min=1, Max=4). The implication of this is that adverts endorsed by celebrities changes the way youths perceive gambling. The highest agreement was recorded in the statement that social media betting adverts increase the likelihood of recommending gambling to others (M = 1.82, SD = 0.874), suggesting that exposure to such adverts influence peer discussions and referrals. Similarly, many respondents agreed that these adverts make gambling appear entertaining (M = 2.26, SD = 0.954) and socially acceptable among young adults (M = 1.95, SD = 1.091), indicating a shift in perception towards gambling as a normative activity. Additionally, the belief that celebrity endorsements increase optimism about winning (M = 2.18, SD = 1.358) suggests that such adverts may create unrealistic expectations.

A key implication is that celebrity-endorsed gambling advertisements contribute to the normalisation of gambling among youths, reinforcing perceptions of it as a low-risk, socially acceptable activity (M = 1.79, SD = 0.823). This highlights the need for ethical advertising practices and regulatory oversight to mitigate potential negative influences.

Table 3: Showing the ethical and social concerns associated with using celebrity endorsements as an advertising management strategy in sports betting

ethical and social concerns associated with celebrity-endorsed gambling adverts	Frequency	Percentage
Celebrity endorsements in sports betting advertisements contribute to the normalisation of gambling among young people		
SA	200	51.3
A	100	47.9
SD	60	15.4
D	30	7.7
Total	390	100%
(M=1.79, S.D=0.967)		
There should be stricter regulations on the use of celebrities in sports betting advertisements		
SA	80	20.5
A	120	30.8
SD	50	12.8
D	140	35.9
Total	390	100%
(M=2.64, S.D=1.167)		
The financial incentives for celebrities endorsing sports betting outweigh ethical considerations		
SA	200	51.3
A	100	47.9
SD	50	12.8
D	40	10.3
Total		
(M=1.82, S.D=1.011)		
Celebrity-endorsed sports betting advertisements should include clearer warnings about gambling addiction and financial risks		
SA	200	51.3
A	120	30.8
SD	50	12.8
D	20	5.1
Total	390	100%
(M=1.72, S.D=0.877)		
Celebrity endorsements make sports betting appear more socially acceptable than it should be		

SA	100	47.9
A	40	10.3
SD	100	47.9
D	150	38.5
Total	390	100%
(M=2.76, S.D=1.209)		

Source: Field work 2025

Note: 2 is the cut-off point between strongly agree and disagree on this table, M=Mean, SD; Standard Deviation

Respondents show that celebrity endorsement sport betting advert has an effect on ethical concerns (M=2.3, SD= 0.9, Min=1, Max=4). The implication of this is that socially most respondents do not believe people who gamble are at risk, however, they believe that stronger warning on the risks of gambling should be included in the celebrity endorsed adverts. The highest agreement was recorded in the statement that such endorsements contribute to the normalisation of gambling among young people (M = 1.79, SD = 0.967), indicating that these advertisements reinforce gambling as an accepted behaviour. Additionally, respondents largely agreed that the financial incentives for celebrities outweigh ethical considerations (M = 1.82, SD = 1.011), suggesting concerns about the motives behind these endorsements.

Despite this, opinions on the need for stricter regulations were divided, with a relatively high mean score (M = 2.64, SD = 1.167), indicating uncertainty or resistance towards tighter restrictions. However, there was strong agreement that celebrity-endorsed advertisements should include clearer warnings about gambling risks (M = 1.72, SD = 0.877), implying a preference for responsible advertising rather than outright restrictions.

A key implication is that while respondents acknowledge the ethical concerns of celebrity-endorsed gambling advertisements, they do not necessarily perceive gambling as highly risky. Instead, they favour enhanced ethical advertising measures, such as improved warnings, rather than strict regulatory interventions

4. Discussion of findings

Based on the objectives of this study, the findings indicate that social media celebrity-endorsed sports betting advertisements have a measurable influence on youths' engagement in gambling. With an overall mean score of M = 1.81 (SD = 0.94), the results suggest that while celebrity endorsements affect gambling behaviour, their influence remains moderate. This finding aligns with existing research that suggests celebrity endorsements are effective in shaping consumer attitudes but are influenced by factors such as personal beliefs, peer influence, and

prior exposure to gambling (De Veirman et al., 2017; Hsu et al., 2018). The implication is that while social media celebrity advertisements act as a catalyst for gambling engagement, other external influences also play a role (Djafarova & Rushworth, 2017).

Regarding the perception of gambling, the study finds that respondents acknowledge the role of celebrity endorsements in shaping attitudes towards gambling as a socially acceptable and financially rewarding activity (M = 2.26, SD = 0.954). This supports previous research indicating that celebrity endorsements often create aspirational associations with gambling, making it appear glamorous and risk-free (Lopez-Gonzalez et al., 2020). Furthermore, respondents reported that the frequency of celebrity-endorsed gambling advertisements heightened their interest in gambling (M = 1.62, SD = 0.739), reinforcing findings by Lu et al. (2020) that repeated exposure to betting promotions normalises gambling behaviours. This suggests that advertising management strategies leveraging celebrities are effective in shaping positive perceptions of gambling among young audiences.

In terms of ethical and social concerns, the study finds that respondents acknowledge the influence of celebrity endorsements but do not strongly associate gambling with risk (M = 2.64, SD = 1.167). This suggests that while celebrity endorsements contribute to the normalisation of gambling, they do not necessarily heighten risk awareness among young audiences. Previous studies indicate that repeated exposure to gambling adverts, particularly those endorsed by trusted public figures, can desensitise individuals to potential harms, leading to a more favourable perception of betting (Lopez-Gonzalez et al., 2020). However, respondents in this study indicate that stronger warnings on the risks of gambling should be incorporated into celebrity-endorsed advertisements (M = 1.72, SD = 0.877), aligning with arguments by Lu et al. (2020) that responsible advertising practices, such as risk disclaimers and age restrictions, are necessary to mitigate the social harms of gambling.

Additionally, the study reveals that celebrity-endorsed sports betting advertisements influence youths'

perceptions of gambling as a socially acceptable activity ($M = 1.95$, $SD = 1.091$). This finding supports existing research suggesting that the association of gambling with glamour, success, and social prestige often portrayed in celebrity endorsements can alter public perceptions, making gambling appear more mainstream (Hsu et al., 2018). Furthermore, Erdogan (1999) notes that the credibility and appeal of celebrities enhance the perceived legitimacy of a product, which may explain why respondents acknowledge a shift in their perception of gambling due to social media endorsements. The implication here is that while respondents do not entirely perceive gambling as inherently negative, the way it is presented by celebrities influences their attitudes toward participation

5. Conclusion

This study highlights the role of social media celebrity endorsements as an advertising management strategy in shaping youths' gambling behaviour in Offa. While the influence remains moderate, the findings suggest that celebrity endorsements contribute to the normalisation of gambling, reinforcing its social acceptability. However, respondents do not strongly associate gambling with risk, indicating the need for responsible advertising practices.

Given these findings, regulatory bodies and advertisers should prioritise ethical advertising strategies that incorporate clearer disclaimers and responsible gambling messages. Stronger awareness campaigns and age-specific content restrictions are essential to mitigate the potential risks of celebrity-endorsed gambling advertisements. Future research should examine long-term behavioural patterns among youths exposed to such endorsements, considering socioeconomic and psychological factors that may shape their responses.

6. Recommendations

Further studies should examine the long-term impact of repeated exposure to celebrity-endorsed gambling advertisements and how demographic factors such as gender, socioeconomic status, and religious beliefs moderate their influence. Additionally, research should explore how different advertising strategies such as aspirational messaging, humour, or responsible gambling disclaimers affect audience perceptions. Comparative studies between local and international sports betting adverts could provide insights into cultural influences on gambling attitudes. Finally, future research should assess the effectiveness of existing regulatory frameworks and whether stricter policies are needed to mitigate potential risks

associated with celebrity-endorsed gambling promotions.

References

- Abidin, C. (2016). Visibility labour: Engaging with influencers' fashion brands and #OOTD advertorial campaigns on Instagram. *Media International Australia*, 161(1), 86–100. <https://doi.org/10.1177/1329878X16665177>
- Akinola, A. (2021). The man who brought sports betting to Nigerian youths. *The Guardian Nigeria*. Retrieved from <https://guardian.ng/saturday-magazine/akin-alabi-the-man-who-brought-sports-betting-to-nigerian-youths/>
- Bandura, A. (1977). *Social learning theory*. Prentice-Hall.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall.
- Belch, G. E., & Belch, M. A. (2021). *Advertising and promotion: An integrated marketing communications perspective* (12th ed.). McGraw-Hill.
- Berridge, K. C., & Kringelbach, M. L. (2015). Pleasure systems in the brain. *Neuron*, 86(3), 646–664. <https://doi.org/10.1016/j.neuron.2015.02.018>
- Clark, L. (2020). Decision-making in gambling: An integration of cognitive and psychobiological approaches. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 365(1538), 319–330. <https://doi.org/10.1098/rstb.2009.0147>
- De Veirman, M., Cauberghe, V., & Hudders, L. (2017). Marketing through Instagram influencers: The impact of number of followers and product divergence on brand attitude. *International Journal of Advertising*, 36(5), 798–828. <https://doi.org/10.1080/02650487.2017.1348035>
- Deans, E. G., Thomas, S. L., Daube, M., & Derevensky, J. (2020). The role of peer influences on young people's gambling behaviour: A scoping review. *Journal of Behavioral Addictions*, 9(3), 487–501. <https://doi.org/10.1556/2006.2020.00048>
- Djafarova, E., & Rushworth, C. (2017). Exploring the credibility of online celebrities' Instagram profiles in influencing the purchase decisions of young female users. *Computers in Human Behavior*, 68, 1–7. <https://doi.org/10.1016/j.chb.2016.11.009>
- Erdogan, B. Z. (1999). Celebrity endorsement: A literature review. *Journal of Marketing*

- Management*, 15(4), 291–314.
<https://doi.org/10.1362/026725799784870379>
- Erdogan, B. Z. (2020). Celebrity endorsement: A literature review and future research directions. *Journal of Marketing Communications*, 26(6), 543–558.
<https://doi.org/10.1080/13527266.2020.1731672>
- Freberg, K., Graham, K., McGaughey, K., & Freberg, L. A. (2011). Who are the social media influencers? A study of public perceptions of personality. *Public Relations Review*, 37(1), 90–92.
<https://doi.org/10.1016/j.pubrev.2010.11.001>
- Gainsbury, S. M., Abarbanel, B., & Blaszczynski, A. (2020). Game on: Comparing self-reported and actual engagement with social media sports betting advertisements. *Journal of Gambling Studies*, 36(4), 1273–1294.
<https://doi.org/10.1007/s10899-019-09908-0>
- Garcia, J. R., Nelson, T. O., & Wilson, M. C. (2021). The role of celebrity endorsements in sports betting advertisements: Ethical and psychological concerns. *Journal of Consumer Psychology*, 31(2), 294–308.
<https://doi.org/10.1002/jcpy.1201>
- Gordon, R., Gurrieri, L., & Chapman, M. (2020). Broadening the parameters of gambling advertising: A review and research agenda. *Journal of Business Research*, 109, 11–23.
<https://doi.org/10.1016/j.jbusres.2019.10.017>
- Griffiths, M. D., & Lopez-Gonzalez, H. (2020). Gambling advertising and marketing across social media platforms: A growing concern. *International Journal of Mental Health and Addiction*, 18(3), 737–748.
<https://doi.org/10.1007/s11469-019-00102-2>
- Hing, N., Russell, A. M., Rockloff, M., Browne, M., & Rawat, V. (2020). Effects of wagering advertisements and inducements on gambling attitudes and intentions: A systematic review. *Journal of Gambling Studies*, 36(3), 715–739.
<https://doi.org/10.1007/s10899-019-09923-1>
- Hsu, C. L., Lin, J. C. C., & Chiang, H. S. (2018). The effects of blogger recommendations on customers' online shopping intentions. *Internet Research*, 28(3), 680–698.
<https://doi.org/10.1108/IntR-09-2016-0278>
- Jones, M. (2018). The impact of sports celebrity endorsements on brand credibility. *Journal of Sports Marketing*, 32(4), 564–579.
- Jones, M., & White, L. (2020). Advertising and the construction of risk: An exploration of gambling behavior. *Journal of Advertising Research*, 59(1), 45–57.
- Kotler, P., & Keller, K. L. (2020). *Marketing Management* (16th ed.). Pearson.
- Kumar, A. (2020). Influence of social media on consumer behavior. *International Journal of Marketing and Business Communication*, 8(2), 10–22.
- Lopez-Gonzalez, H., Estévez, A., & Griffiths, M. D. (2017). Controlling the illusion of control: A grounded theory approach to sports betting advertising. *Addiction Research & Theory*, 29(3), 205–215.
<https://doi.org/10.1080/16066359.2020.1802087>
- Lopez-Gonzalez, H., Estévez, A., & Griffiths, M. D. (2020). Controlling the illusion of control: A grounded theory approach to sports betting advertising. *Addiction Research & Theory*, 28(5), 403–413.
<https://doi.org/10.1080/16066359.2020.1802087>
- Lopez-Gonzalez, H., Griffiths, M. D., & Edwards, A. (2021). Gambling advertising and sports celebrities: Perceptions and influence on risky gambling behavior. *Journal of Gambling Studies*, 37(2), 345–364.
<https://doi.org/10.1007/s10899-020-09974-1>
- Lu, Y., Chang, S., & Wang, L. (2020). Celebrity endorsements in gambling advertising: Persuasion strategies and audience perceptions. *Journal of Consumer Behaviour*, 19(6), 561–576.
<https://doi.org/10.1002/cb.1869>
- Okeke, C. E., & Adejumo, A. A. (2022). Gambling, celebrity endorsements, and youth culture in Nigeria: A critical analysis. *African Journal of Communication*, 10(2), 45–67.
- Olaore, I. B., & Olusola, B. A. (2021). The impact of sports betting advertisements on Nigerian university students. *Nigerian Journal of Marketing*, 12(1), 89–108.
- Omokri, R. (2024). Reno Omokri calls for ban of Nigeria sports betting sites. *The Cable*. Retrieved from <https://www.thecable.ng/reno-omokri-calls-for-ban-of-nigeria-sports-betting-sites>
- Rojek, C. (2001). *Celebrity*. Reaktion Books.
- Skinner, B. F. (1953). *Science and human behavior*. Macmillan.
- Smith, A., & Johnson, M. (2018). Psychological mechanisms of gambling addiction: The role of reward pathways. *Addiction Research & Theory*, 26(4), 275–290.
<https://doi.org/10.1080/16066359.2018.1426842>
- Thomas, S. L., Pitt, H., Bestman, A., Randle, M., & Daube, M. (2021). Children's and parents' recall of sports betting advertisements: A descriptive study. *Journal of Public Health*,

43(2), 238–246.

<https://doi.org/10.1093/pubmed/fdaa224>

Turner, G. (2014). *Understanding Celebrity* (2nd ed.). SAGE Publications.

Wilson, J. (2016). *Research Methods in the Social Sciences*. Cambridge University Press.

Wilson, J. (2019). *Research Methods in the Social Sciences*. Cambridge University Press.



Female Genital Mutilation and Repressive Boundaries: Representations in Mabel Ekwierhoma's "The Cut Across"

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Abstract. Representation is one of the creative tools used in play text to interrogate or reinforce consciousness or awareness of certain nagging socio-cultural practices in society. In recent times, Female Genital Mutilation (FGM), a disturbing cultural practice in Nigeria, has received scant attention despite mounting global pressure to curb the devastating practice. Scant involvement of playwrights in the fight against FGM reduces the collective efforts towards the ill-disposed cultural practice in various parts of Nigeria. This paper examined Mabel Ekwierhoma's "The Cut Across" (2022) to reveal issues surrounding the practice of FGM with attention to its repressive effects and possible reasons for sustaining the tradition. The paper deployed textual analysis and Theatre for Development (TFD) as a conceptual frame of reference. The study arrived at the fact that FGM is practised in many communities because of ignorance, fear of speaking out or being banished from the community. Also, the custodians of many communities believe that FGM eliminates infidelity. However, the revealed complications, infections, barrenness, depression, sexual rigidity and death as consequences of FGM practices. The text also emphasised exposure and education as instruments that can help women fight injustices and injurious traditions. It was recommended that Theatre for Development should be considered as a viable platform for raising issues of social change, especially for rigid traditional practices such as FGM in Nigeria.

Keywords: Local Birth Attendants, Local Circumcisers, Theatre for Development, Ill-disposed cultural practice, Repressive trends, Drama therapy

1. Introduction

Female genital mutilation (FGM) is an ancient traditional practice recently come under intense criticism because of numerous negative effects on female children and women generally. Because of its negative tendencies, it has been abolished in different countries. In Nigeria, FGM is prohibited under the Violence against Persons (Prohibition) Act, 2015 (VAPP). Nigeria joined the African Charter on Human and Peoples' Rights, which advocates for the Rights of Women in Africa against FGM. Additionally, formal and informal programmes have been introduced at different times and levels to educate, enlighten, and create awareness about the dangers of continuing the depressive tradition. Despite these measures, numerous communities still practice it in Nigeria, perhaps because it takes time to eliminate harmful old traditions.

FGM, a raging menace, has necessitated scholarly interventions in recent times, leading to several plays dedicated to uncovering and addressing a plethora of issues. Notable among them are Juliana Okoh's "Edwede", Mabel Ekwierhoma's "The Cut Across", and Ayakoroma's "A Scar for Life", to mention but a few. This paper examined Mabel Ekwierhoma's "The Cut Across" (2022) by analysing the plot of the play to reveal issues surrounding the practice of FGM with attention on its repressive effects and possible reasons for sustaining the tradition. The paper deployed textual analysis and Theatre for Development (TFD) as a conceptual frame of reference.

2. Conceptual Clarification

Female genital mutilation is a global concern that requires concerted efforts towards eradication. In many instances, FGM is explained rather than defined

because it means different things to people in different contexts. However, the World Health Organisation (2023) defines it as the partial or entire removal of the external female genital organs. This removal is harmful to the female gender and carries several cultural reasons. One of such is to keep women committed and dedicated to their husbands to eradicate infidelity, which is seen as taboo in some communities in Nigeria. Omigbodun (2020) explains that among some ethnic groups in Nigeria, women have their labia minora, labia majora, and clitoris surgically removed, and their vulvae are closed except for a little opening that allows them to urinate and menstruate. UNICEF (2022) added that about 200 million women have undergone FGM across 30 countries, including Nigeria. Furthermore, in some communities in Nigeria, FGM is practised on girls at an infant age uphill puberty (UNICEF, 2022). According to Esther & Itunu (2019), it is performed within eight days after delivery, just like male circumcision. Carrying out FGM at the infant stage is to stop the excruciating pains and bleeding that often result in health complications. In similar circumstances, FGM is done shortly before marriage or shortly before a woman gives birth to a first child (Omigbodun, 2020).

The manner FGM is carried out in the local communities constitutes a major concern. Omigbodun (2020) explains that unsterilized sharp objects such as scissors, pieces of glass, old razor blades, and other objects are often used. The use of unsterilized sharp objects leaves room for infection and disease. He further noted that persons who carry out such illegal surgical operations are untrained and bereft of expertise. Such operators include: local birth attendants, circumcisers and herbalists (UNFPA, 2021),

Due to the dangers of this barbaric tradition, a multi-disciplinary approach has been used to address the practice of FGM. This has been done through the formation of legislative frameworks banning the practice, research, medical treatment of complications, sensitisation, mass mobilisation, and community action. However, these approaches yield few results in certain areas of the country for certain reasons. Firstly, FGM is rooted in traditions and religious beliefs, which makes it difficult to eradicate. Some communities strongly that it is responsible for eradicating infidelity (Amusan & Asekun Olarinmoye, 2008; Odo, Dibia, Nwagu, Umoke & Umoke, 2020). Secondly, since local circumcisers do not have alternative sources of income, they resist any attempts to discontinue the practice (UNFPA, 2021, p. 20). Thirdly, in many communities, mothers and aunts are the custodians of FGM (UNFPA, 2016). In such

communities, for a girl-child, married woman, or young mother to be recognised and integrated into the community, they must accept the tradition (Wogu, Amonyeze, Folorunsho & Aloh, 2019).

3. Conceptualising Theatre for Development (TFD)

Theatre, drama and society have always been inseparable (Abah, 2005). Playwrights and dramatists are members of society. They depict the realities of their societies. Therefore, theatre and drama mirror society. Moreover, theatre and drama engage the attention of people through a dramatic presentation of problems (Umenyilorah, 2014; Obot, 2019). Succinctly, theatre and drama enable the audience to see their problems in fresh and critical ways. Obuh (1993) explains that theatre is often used to create awareness about a menace. Again, this is possible because theatre is potent in presenting issues clearly and gaining acceptance from people with some ease, unlike other art forms (Obuh, 1993).

The above assertions form a strong impression about theatre as a social change and development agent. Importantly, the use of drama and theatre to bring about social change and to instigate well-being is known as Theatre for Development. Specifically, theatre and drama were deployed in the 90s, during the Mass Mobilisation for Economic Recovery and Social Justice (MAMSER). Theatre midwived the success of the programme by creating awareness, raising consciousness, and leading to behaviour change through edutainment.

4. Dramatic Representation: A Theatrical Device

Several devices enable drama or theatre to convey messages to the audience, but dramatic representation is pivotal here. Gallagher (2024) explains that dramatic representation is used by playwrights to provoke audience imagination, which helps them have a clearer picture of the situation under review. Dramatic representation implies mental images or pictures painted in the minds of the audience during performance or dramatic readings about an issue, person or thing. In this case, the dramatic representation is about FGM. Aesthetically, representation is a strong visualisation tool used in communicating images, or pictures, such as ideas, concepts, experience or action to be taken. A dramatic performance unfolds the imagination, which, in turn, stirs a critical reflection strong enough to cause a change of attitude (Obot, 2021). This quality creates a platform for TFD to express dramatic experience, especially participation. As Greene (2001) explains,

participation is crucial when there is a need for social or behavioural change in a society. This is even more essential when a dramatic text is carefully crafted and interpreted to give a contemporary meaning to an issue (Obot & Obasuyi, 2021).

5. “The Cut Across”: Plot Structure

Mabel Ekwierhoma’s *The Cut Across* is one of the creative masterpieces devoted to the issues of female circumcision or female genital mutilation (FGM). The drama is set in a rural community in the South-South region of Nigeria, revolving around the main character, Emu, a returnee from Europe, who personally took up the challenge of confronting this barbaric tradition and saving the women and girls of the community from the cruel blades of circumcision. The fight to stop the tradition met with stiff resistance from its proponents and the custodians of the culture. Emu’s mother faced threats for harbouring a child with such courage and disregard for the culture and traditions of her land. Despite the threats and disdain, Emu continued her campaign against FGM, and her plight was answered as the tradition was declared abolished.

Several issues surrounding FGM were revealed in the text, including the nature of the practice, reasons for its persistence, dangers to women who are cut or at risk of being cut, and the struggle for abolition. It is essential to note that the play highlighted a significant level of ignorance among women and girls who advocated for the continuation of female circumcision in the community. This was clearly shown in the play when Emu complained thus:

Emu: I am all alone and tired of this struggle against
My kith and kin. Or is it their struggles against me?
Why should acts like culture be undertaken
when the repercussions help one?
...apart from feeling amputated, I do not see any reason
why friends and family do not want to envision
tomorrow.
...the world has left this community behind.

In a struggle against tradition and culture, the journey is always tedious and lonely, but at the end of the day, the whole community benefits from a favourable outcome. From the text, Emu was not the only voice shouting against female circumcision. Others lent their voices, but with fear of the repercussions from the community leaders and elders.

From the play, one can easily decipher that the leaders and elders of the community supported the female actor unanimously. Based on this premise, any attempt

to paint the act in a bad light was to be strongly rejected and crushed to the ground. It was a no-go area because nothing was to change. As far as they were concerned, FGM was sacrosanct and unchangeable in the community. This was clearly illustrated in Act One, Scene 3, when Oni Emu told Emu, “There is no point setting the community on fire. Let us not keep people awake with the rat’s odour” (p. 13). Succinctly, Oni Emu was out rightly saying that to bring up the matter of female genital mutilation was as good as setting the community on fire. She created a picture of the crude practice as “rat’s odour”

The Eurocentric import of the text is worthy of note. The central character in the play (Emu) is a returnee from a country across the Atlantic in Europe, after spending several years. From this representation, it could be observed or argued that such an exposure gave her the impetus to pursue the campaign against the long-standing tradition against women and young girls.

Apart from the Emu, no character pioneered the revolt against the practice. There was general apathy towards querying the act, even women in the community found the practice harmful and awkward. The implication of the above picturisation is quite consequential to the general discourse on external motivations, especially for women’s liberation in Africa and Nigeria. The illustration here is that, as far as matters of genital mutilation are concerned, local voices are ignored or downplayed. The right weight, respect and audience may not be given to someone from the local community. Thus, to a large extent, the reason presented for attention and escalation was because the crusader, though with some external influence or colouration, was also a victim of the practice in the community.

Also, Emu’s exposure to Western civilisation helped to build her confidence and tactical approach in the fight against female circumcision in the community. The majority of women and girls in the community were uneducated and unexposed, and these contributed to the acceptance of the practice. It was as if no woman was able to see the dangers embedded in the practice. Commentaries from two female characters can be used to explain the above statement:

ANUCHE: Our forefathers did not listen to our Foremothers who cried about the devastation that cutting caused. Some of those who died from cutting were called evil children, witches, sorceress, amidst other negative cognomen... (p. 46)

In the same vein, Miyeri added:

How about those who survived the blade?
Many are proud wives and mothers today
There is dignity in that cutting because it
Removes the triggers of promiscuity (p. 47).

The above statements show that some female characters attach dignity to women who have been cut. They also agree that female circumcision can reduce sexual libido and, by so doing, address the nagging issue of promiscuity and infidelity. It was also made clear that women who died after cutting may have been plagued by evil spirits or witchcraft. This is trying to erase the fact that female circumcision can lead to death. All of these could be placed under the factor of brainwashing and ignorance. After several years of seeing female curcumin in this way, the arrival of Emu, from the white man's lands, could only bring about friction. This is known as ideological war, which must be won for social change (Epskamp, 2006; Iorapuu, 2009).

Again, because of the fear and the threat of being banished from the community, many women who understood the dangers of the tradition kept mute and suffered in silence. Courage was required to start a campaign, and that came from Emu, who had exposure to Western education and lifestyle. Her doggedness and determination came from outside and not from within. Emu's doggedness and determination of Emu in the campaign against FGM can be credited to her exposure to Western civilisation and education. Something that girl-child education can achieve in the long run. If a girl-child is given quality education, has her rights respected, with an equal playing field in the community or larger society, negative socio-cultural practices or anti-women traditional practices will eventually disappear in the African communities.

Unfortunately, most precarious traditional practices continue unabated because people of such communities are ignorant of what is happening in other cultures and societies. Emu brought facts and knowledge about female circumcision to her female friend and the entire community through her campaign. It therefore means that the availability of knowledge leads to a change in attitude. What several communities are experiencing presently is a fallout of knowledge availability. Custodians of customs and traditions consciously or unconsciously fight new knowledge instead of accepting it. When members of the society or community cannot interrogate traditional practices, they indirectly encourage tyranny, which cannot help a people grow and develop. Harmful practices are sustained by ignorance, ego and domineering tendencies.

This was represented when Potokiri said: "That is impossible. Traditions which our forefathers handed over to us cannot be faulted. Don't they see how faithful our women are?" To corroborate this assertion, Ose Vuoke stated that: "Yes, modernity has a lot of predicaments. Compare them with the women from across the forest who follow men at the snap of their fingers" the last statement by Ose Vuoke was to agree that women who are not circumcised tend to harbour stronger libido, and can flirt with other men and which was not accepted within the culture of the people. Perhaps, there is sense in believing that sustaining the old, long tradition of their forebears could bring about sanity in the society. However, continuing in a tradition that was more or less a violation of human rights was not a tradition that was worth keeping.

So, many have argued that it is not as though such practices are set to damage any member of society. The knowledge available at that time made it possible for a solution to be sought, which often resulted in several practices, some harmful to both male and female members of such communities. Arguably, the emergence of new knowledge is the order of the new world, known as the digital age. The emergence of new knowledge and ideas continually leads to daring changes in the practice of traditions and cultures in African societies. Instead of embracing change, we often find resistance. The play illustrates this scenario when the elders of the community stood up against Emu's idea to do away with female circumcision despite realising the dangers therein. This double standard can be linked to ego, self-centeredness, and entitlement mentality.

Furthermore, the play projected the use of repressive tendencies such as fear and intimidation as weapons for subverting possible attempts or opposition to female circumcision in the community. For instance, Oni Emu persuaded Emu, her daughter, to back down on the planned campaign against female circumcision for fear of sanctions against her from the community leaders. She pleaded thus: "I do not want your uncles to send me away under the pretext of taboo and inherit what your father left for me and your siblings" (p. 14). She added: "They will accuse me of instigating you against tradition (p. 15). Imagine how many women in the community who would have challenged the barbaric tradition, but because they are likely to be ostracised, they remain silent. Fear and intimidation are factors that deter people from challenging traditions and cultures.

The play also showcased the disadvantages of female circumcision. The words of Emu re-echo succinctly:

The world is amazed that we continue an act that maims women for life. ...the disfigured, barren and sick women whose lives the cutters have reshaped are at stake...there are infections and diseases transmitted by the unsterilized blades and they are dismissed by our people as common ailments”

In addition, Emu succinctly stated:

The world is amazed that we continue an act that maims women for life. The statistics on the dead, whose demise was blamed on household enemies or witches, he disfigured, barren and sick women whose lives the cutters have reshaped are at stake.

From the foregoing, the world cannot imagine that female circumcision is in practice, especially in the 21st century. A whole load of implications abound for women who are cut. The implications include: barrenness, sickness, death, and infections, which are irredeemable.

6. Use of Literary/dramatic devices

The play was able to deploy imagery, metaphor, and flashback as literary devices to paint a vivid mental picture of the scenes. A good example was the flashback of Owesuo, who went through the cutter’s blade and developed complications during childbirth. The whole picture of Owesuo being pushed in a wheelbarrow for miles across the forest and rivers to a reputable hospital on the outskirts of the village. The surreal flashback in act three, scene five (p. 54), paints a gory image of the ordeal that women go through.

Arguably, Ewrierhoma used simple language to express the subject matter. This simplicity allows readers from various backgrounds to comprehend the issues surrounding female genital mutilation, which is a social concern. The essence of simple language was perhaps deliberate to allow for easy comprehension. More so, the play deployed a plethora of literary devices that helped to create effects, such as: making a specific mood or rhythm, expressing a comparison interestingly, adding sensory depth to the text, creating vivid imagery, emphasising something, building suspense and highlighting the importance of an idea.

7. Conclusion

The study arrived at the postulations that FGM is practised in many communities as a result of ignorance, fear and allegiance to culture. Instinctively, the custodians of many communities believe that FGM eliminates infidelity and sexual immorality, which strengthens the family as the unit of society. However, the review further revealed complications, infections,

barrenness, depression, sexual rigidity and death as consequences of FGM practices. Emphasis was placed on education and exposure to modern civilisation as triggers to accentuate women’s fight against injustices and injurious traditions in Nigeria. Thus, it has been recommended that Theatre for Development (TFD) should be considered as a viable platform for raising issues of social change, especially for addressing rigid traditional practices such as FGM in Nigeria.

References

- Abah, S. O. (2005). *Performing Live: Case Studies*, In: *The Practice of Theatre for Development*. Lagos: Baraka Press and Publishers Limited.
- Abah, S.O. (2007). *Performing Life: Case Studies in the practice of theatre for Development*, Zaria, Tamaza publishers
- Adie, E. U. (2015). Exploring TFD for Behavioural Change Communication: The Example of the Clean Hand for Good Health Campaign. *Journal of Theatre and Media Studies*, Vol 1, No. 1, 2015, p. 14
- Amusan, O. A., & Asekun-Olarinmoye, E. O. (2008). Knowledge, beliefs, and attitudes to female genital mutilation (FGM) in Shao Community of Kwara State, Nigeria. *International Quarterly of Community Health Education*, 27(4), 337–349.
- Ayakoroama, B. F. (2006). *A scar for life*. Lagos: Mace Books.
- Ayakoroma, B. F. (2012), *Theatre Practice in Nigeria: To be or not to be? Being a Paper Delivered at the International Theatre Day (ITD) at the Cyprian Ekwensi Cultural Centre, Abuja-Nigeria*.
- Azuonwu, G., & Ezekiel, R. (2020). Female Genital Mutilation: A Dehumanising Practice against Womanhood in Nigeria. *International Journal of Research and Reports in Gynaecology*, 13–20.
- Chambers, R. (1994). *The Origins and Practice of Participatory Rural Appraisal*. *World Development*, 22 (7):953–969.
- Epskamp, K. (2006). *Theatre for development. An Introduction to Context, Applications & Training*. London and New York: Zed Books.
- Esther, T. J. and Itunu, O. D. (2019). The awareness and practice of female genital mutilation in Lagos State, Nigeria. DOI: https://doi.org/10.1101/2024.09.01.2431290_9
- Ewrierhoma, M. I. E (2022). *The Cut Across*. DynastyGold Impact Publishers. Abuja.
- Gallagher, K. M. (2024). The Aesthetics of Representation: Dramatic Texts and Dramatic Engagement. *The Journal of*

- Aesthetic Education*. DOI: 10.1353/jae.2005.0038
- Greene, M. (2001) *Variations on a Blue Guitar*. New York: Teachers College Press.
- Iorapuu, T. (2009). "MDGs in Search of Peoples Voice in Nigeria: Ensuring Peoples Engagement through participatory Theatre". Text of a paper presented at the 22nd Annual General Meeting of the Society of Nigerian Theatre Artists held at the University of Jos, 1st – 5th June 2009.
- Nwafor, F. (2019). Drama as a Tool for the Campaign against Female Genital Mutilation: Juliana Okoh's Edewede as a Paradigm. *International Multi-Disciplinary Journal Bahir Dar, Ethiopia AFRREV* Vol. 13 (1), DOI: <http://dx.doi.org/10.4314/afrev.v13i1.8>
- Obot, I. S. & Obasuyi, Y. O. (2021). Design and the Intricacies of Play Interpretation in a Rapidly Changing Technological Environment. *Journal of Language, Theatre and Literary Studies (JOLATALS)*. Vol 1 (2): pp. 125-138
- Obot, I. S. (2019). Between Mirroring and Tackling Anti-social Behaviours in Play Performances: A Review of John Illah and Reuben Embu's "Say What Say What Anything Can Happen" – *Tributaries – Journal of Theatre and Culture, Niger Delta University, Bayelsa*. Vol. 2(1):
- Obot, I. S. (2021). Feminist Playwrights and the Use of Language for Women's Empowerment in Irene Salami's *Sweet Revenge*. *Tributaries – Journal of Theatre and Culture, Niger Delta University, Bayelsa*. Vol. 3(1):
- Obuh, O.S. (1993). Drama as Instrument for Mass Mobilisation: A Critical Analysis of some MAMSER Drama Programmes in Nigeria, In: *Theatre and Politics in Nigeria*. Malomo and Gbilekaa (ed.) Ibadan: Caltop Publishers Ltd.
- Odo, A. N., Dibia, S. I. C., Nwagu, E. N., Umoke, M., & Umoke, P. C. I. (2020). Towards characterisation of Female Genital Mutilation (FGM) in rural Nigeria. *African Health Sciences*, 20(4), 1968–1978.
- Omigbodun, O., Bella-Awusah, T., Groleau, D., Abdulmalik, J., Emma Echiegu, N., Adedokun, B., & Omigbodun, A. (2020). Perceptions of the psychological experiences surrounding Female genital mutilation/cutting (FGM/C) among the Izzi in Southeast Nigeria. *Transcultural Psychiatry*, 57(1), 212-227.
- Umenyilorah, C. U. (2014). Theatre as a Tool for Development in Nigeria. *IOSR Journal of Humanities and Social Science (IOSR-JHSS)* Vol. 19(6). PP 34-40
- UN General Assembly. (2012). UN General Assembly adopts worldwide ban on female genital mutilation. <http://www.npwj.org/FGM/UN-General-Assembly-Adopts-Worldwide-Ban-Female-Genital-Mutilation.html>
- UNFPA (2021). Female Genital Mutilation in Nigeria. Situation Analysis.
- UNFPA. (2016). Sexual and Gender-Based Violence Assessment in North East Nigeria. https://reliefweb.int/sites/reliefweb.int/files/resources/sgbv_assessment.pdf
- Wogu, J. O., Amonyeze, C., Folorunsho, R. O. B., & Aloh, H. E. (2019). An Evaluation of the Impact of Media Campaign Against Female Genital Mutilation (FGM) in the Rural Communities of Enugu State, Nigeria. *Global Journal of Health Science*, 11(14)



The Role of Substance Abuse, Childhood Trauma, Peer Pressure, Poor Parental Monitoring and Social Media in Fueling Aggression among Delinquent Adolescents in Ibadan, Nigeria

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Abstract. Aggression among adolescents has become a pressing psychological and educational concern in Nigeria, particularly among students exhibiting delinquent behaviours in secondary schools. This study investigated the predictive roles of substance abuse, childhood trauma, peer pressure, poor parental monitoring, and social media usage on aggression among delinquent secondary school students in Ibadan, Oyo State. A descriptive survey design was adopted, and a total of 128 respondents were selected through a multistage sampling technique. Three local government areas Ibadan North, Ibadan South-West, and Ibadan North-East were randomly selected, with one purposively chosen secondary school from each. Participants were identified using documented cases of delinquent behaviour, and data were collected using standardised measures validated for local use. Data analysis involved Pearson Product Moment Correlation and Multiple Regression at a 0.05 level of significance. Findings revealed that all five independent variables had significant positive relationships with aggression, indicating that increases in any of these predictors were associated with heightened aggressive tendencies. The variables jointly predicted aggression significantly and accounted for a substantial proportion of the variance observed. Furthermore, substance abuse and childhood trauma emerged as the most potent individual predictors. These outcomes align with extant literature, both locally and globally, highlighting the psychosocial and environmental underpinnings of adolescent aggression. Ethical protocols including informed consent and confidentiality were strictly observed throughout the research. The study concludes that aggression among delinquent adolescents is significantly shaped by both individual and contextual factors, such as emotional trauma, peer influence, and poor familial control. It recommends holistic interventions that address these

psychosocial domains, including school-based counselling, parent-focused education, and substance use prevention programmes. The study acknowledges limitations such as its focus on a single city and reliance on self-reported data. Further studies are encouraged to explore longitudinal outcomes and intervention effectiveness across diverse Nigerian regions.

Keywords: Aggression, substance abuse, childhood trauma, peer pressure, parental monitoring, social media usage, delinquency.

1. Introduction

Aggression among adolescents is a growing global concern, particularly in Western societies where factors such as substance abuse, childhood trauma, and digital media exposure are frequently implicated. In the United States and the United Kingdom, for instance, research indicates that unresolved childhood trauma and peer influence are significant predictors of adolescent violence and school delinquency (Thornberry et al., 2021; Smith & Sandhu, 2022). Moreover, youth engagement in social media platforms has been shown to heighten exposure to cyber aggression, contributing to behavioural maladjustments (Jones et al., 2023). Substance abuse, particularly cannabis and alcohol, is also highly prevalent among Western adolescents and is closely associated with aggressive tendencies (Wills & Sargent, 2021). These findings underscore the universality of adolescent aggression and the importance of early psychosocial intervention across contexts.

Turning to Africa, similar concerns have been raised about the escalating prevalence of aggressive behaviours among adolescents, especially in

urbanising regions. Studies have revealed that the impact of colonial legacies, economic hardship, and weak familial structures are compounding the risk factors associated with youth aggression (Adelekan et al., 2021). In urban centres like Johannesburg and Nairobi, youth delinquency is significantly associated with early trauma, substance use, and poor parental guidance (Mwangi & Ncube, 2023). African adolescents, like their Western counterparts, are also increasingly exposed to social media, which amplifies peer-related aggression and identity confusion. These regional dynamics necessitate further investigation into the psychosocial underpinnings of aggression among African adolescents, particularly in understudied contexts.

Within Sub-Saharan Africa, countries such as Ghana, Kenya, and Nigeria have recorded an upsurge in youth violence, juvenile delinquency, and school-related aggression. Scholars have attributed these trends to increasing urban poverty, domestic violence, weak educational structures, and substance availability (Akinmoladun et al., 2022). The sociocultural environment often fails to provide adolescents with coping tools to manage stress, emotional pain, or peer rejection, all of which are risk factors for aggression. Recent studies suggest that childhood trauma, when untreated, becomes a silent driver of aggression and substance misuse among youths in Sub-Saharan African cities (Omopo et al., 2024; Ogunbowale et al., 2025). This creates a strong basis for exploring culturally relevant predictors of aggression within specific regions of the continent.

In Nigeria, adolescent aggression has become a serious mental health and criminological issue. Studies in Lagos and Ibadan have identified childhood trauma, peer pressure, and social marginalisation as significant contributors to aggressive behaviours among adolescents (Offor & Omopo, 2025; Omopo et al., 2024). Substance abuse is also pervasive among Nigerian adolescents, with many reporting early exposure to drugs and tobacco due to poor parental supervision (Omopo & Odedokun, 2024). The psychosocial consequences of trauma and substance dependency among adolescents have also been documented in correctional settings, where cognitive and behavioural therapies are increasingly used to manage violent tendencies (Omopo & Odedokun, 2024). However, much of the existing literature has focused on adult populations or incarcerated individuals, leaving a gap in school-based adolescent research.

In Southwestern Nigeria, and particularly in Ibadan, the challenge of adolescent aggression is compounded

by socio-economic disparities, inadequate school counselling services, and parental neglect. Studies from Ibadan show that adverse childhood experiences and peer dynamics strongly predict violent tendencies and truancy among secondary school students (Ogunbowale et al., 2025). Omopo et al. (2024) found that both trauma and peer pressure significantly increased the likelihood of substance abuse among psychiatric adolescents in Ibadan. Additionally, emerging data points to the role of social media usage in escalating verbal and physical aggression, particularly when adolescents engage with violent or provocative content (Ajayi et al., 2021). Despite these findings, integrated studies examining multiple psychosocial predictors of aggression within school settings in Ibadan remain scarce, calling for focused local research.

Substance abuse is one of the most potent predictors of adolescent aggression. Neuropsychological studies show that drug and alcohol use compromise executive functioning, impulse control, and decision-making, making adolescents more prone to aggressive responses (Olawale et al., 2021). In Ibadan, Omopo and Odedokun (2024) reported that substance use among young people is often linked to peer reinforcement, emotional distress, and lack of parental regulation. Moreover, findings from Omopo et al. (2024) suggest a strong comorbidity between trauma and substance dependency among adolescents in psychiatric care, further reinforcing the relationship between these variables and aggression.

Childhood trauma, particularly physical, sexual, or emotional abuse, has been well established as a predictor of aggressive behaviour. Unresolved trauma often manifests in externalising behaviours, including aggression and hostility towards peers or authority figures (Afolabi et al., 2022). Offor, Ogunbowale, and Omopo (2025) explored the drivers of childhood sexual trauma among incarcerated individuals, linking it to later antisocial behaviour. Similarly, Offor and Omopo (2025) demonstrated that trauma-focused interventions significantly improved emotional regulation in women with childhood abuse histories. These findings highlight the need to understand trauma as a precursor to aggression in adolescents, especially in Ibadan where trauma exposure is relatively high.

Peer pressure is a critical socio-environmental factor influencing adolescent aggression. In their study, Omopo (2024) found that peer groups significantly shape substance abuse patterns, social rebellion, and violence among correctional inmates, many of whom had histories of school truancy and aggression. Aluko

et al. (2021) also argued that peer norms play a defining role in reinforcing aggressive behaviours in school contexts. The need for social belonging and acceptance often drives adolescents to adopt harmful behaviours, especially in the absence of strong parental or institutional guidance. Thus, peer influence remains a vital factor in understanding aggression among secondary school students in Ibadan.

Poor parental monitoring has long been associated with behavioural problems in adolescents. In urban environments like Ibadan, parents often struggle with economic burdens, leaving adolescents unsupervised and emotionally neglected (Ogunwale et al., 2021). Omopo and Odedokun (2024) highlighted that lack of parental supervision contributed significantly to early substance experimentation and violent conduct. Moreover, emotional detachment from caregivers often leads adolescents to seek validation from deviant peer groups, increasing their susceptibility to aggression. Hence, poor parental monitoring must be considered a central predictor in this study.

Finally, social media usage has been implicated in the rise of aggressive behaviours among adolescents. The digital environment offers access to violent content, online peer conflicts, and virtual reinforcement of aggressive acts (Ajayi et al., 2021). In Ibadan, increasing smartphone penetration and unregulated media exposure have exposed secondary school students to toxic online environments. This virtual aggression often spills into physical spaces, especially among delinquent youths already vulnerable due to trauma or poor home environments (Omopo, 2024). As such, social media usage is an essential predictor in contemporary studies of youth aggression.

While extensive literature exists on substance abuse, trauma, peer pressure, and parental influence, few studies have integrated these factors with social media usage to predict aggression among secondary school students in Ibadan. Most available studies either focus on adult or clinical populations, neglecting the unique psychosocial dynamics within school environments. This presents a crucial research gap. Therefore, the present study aims to examine how substance abuse, childhood trauma, peer pressure, poor parental monitoring, and social media usage jointly predict aggression among delinquent secondary school students in Ibadan, with the goal of informing preventive and therapeutic interventions.

1.1 Purpose and Objectives

This study is designed to examine how substance abuse, childhood trauma, peer pressure, poor parental

monitoring, and social media usage collectively determine aggression among delinquent secondary school students in Ibadan, Oyo State, Nigeria. The research aims to explore the psychological and environmental risk factors that influence the aggressive behaviours of adolescents who are already considered delinquent, thereby providing evidence-based insight for behavioural intervention and policy redirection.

To achieve the purpose of this study, the following objectives were itemised:

- Determined the relationship between substance abuse, childhood trauma, peer pressure, poor parental monitoring, social media usage, and aggression among delinquent secondary school students in Ibadan, Oyo State, Nigeria.
- Ascertained the joint contribution of substance abuse, childhood trauma, peer pressure, poor parental monitoring, and social media usage on aggression among delinquent secondary school students in Ibadan, Oyo State, Nigeria.
- Found out the relative contribution of substance abuse, childhood trauma, peer pressure, poor parental monitoring, and social media usage on aggression among delinquent secondary school students in Ibadan, Oyo State, Nigeria.

1.2 Hypotheses

The following hypotheses were tested at 0.05 level of significance:

- There is no significant relationship between substance abuse, childhood trauma, peer pressure, poor parental monitoring, social media usage, and aggression among delinquent secondary school students in Ibadan, Oyo State, Nigeria.
- There is no significant joint contribution of substance abuse, childhood trauma, peer pressure, poor parental monitoring, and social media usage on aggression among delinquent secondary school students in Ibadan, Oyo State, Nigeria.
- There is no significant relative contribution of substance abuse, childhood trauma, peer pressure, poor parental monitoring, and social media usage on aggression among delinquent secondary school students in Ibadan, Oyo State, Nigeria.

2. Research Methodology

This study adopted a descriptive survey design to examine the predictive influence of substance abuse, childhood trauma, peer pressure, poor parental monitoring, and social media usage on aggression among delinquent secondary school students in Ibadan, Oyo State, Nigeria. A multistage sampling technique was used. First, three local government areas: Ibadan North, Ibadan South-West, and Ibadan North-East were randomly selected from the eleven LGAs within Ibadan metropolis. In the second stage, one public secondary school was purposively selected from each chosen LGA based on documented evidence of student delinquency such as records of suspension, bullying, truancy, or substance use. This purposive selection of schools was essential to ensure access to a population exhibiting behavioural traits consistent with delinquency, which aligns with the study's focus. A total of 128 delinquent students were selected using purposive sampling, relying on existing behavioural records, reports from school counsellors, and teacher referrals.

To collect data, standardised instruments with established reliability and validity were utilised. Aggression was assessed using the Buss-Perry Aggression Questionnaire (BPAQ), childhood trauma via the Adverse Childhood Experiences Questionnaire (ACE-Q), substance abuse using the Drug Use Disorders Identification Test (DUDIT), peer pressure through the Peer Pressure Inventory (PPI), poor parental monitoring with the Parental Monitoring Scale (PMS), and social media usage using the Social Media Addiction Scale for Adolescents (SMASA). All instruments were locally pretested for usability and appropriateness among a similar population within Ibadan and confirmed reliable. Ethical approval was obtained from the relevant Education Research Ethics Committee, while informed consent was secured from both students and their parents. The purpose of the research was explained, and confidentiality and the right to withdraw were assured. Data collection took place within school premises with assistance from trained research aides. Data were analysed using the Pearson Product Moment Correlation (PPMC) to determine variable relationships and Multiple Regression Analysis to examine the joint and relative contributions of the predictors on aggression.

3. Results and Discussion

3.1 Demographic Representation of Respondents

The demographic representations of the participants are displayed in Table 1

Table 1: Demographic Characteristics of Respondents (N = 128)

Variable	Category	Frequency (f)	Percentage (%)
Gender	Male	76	59.4
	Female	52	40.6
Age Group	12–14 years	38	29.7
	15–17 years	69	53.9
	18–19 years	21	16.4
Class Level	Junior Secondary (JSS)	49	38.3
	Senior Secondary (SSS)	79	61.7
LGA of School	Ibadan North	44	34.4
	Ibadan South-West	43	33.6
	Ibadan North-East	41	32.0

Table 1 presents the demographic characteristics of the 128 secondary school students who participated in the study. The gender distribution reveals that 59.4% (n = 76) of the respondents were male, while 40.6% (n = 52) were female, indicating a higher representation of males in the sample. In terms of age, the majority of respondents (53.9%) were between 15 and 17 years, followed by 29.7% in the 12–14 age group, and 16.4% aged between 18 and 19. Regarding class level, 61.7% of the students were in senior secondary school (SSS), while 38.3% were in junior secondary school (JSS), suggesting that behavioural concerns may intensify with educational level. The local government area distribution was fairly even: 34.4% of participants were from Ibadan North, 33.6% from Ibadan South-West, and 32.0% from Ibadan North-East. This balance supports the generalisability of findings across the sampled LGAs in Ibadan.

3.2 Hypotheses Testing

Hypothesis One: There is no significant relationship between substance abuse, childhood trauma, peer pressure, poor parental monitoring, social media usage, and aggression among delinquent secondary school students in Ibadan, Oyo State, Nigeria.

Table 2: Pearson Product-Moment Correlation Matrix of Independent Variables and Aggression (N = 128)

Variables	1	2	3	4	5	6
1. Aggression	1					
2. Substance Abuse	.513**	1				
3. Childhood Trauma	.481**	.465**	1			
4. Peer Pressure	.459**	.428**	.406**	1		
5. Poor Parental Monitoring	.473**	.394**	.421**	.410**	1	
6. Social Media Usage	.437**	.390**	.378**	.355**	.376**	1

Note: $p < .05$

Table 2 reveals that all the independent variables – substance abuse ($r = .513$), childhood trauma ($r = .481$), peer pressure ($r = .459$), poor parental monitoring ($r = .473$), and social media usage ($r = .437$) – are significantly and positively correlated with aggression among delinquent secondary school students in Ibadan at $p < .05$. These results indicate that as the levels of these variables increase, so does the level of aggression. Therefore, the null hypothesis is rejected, suggesting that there is a significant relationship between the independent variables and aggression.

The findings from this study established that substance abuse has a strong positive association with aggression among delinquent secondary school students in Ibadan. This indicates that students who engage more frequently in substance use also tend to display higher levels of aggressive behaviour. This outcome is not surprising, as substances such as cannabis, alcohol, and other psychoactive drugs are known to impair cognitive regulation and increase impulsivity. Aggression is often a behavioural outcome of substance-induced disinhibition and poor emotional control. Adolescents dealing with substance dependency may also struggle with frustration tolerance and are more likely to react violently under stress. This is particularly common in socio-economically challenged urban areas where access to rehabilitation is limited. Previous research by Osho and Adelaja (2022) corroborated this view by identifying a strong link between substance use and violent tendencies among adolescents in Oyo State. These results point to the need for early intervention in addressing substance abuse as a precursor to aggression in school environments.

Additionally, the study revealed that childhood trauma significantly relates to the display of aggressive behaviour among the sampled adolescents. The exposure to traumatic experiences during formative

years such as physical abuse, neglect, or witnessing domestic violence can profoundly disrupt emotional development. Such experiences often leave lasting psychological scars that manifest in anger, hostility, and aggressive reactions in adolescence. Children with unresolved trauma may view the world as unsafe, triggering hypervigilant or confrontational responses to perceived threats. The outcomes of this study affirm the conclusions of Nwankwo, Ezeani, and Udeh (2021), who found that early adversity contributes to externalising behaviours like aggression. Likewise, Ajayi and Alabi (2023) observed that adolescents with trauma histories frequently display low frustration tolerance. This affirms the importance of trauma-informed approaches in behavioural interventions for delinquent youth.

Peer pressure also emerged as a significant factor influencing aggression among the adolescents studied. Adolescents are developmentally inclined to seek acceptance within peer groups, often at the cost of personal values or norms. In peer contexts where aggression is normalised or rewarded, adolescents may adopt violent behaviour as a means of gaining approval. This finding aligns with the social learning perspective, which asserts that behaviours are learned through observation and imitation of others. Obot and Ibanga (2021) documented that peer-influenced aggression among Nigerian adolescents is often linked to identity formation and the search for status within group dynamics. In school settings, students who associate with delinquent peers are more likely to model such behaviours. These results highlight the need for structured peer mentoring and positive group involvement for adolescents prone to aggression.

Poor parental monitoring was also found to contribute significantly to aggressive behaviour in the adolescents sampled. Lack of supervision and weak parental involvement often create opportunities for adolescents to engage in risk-taking behaviours. When parents fail to set clear boundaries or maintain

consistent discipline, adolescents may internalise a sense of permissiveness towards aggression. Moreover, in homes where communication is limited or strained, children may lack the emotional vocabulary to express distress appropriately. Eze and Okonkwo (2022) similarly noted that adolescents from poorly monitored households often display increased externalising behaviours, including aggression and rule-breaking. In contrast, consistent parental engagement has been found to buffer adolescents against peer and environmental risk factors. Hence, promoting effective parenting practices is crucial in mitigating adolescent aggression.

Social media usage was another notable factor positively linked with aggression among delinquent students. Exposure to violent content, cyberbullying, and the glorification of hostile interactions on social media platforms may normalise aggression. Adolescents who spend prolonged time online may also experience reduced face-to-face empathy and social restraint. According to Adeyemi and Popoola (2021), excessive use of social media can desensitise adolescents to violence, lowering their threshold for aggression in real-life interactions. Moreover, the anonymity offered by digital platforms can embolden users to express anger in extreme ways. These patterns can spill into offline behaviours, especially for emotionally vulnerable adolescents. Therefore, media literacy and digital wellbeing interventions are needed to combat this emerging risk factor.

Together, the findings suggest that all five predictors – substance abuse, childhood trauma, peer pressure, poor parental monitoring, and social media usage – significantly influence the aggressive behaviour of adolescents in Ibadan. This outcome underscores the multifaceted nature of adolescent aggression and points to the need for integrated interventions. While each factor contributes uniquely to the development of aggressive tendencies, their combined effect creates a more complex behavioural profile. The study thus supports the ecological model of human development, which emphasises the interaction of individual,

relational, and environmental factors. Addressing aggression in adolescents therefore requires a holistic, systemic approach involving schools, families, peer networks, and broader social contexts.

Furthermore, these findings echo the conclusions drawn by Omopo and colleagues in their recent investigations into adolescent risk behaviour in Nigeria. For instance, Omopo, Offor, and Ogunbowale (2024) established a clear link between childhood trauma and substance use, which indirectly fostered aggression among psychiatric patients in Ibadan. Similarly, the findings align with Offor and Omopo’s (2025) study on the residual psychological impact of trauma and its behavioural manifestations. These consistent patterns across multiple studies point to the enduring influence of early and ongoing psychosocial stressors in shaping adolescent conduct. Thus, targeted psychosocial support should be a policy and clinical priority in educational and juvenile justice systems.

Finally, the rejection of the null hypothesis in this study confirms that there is a significant relationship between the five psychosocial predictors and aggression. The findings reinforce the argument that adolescent aggression cannot be addressed in isolation of broader psychosocial determinants. Counsellors, educators, and clinicians must work collaboratively to identify at-risk youth and intervene early. Preventive programmes should integrate trauma therapy, peer influence awareness, substance abuse education, parental involvement initiatives, and digital behaviour monitoring. By targeting these areas, it may be possible to significantly reduce the incidence of aggression and promote positive behavioural outcomes for young people in Ibadan and similar contexts.

Hypothesis Two: There is no significant joint contribution of substance abuse, childhood trauma, peer pressure, poor parental monitoring, and social media usage on aggression among delinquent secondary school students in Ibadan, Oyo State, Nigeria.

Table 3: Multiple Regression Summary on Joint Contribution of IVs to Aggression

Model	R	R ²	Adjusted R ²	Std. Error	F	Sig.
Regression	.684	.468	.445	5.192	20.213	.000**

p < .05

Table 3 shows that the combination of substance abuse, childhood trauma, peer pressure, poor parental monitoring, and social media usage jointly predicted aggression significantly ($F(5,122) = 20.213, p < .05$). The model accounted for 46.8% ($R^2 = .468$) of the variance in aggression, with an adjusted R^2 of .445.

This substantial joint prediction suggests that the selected predictors collectively contribute to the aggressive behaviour of delinquent students. Hence, the null hypothesis of no significant joint contribution is rejected.

The results of this study revealed that substance abuse, childhood trauma, peer pressure, poor parental monitoring, and social media usage jointly contribute to aggressive behaviours among delinquent secondary school students in Ibadan. This finding suggests that adolescent aggression is not triggered by a single factor, but by the complex interplay of multiple psychosocial variables. It confirms the ecological perspective that behaviour is influenced by both personal experiences and social contexts. The joint contribution also implies that interventions aimed at curbing aggression must take a multifactorial approach, addressing emotional trauma, peer influence, digital exposure, and family dynamics. Previous research by Omopo, Offor, and Ogunbowale (2024) similarly emphasised the cumulative effects of risk factors on adolescent behavioural problems. Their study advocated for integrative programmes that address not only behavioural symptoms but also underlying psychological and social causes. As such, managing aggression effectively requires strategic collaboration among schools, families, and mental health professionals.

This study's finding supports Ajayi and Alabi (2023), who argued that psychosocial stressors often interact

to overwhelm adolescents' coping mechanisms, resulting in antisocial behaviour. The collective significance of the predictors in this study demonstrates that no single factor can sufficiently explain the aggressive tendencies observed in delinquent students. Instead, their behaviours stem from an accumulation of personal vulnerabilities and environmental deficits. Schools that hope to reduce aggression must therefore implement early interventions that assess multiple risk domains. These may include trauma-informed care, digital media education, peer-led mentoring, and parental involvement initiatives. By addressing the predictors simultaneously, there is a higher likelihood of long-term behavioural improvement. Overall, the joint prediction of aggression reinforces the importance of comprehensive psychosocial support systems in schools, especially in urban contexts where these risk factors are prevalent.

Hypothesis Three: There is no significant relative contribution of substance abuse, childhood trauma, peer pressure, poor parental monitoring, and social media usage on aggression among delinquent secondary school students in Ibadan, Oyo State, Nigeria.

Table 4: Relative Contribution of Independent Variables to Aggression

Predictor Variables	Unstandardised B	Std. Error	Beta (β)	t	Sig.
Substance Abuse	1.173	0.293	.352	4.003	.000**
Childhood Trauma	0.987	0.275	.304	3.589	.001**
Peer Pressure	0.775	0.267	.278	2.903	.004**
Poor Parental Monitoring	0.654	0.241	.245	2.714	.008**
Social Media Usage	0.482	0.226	.219	2.133	.035*

**p < .05, *p < .05

As shown in Table 4, all five predictors made significant relative contributions to aggression among the respondents. Substance abuse ($\beta = .352, p < .001$) made the strongest contribution, followed by childhood trauma ($\beta = .304, p < .001$), peer pressure ($\beta = .278, p < .05$), poor parental monitoring ($\beta = .245, p < .05$), and social media usage ($\beta = .219, p < .05$). These findings indicate that while all variables significantly predict aggression independently, substance abuse and childhood trauma are the most potent contributors. The null hypothesis is therefore rejected, affirming the significance of each predictor.

The analysis showed that each of the five psychosocial predictors independently influenced aggression among delinquent secondary school students in Ibadan. Substance abuse emerged as the most influential factor, suggesting that students who engage in drug or alcohol use are more prone to impulsive and violent behaviours. This finding aligns with the study by Omopo and Odedokun (2024), who reported that

substance dependence among correctional inmates significantly heightened their aggressive tendencies. Childhood trauma also played a strong predictive role, indicating that unresolved early-life adversities contribute meaningfully to aggression. The result reinforces earlier evidence from Offor and Omopo (2025), which showed that traumatic childhood experiences impair emotional regulation and relational stability. These results highlight the need for trauma-informed and substance-focused interventions in school counselling units.

Peer pressure, poor parental monitoring, and social media usage also significantly predicted aggression, though to a lesser extent. This implies that students who are heavily influenced by their peers, lack structured parental supervision, or are overexposed to social media are at risk of developing aggressive dispositions. Omopo, Offor, and Ilori (2024) previously demonstrated that such social risk factors often act as gateways for externalising behaviours.

Similarly, Ogunbowale et al. (2025) found that ineffective parental guidance and poor digital habits were linked to emotional dysregulation among adolescents in Ibadan. The independent contribution of all variables supports the multifactorial nature of aggression, underscoring the importance of comprehensive preventive frameworks. Schools, families, and community stakeholders must collaborate to identify and manage these risk factors early to reduce the prevalence of aggression in educational settings.

4. Conclusion

This study investigated the predictive roles of substance abuse, childhood trauma, peer pressure, poor parental monitoring, and social media usage on aggression among delinquent secondary school students in Ibadan, Oyo State. The findings revealed that all the predictors had significant positive relationships with aggression and also jointly and relatively predicted the aggressive behaviours of the students. Substance abuse and childhood trauma emerged as the strongest contributors, highlighting the enduring psychological impact of early adverse experiences and maladaptive coping behaviours. These results reinforce the importance of psychosocial factors in shaping adolescent behaviour and underscore the need for targeted intervention strategies that address these key areas in schools, families, and communities.

4.1 Limitations

Despite the relevance of the findings, the study is not without limitations. The use of a purposive sampling technique in selecting schools limits the generalisability of the results to other populations or regions. The cross-sectional design also restricts the ability to establish causal relationships between the predictors and aggression. Self-report instruments were used to gather data, which may be subject to social desirability bias or underreporting by participants. Additionally, the study focused solely on students identified as delinquent, which may exclude other at-risk individuals whose behaviours have not yet been formally recognised or documented by the school authorities.

4.2 Recommendations

Based on the findings, it is recommended that school counsellors and psychologists implement early intervention programmes targeting substance abuse and childhood trauma among students. Parents should be actively involved in monitoring their children's

activities and be educated on positive parenting practices. Schools should organise peer mentoring and digital literacy campaigns to mitigate the influence of peer pressure and social media exposure. Stakeholders in education and mental health should collaborate to establish trauma-informed care policies, rehabilitation frameworks, and youth support groups that can address the psychosocial vulnerabilities linked to aggression in school settings.

4.3 Suggestions for Further Studies

Future research should consider expanding the sample to include a broader population across different geographical zones in Nigeria to enhance generalisability. Longitudinal studies are needed to track changes in aggression and its predictors over time to better establish causal links. Further investigations can explore the mediating roles of emotional regulation or self-esteem in the relationship between childhood trauma and aggression. Researchers may also consider using qualitative methods such as interviews or focus groups to gain deeper insights into the lived experiences of adolescents dealing with multiple psychosocial stressors. Such approaches will enrich the understanding of aggression and improve intervention designs.

References

- Adelekan, M. L., Olorunfemi, K. O., & Adeoye, A. T. (2021). Post-colonial legacies and youth aggression in West Africa: The interplay of family and community structures. *African Journal of Adolescent Psychology, 13*(2), 87–102.
- Adeyemi, K. A., & Popoola, B. A. (2021). Social media exposure and aggression among adolescents: The moderating role of empathy. *African Journal of Psychological Studies, 13*(2), 105–118.
- Ajayi, O. M., & Alabi, T. O. (2023). Childhood trauma and aggressive behaviour among in-school adolescents in Nigeria: The mediating role of emotion regulation. *Nigerian Journal of Clinical Psychology, 11*(1), 64–77.
- Akinmoladun, F. T., Ibitoye, O. A., & Eze, N. M. (2022). Urban poverty and youth aggression: A study of school-related violence in Sub-Saharan Africa. *Journal of African Youth Studies, 8*(1), 45–61.
- Eze, M. C., & Okonkwo, C. A. (2022). Parenting styles, parental monitoring, and adolescent aggression in urban communities.

- International Journal of Psychology and Counselling*, 14(4), 91–99.
- Jones, K. A., Thompson, R. E., & Adeyemi, L. J. (2023). Digital media, identity confusion, and peer aggression in adolescents: A cross-cultural review. *Cyberpsychology and Behaviour*, 20(4), 211–223.
- Mwangi, S. W., & Ncube, D. (2023). The impact of parental neglect and substance use on adolescent aggression in urban South Africa. *Journal of Child and Adolescent Mental Health*, 35(1), 65–78.
- Nwankwo, F. C., Ezeani, C. C., & Udeh, M. C. (2021). Early childhood adversity and externalising behaviour among Nigerian adolescents: The mediating role of emotional dysregulation. *Nigerian Journal of Educational Psychology*, 19(2), 145–158.
- Obot, I. S., & Ibanga, A. J. (2021). Peer influence, risk behaviour, and delinquency among secondary school students in Southern Nigeria. *Journal of Child and Adolescent Substance Abuse*, 30(1), 32–44.
- Offor, D. O., & Omopo, O. E. (2025). Effects of stress inoculation training and cognitive behaviour therapy in enhancing conjugal bliss of women with childhood trauma in Lagos, Nigeria. *NIU Journal of Humanities*, 10(1), 125–136.
- Offor, D. O., Ogunbowale, I. A., & Omopo, O. E. (2025). Examination of the psychological and socio-economic drivers of child sexual assault offenders in Agodi Correctional Centre, Ibadan. *International Journal of Research and Analytical Reviews (IJRAR)*, 12(1), 171–188.
- Ogunbowale, I. A., Adebola, O. E., Umanhonlen, S. E., & Oyetola, A. F. (2025). Correlates of adverse childhood experiences (ACES), emotional regulation, and self-esteem among in-school adolescents in Ibadan, Nigeria. *NIU Journal of Humanities*, 10(1), 117–124.
- Omopo, O. E. & Odedokun, S. A. (2024). Empowering Incarcerated Individuals: Solution-Focused Therapy for Reducing Tobacco Smoking Dependency Behaviour among Correctional Inmates in Oyo State, Nigeria. *Journal of Addiction Research & Treatment*. 3(1), 1-15.
- Omopo, O. E. & Odedokun, S. A. (2024). Mind Over Smoke: Transformative Effects of Cognitive Reframing Therapy on Tobacco Smoking Dependency Behaviour among Male Inmates of Correctional Centres in Oyo State. *NIU Journal of Social Sciences* 10(2), 293-303.
- Omopo, O. E. & Odedokun, S. A. (2024). Substance Abuse: Concept, Prevalence, Diagnosis, and Cognitive Behaviour Therapy. *International Journal of Academic Multidisciplinary Research (IJAMR)* 8(7). 423-435.
- Omopo, O. E. (2024). Correlates of peer influence, substance abuse, social marginalisation, social injustice, and criminal behaviour of Agodi Correctional Inmates. *International Journal of Academic and Applied Research (IJAAR)*, 8(7), 7–16.
- Omopo, O. E. (2024). Exploring Post-Traumatic Stress Disorder: Causes, Diagnostic Criteria, and Treatment Options. *International Journal of Academic Information Systems Research (IJASIR)* 8(7), 35-44.
- Omopo, O. E., & Odedokun, S. A. (2024). Substance abuse: Concept, prevalence, diagnosis, and cognitive behaviour therapy. *International Journal of Academic Multidisciplinary Research (IJAMR)*, 8(7), 423–435.
- Omopo, O. E., Offor, D. O., & Ilori, K. M. (2024). Nonverbal expressions of trauma: A secondary analysis of PTSD-specific cues in clinical assessments. *IOSR Journal of Humanities and Social Science (IOSR-JHSS)*, 29(11), 01–07.
- Omopo, O. E., Offor, D. O., & Ogunbowale, I. A. (2024). The influence of childhood trauma and peer influence on substance abuse among psychiatric patients in Ibadan. *International Journal of Science and Research Archive*, 13(02), 1980–1992.
- Osho, R. A., & Adelaja, T. O. (2022). Substance use and aggressive tendencies among in-school adolescents in Oyo State: A structural equation approach. *West African Journal of Mental Health*, 9(1), 55–67.
- Smith, J. L., & Sandhu, P. R. (2022). Peer influence and school delinquency in British adolescents: A psychosocial approach. *British Journal of Developmental Psychology*, 40(3), 389–405.
- Thornberry, T. P., Krohn, M. D., & Lizotte, A. J. (2021). Childhood trauma and adolescent violence: Longitudinal evidence from the Rochester Youth Study. *Journal of Youth and Adolescence*, 50(2), 231–246.
- Wills, T. A., & Sargent, J. D. (2021). Substance use and aggression in adolescence: The role of early exposure and peer models. *Addictive Behaviors*, 114, 106736.



Assessment of Clothing and Textile Skills and Facilities for Inculcating Entrepreneurship in Undergraduate Students in Southwestern Nigeria

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Abstract. This study evaluates the state of training facilities, equipment functionality, and garment-construction skills among Clothing and Textiles undergraduates in Southwestern Nigeria, examining how these factors influence entrepreneurial inclination. Data were gathered from 386 students across public universities, polytechnics, and colleges of education using structured questionnaires, yielding a Cronbach's Alpha of 0.825, alongside direct observations. The demographic profile indicated that 57% of respondents were female, and 63.7% were aged 21–25, with public universities representing 53.4% of enrolment. Table analyses showed that while key facilities such as university libraries (74.6%) and textile design studios (73.6%) were widely available, critical practical laboratories like clothing construction (53.1%) and pattern drafting (43.3%) laboratories were significantly under-resourced. Equipment-related data indicate a high availability of stitching tools, with sewing machines accessible to 90.9% of respondents, and over 60% of these machines reported as functioning well; however, pressing and fitting equipment exhibited lower adequacy and functionality ratings. Pearson chi-square tests confirmed statistically significant relationships ($p = 0.000$) between the availability, adequacy, and functionality of clothing and textile equipment and students' inclination towards entrepreneurial skills. In terms of skill acquisition, students scored a grand mean of 2.59 (on a 4-point scale), demonstrating strong proficiency in foundational tasks such as taking body measurements ($M = 2.75$) and pattern cutting ($M = 2.70$), but lower mastery in advanced techniques including garment lining ($M = 2.45$) and interfacing ($M = 2.42$). Based on these findings, the study strongly recommends targeted investments to upgrade under-resourced laboratories and modernize essential equipment, coupled with curricular enhancements that focus on advanced practical techniques. These measures are critical to improving skill mastery and fostering a robust entrepreneurial disposition among

graduates in the competitive clothing and textile industry.

1. Introduction

Unemployment, both of skilled and unskilled manpower, has emerged as one of the most pressing issues in Nigeria. The unemployment situation has shifted from prolonged periods of joblessness and misemployment to a scenario in which graduates from tertiary institutions often wait for extended periods before securing their first jobs. Reports indicate that Nigeria is among the countries with the highest levels of youth unemployment, with estimates suggesting figures between 60% and 65% Kelechi, (2012). Angela, A. O., Ego, A. J., Uzoma, E. M., & Rachael, E. M. E. F. E. (2023). further argues that unemployment not only poses economic challenges but also triggers social disquiet, potentially resulting in increased crime and societal instability.

Dunstan (2013) explicates that the world, particularly developing nations like Nigeria, is currently grappling with significant challenges in job creation and the widespread availability of decent work. This persistent deficit in employment opportunities exacerbates poverty and hinders economic development. In such an environment, traditional employment may not suffice, thereby necessitating alternative pathways such as entrepreneurship, a route that is becoming increasingly vital in transforming tertiary education into a Launchpad for self-reliance. He further defines unemployment as the proportion of the labor force that is without work yet actively seeking employment. Azonuche, J. E., & Abamba, D. C. . (2024). adds that a falling interest rate often signals a growing economy; however, it may concurrently lead to higher inflation levels, necessitating subsequent adjustments in interest rates. These economic observations highlight the volatility of labor markets and underscore the importance of addressing skill deficits among

graduates to improve both employability and entrepreneurial potential.

Various studies on unemployment in Nigeria have identified multiple factors responsible for the persistently high unemployment rates. Research by Adebayo (1999), Ayinde (2018), Morphy (2008), Njoku and Ihugba (2011), and Van Horne, C., Dutot, V., Castellano, S., Sosa, M., & Ahmad, L. (2021) underscores several fundamental issues including low economic growth, untimely economic policy measures, negative perceptions about technical and vocational education, the neglect of agricultural sectors, poor environmental conditions, rapid rural–urban migration, and the gradual collapse of the manufacturing sector. These diverse factors collectively illustrate the multifaceted nature of unemployment and the need for comprehensive strategies to mitigate its effects.

The concept of entrepreneurship finds its roots in the French verb “entreprendre,” meaning “to undertake Undiyaundeye, F. A., & Otu, E. A. . (2022). Entrepreneurship education is seen as a crucial element in equipping students with the necessary skills, knowledge, and motivation to transform innovative ideas into viable business ventures Ibidapo, A. B. (2020). Additionally, organizations such as the Communication Commission (2006) and UNESCO (2008) emphasize that entrepreneurial education goes beyond business creation it enhances an individual’s ability to respond to societal changes, thereby playing a significant role in economic development by fostering self-reliance and job creation.

1.1 Statement of the Problem

Despite Nigeria’s abundant natural and human resources, high levels of unemployment persist among graduates, largely due to inadequate practical training and the absence of responsive entrepreneurship education. The colonial legacy in education and the subsequent neglect of technical and vocational training have contributed to a situation where graduates are insufficiently prepared for self-employment. Specifically, in the field of Clothing and Textiles, there is evidence of inadequate infrastructure, such as poorly maintained laboratories and limited exposure to advanced garment construction techniques, which directly affects the entrepreneurial potential of graduates. This study seeks to fill the gap by providing a critical assessment of the available facilities, equipment functionality, and skill acquisition processes in tertiary institutions across Southwestern Nigeria and how these factors predict entrepreneurial inclinations.

1.2 Objectives of the Study

- To describe the demographic characteristics of Clothing and Textiles undergraduate students in Southwest Nigeria.
- To assess the availability, adequacy, and functionality of Clothing and Textiles facilities and equipment.
- To determine the skills in garment construction that undergraduates have been exposed to and taught.
- To assess the ability of undergraduate students to translate acquired skills into entrepreneurial inclination.

1.3 Research Questions

- What are the demographics characteristics of clothing and Textiles of undergraduate student in the study arare.
- What are the facilities (laboratories) available for effective teaching of Clothing and Textiles in tertiary institutions?
- How adequate and functional are the available Clothing and Textile facilities for imparting the necessary knowledge and skills to undergraduate students?
- To what extent do the skills acquired by the undergraduate students in Clothing and Textiles predict their entrepreneurial inclination?

1.4 Hypotheses

Ho1: The availability, adequacy, and functionality of Clothing and Textile equipment have no significant influence on the entrepreneurial skills inclination of undergraduate students.

2. Review of Related Literature

A comprehensive review of the literature reveals that unemployment is a multifaceted issue in Nigeria, affected by socioeconomic, cultural, and educational factors. Researchers such as Dunstan (2013) have demonstrated that a lack of practical skills in higher education contributes significantly to high unemployment rates. The literature indicates that while theoretical knowledge is essential, practical training, particularly in sectors such as Clothing and Textiles, is imperative for developing entrepreneurial competencies.

Entrepreneurship education has been shown to empower students by enhancing creativity, innovation, and problem-solving skills. Organizations like

UNESCO (2008) and the Communication Commission (2006) emphasize that entrepreneurship education goes beyond business start-up; it is about equipping students with a mindset to adapt to and innovate within rapidly changing economic environments.

Studies indicate that well-equipped training facilities are crucial for effective practical learning. The availability of laboratories (e.g., pattern drafting and textile design studios) and functional machinery (such as sewing and embroidery machines) correlates positively with student performance and their ability to engage in entrepreneurial ventures. Gaps identified in advanced techniques, such as garment interfacing and modern laundry practices, suggest areas where targeted interventions can have a significant impact on fostering self-reliance and innovation.

3. Methodology

3.1 Research Design

The study employed a survey research design to capture the current state of skills training and facility adequacy. Quantitative data was collected through structured questionnaires, supplemented by direct observation and validation from field experts. The design follows the approach for a systematic and empirical assessment of variables in field conditions.

3.2 Area and Population of Study

The research was conducted across Southwestern Nigeria specifically in Lagos, Ogun, Osun, Oyo, Ondo, and Ekiti States. The population comprised 1,648 final-year undergraduate students enrolled in Clothing, Textiles, Fashion, Fine Arts, and Home Economics across public universities, polytechnics, and colleges of education.

3.3 Sampling Techniques and Instrumentation

A multistage sampling technique (stratified and proportionate) was used to select 386 respondents from the overall population. A structured questionnaire, divided into eight sections covering

demographic data, facility adequacy, equipment functionality, skill acquisition, entrepreneurial inclination, and evaluation of government programmes, served as the primary data collection tool. The instrument's reliability was confirmed by a Cronbach's Alpha coefficient of 0.825.

3.4 Data Collection and Analysis

Data was collected via in-person administration of questionnaires, supported by observations in the training facilities. Analysis was conducted using IBM-SPSS version 28.0. Descriptive statistics (frequencies, percentages, means) were used to analyze demographic and facility adequacy indicators, while inferential statistics (Chi-square, linear regression, one-way ANOVA) tested the research hypotheses.

4. Results

The study's findings are presented in a series of tables and narrative summaries. The key results include:

4.1 Demographic Characteristics of the Respondents

This presents the demographic characteristics of the respondents. This includes gender, age, institution attended, and level of education, parents' level of education, parents' occupation, ethnicity, household size and religion of the respondents.

4.1.1 Gender of the Respondents

Table 1 revealed that the gender distribution of the respondents reveals a slightly higher participation of females (57.0%) compared to males (43.0%). This could indicate that females have a stronger representation in fields related to clothing and textiles or entrepreneurship programs assessed in the study. It underscores the importance of designing gender-inclusive strategies for skill development in this domain. Furthermore, the higher percentage of female respondents may reflect societal trends in education and employment within the region, where women are increasingly encouraged to pursue professional and entrepreneurial opportunities.

Table 1: Demographic Characteristics of the Respondents (n = 386)

	Variables	Frequency	Percentage	
Gender	Male	166	43.0%	
	Female	220	57.0%	
	Total	386	100.0%	
Age	Less than or equal to 20 years	99	25.6%	
	21-25 years	246	63.7%	
	26-30 years	36	9.3%	
	31 & above	5	1.3%	
	Total	386	100.0%	
Institutions	Public University	206	53.4%	
	Public College of Education	153	39.6%	
	Public Polytechnic	27	7.0%	
	Total	386	100.0%	
Educational Status	NCE	212	54.9%	
	OND	62	16.1%	
	HND	18	4.7%	
	BSc	26	6.7%	
	BA	23	6.0%	
	MA	37	9.6%	
	MSc	8	2.1%	
	Total	386	100.0%	
	Departments	Fine Arts	82	21.2%
		Home Economics	130	33.7%
		Clothing and Textiles	44	11.4%
		Industrial Design	32	8.3%
		Creative Arts	85	22.0%
Others		13	3.4%	
Total		386	100.0%	
Fathers' Educational Level		NCE	40	10.4%
	OND	25	6.5%	
	HND	70	18.1%	
	BA	67	17.4%	
	BSc	53	13.7%	
	MA	4	1.0%	
	MSc	20	5.2%	
	PhD	49	12.7%	
	No Formal Education	58	15.0%	
	Total	386	100.0%	
Mothers' Educational Level	NCE	106	27.5%	
	OND	56	14.5%	
	HND	57	14.8%	
	BA	38	9.8%	
	BSc	15	3.9%	
	MA	18	4.7%	
	MSc	15	3.9%	
	PhD	31	8.0%	
	No Formal Education	50	13.0%	
	Total	386	100.0%	
Parents' Occupation	Civil Servant	138	35.8%	
	Private Organization	124	32.1%	
	Petty Trader	102	26.4%	
	Others	22	5.7%	
	Total	386	100.0%	
Ethnicity	Hausa	42	10.9%	
	Igbo	112	29.0%	
	Yoruba	206	53.4%	

	Other	26	6.7%
	Total	386	100.0%
Religion	Christianity	202	52.3%
	Islamic	177	45.9%
	Traditional	7	1.8%
	Total	386	100.0%
Household Size	Less than 4 persons	187	48.4%
	5 to 7 persons	181	46.9%
	8 to 10 persons	11	2.8%
	Above 11 persons	7	1.8%
	Total	386	100.0%

Source: *Field Survey (2025)*

4.1.2 Respondents' Responses on Availability of Laboratory Facilities in their Institutions

Table 2 presents the availability of laboratory facilities as reported by 386 undergraduate students in Southwestern Nigeria, highlighting the resources for teaching clothing and textile skills. Among the listed facilities, the University, College/Faculty Library is the most available, with 74.6% of respondents confirming its presence (n=288). This is closely followed by the Textile Design Studio, available to 73.6% of respondents (n=284), and the Weaving Studio, which 67.1% of participants (n=259) reported as accessible. The availability of an Exhibition Hall was also significant, with 59.1% of respondents (n=228) affirming its presence. These high percentages reflect the importance placed on certain facilities that support academic learning and practical exposure in clothing and textile programs.

However, other critical facilities show limited availability. For example, only 53.1% of respondents (n=205) reported having access to a Clothing Construction Laboratory, a vital resource for practical skills in garment production. Similarly, Pattern Drafting Laboratories and Laundry Laboratories were available to only 43.3% (n=167) and 45.9% (n=177) of students, respectively, highlighting a significant gap in resources required for core skill development. The Home Management Flat had the lowest availability, reported by only 37.8% of respondents (n=146), underscoring the limited emphasis on holistic training environments. These statistics underscore the uneven distribution of essential resources that could influence the effectiveness of skill acquisition and the overall quality of education in clothing and textile programs.

These findings reveal critical gaps in facility provision, suggesting a need for strategic investments to bridge these disparities and enhance the entrepreneurial skill-building potential of undergraduate programs. Providing well-equipped laboratories like Clothing Construction and Pattern Drafting could significantly strengthen students' practical training, allowing them to master complex clothing and textile production processes.

Table 2: Respondents' Responses on Availability of Laboratory Facilities

SN	Facilities	Availability			
		Available		Not Available	
		F	%	F	%
1	Clothing Construction Laboratory	205	53.1%	181	46.9%
2	Pattern Drafting Laboratory	167	43.3%	219	56.7%
3	Weaving Studio	259	67.1%	127	32.9%
4	Textile Design Studio	284	73.6%	102	26.4%
5	University, College/Faculty Library	288	74.6%	98	25.4%
6	Exhibition Hall	228	59.1%	158	40.9%
7	Laundry Laboratory	177	45.9%	209	54.1%
8	Home Management Flat	146	37.8%	240	62.2%

Source: *Field Survey (2024)*

Key: F = Frequency

4.1.3 The extent to which the Equipment was Available, Adequate and Functioning in various Institutions

Table 3 provides a comprehensive and detailed overview of the availability, adequacy, and functionality of clothing and textile equipment across institutions in South-Western Nigeria, based on responses from 386 participants. The table not only highlights significant trends but also pinpoints critical gaps and areas for development to enhance

entrepreneurship education in these programs. This expanded analysis explores each category of equipment in greater detail, emphasizing its implications for practical training and entrepreneurship readiness.

Table 3: Distribution of Respondents' Responses according to Availability, Adequacy and Functionality of Clothing and Textile Equipment/Tools (n = 386)

S/ N	Clothing and Textiles Equipment	Availability				Adequacy				Functionality							
		Available		Not Available		Very Adequate		Fairly Adequate		Not Adequate		Function well		Somehow Functioning		Not Functioning	
Pressing Equipment		F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
1	Iron	24 0	62.2 %	14 6	37.8 %	15 0	38.9 %	18 0	46.6 %	56 %	14.5 %	22 5	58.3 %	11 0	28.5 %	51 %	13.2 %
2	Ironing Board	23 0	59.6 %	15 6	40.4 %	14 0	36.3 %	19 0	49.2 %	56 %	14.5 %	25 0	64.8 %	90 %	23.3 %	46 %	11.9 %
3	Sleeve Board	22 0	57.0 %	16 6	43.0 %	16 0	41.5 %	16 0	41.5 %	66 %	17.1 %	23 0	59.6 %	13 0	33.7 %	26 %	6.7% %
4	Tailor's Ham	21 0	54.4 %	17 6	45.6 %	17 0	44.0 %	15 0	38.9 %	66 %	17.1 %	22 0	57.0 %	14 0	36.3 %	26 %	6.7% %
5	Pressing Cloth	20 0	51.8 %	18 6	48.2 %	12 0	31.1 %	20 0	51.8 %	66 %	17.1 %	24 0	62.2 %	10 0	25.9 %	46 %	11.9 %
6	Ironing Table	19 0	49.2 %	19 6	50.8 %	11 0	28.5 %	19 0	49.2 %	86 %	22.3 %	21 0	54.4 %	14 8	38.3 %	28 %	7.3% %
7	Seam Roll	18 0	46.6 %	20 6	53.4 %	66 %	17.1 %	14 0	36.3 %	18 0	46.6 %	56 %	14.5 %	15 0	38.9 %	18 0	46.6 %
8	Pounding Block	17 0	44.0 %	21 6	56.0 %	66 %	17.1 %	15 0	38.9 %	17 0	44.0 %	66 %	17.1 %	13 0	33.7 %	19 0	49.2 %
9	Pressing Mitt	16 0	41.5 %	22 6	58.5 %	56 %	14.5 %	14 0	36.3 %	19 0	49.2 %	96 %	24.9 %	12 0	31.1 %	17 0	44.0 %
Stitching Equipment																	
10	Sewing Machine	35 1	90.9 %	35	9.1%	25 0	64.8 %	10 0	25.9 %	36 %	9.3% %	24 0	62.2 %	12 0	31.1 %	26 %	6.7% %
11	Embroidery Machines	34 5	89.4 %	41	10.6 %	26 0	67.4 %	80 %	20.7 %	46 %	11.9 %	27 0	69.9 %	90 %	23.3 %	26 %	6.7% %
12	Treadle Machine	36 0	93.3 %	26	6.7%	23 0	59.6 %	12 0	31.1 %	36 %	9.3% %	30 0	77.7 %	60 %	15.5 %	26 %	6.7% %
13	Hand Sewing Machine	34 0	88.1 %	46	11.9 %	22 0	57.0 %	13 0	33.7 %	36 %	9.3% %	23 5	60.9 %	11 5	29.8 %	36 %	9.3% %
14	Over Locking Machine	35 5	92.0 %	31	8.0%	25 5	66.1 %	95 %	24.6 %	36 %	9.3% %	24 0	62.2 %	10 5	27.2 %	41 %	10.6 %

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15	Machine needles of different sizes	365	94.6%	21	5.4%	280	72.5%	90	23.3%	16	4.1%	275	71.2%	85	22.0%	26	6.7%
16	Needle Threaders	340	88.1%	46	11.9%	260	67.4%	11	28.5%	16	4.1%	235	60.9%	125	32.4%	26	6.7%
17	Pin Cushion	350	90.7%	36	9.3%	245	63.5%	115	29.8%	26	6.7%	302	78.2%	54	14.0%	30	7.8%
18	Magnet	360	93.3%	26	6.7%	283	73.3%	83	21.5%	20	5.2%	238	61.7%	130	33.7%	18	4.7%
19	Bodkin	370	95.9%	16	4.1%	249	64.5%	111	28.8%	26	6.7%	265	68.7%	101	26.2%	20	5.2%
20	Thimbles	345	89.4%	41	10.6%	158	40.9%	196	50.8%	32	8.3%	166	43.0%	162	42.0%	58	15.0%
21	Knitting Machine	352	91.2%	34	8.8%	174	45.1%	169	43.8%	43	11.1%	158	40.9%	198	51.3%	30	7.8%
Fitting Equipment																	
22	Dress Form	353	91.5%	33	8.5%	142	36.8%	165	42.7%	79	20.5%	182	47.2%	128	33.2%	76	19.7%
23	Dress Maker's Pin	342	88.6%	44	11.4%	146	37.8%	187	48.4%	53	13.7%	185	47.9%	131	33.9%	70	18.1%
24	Dressing Mirror	342	88.6%	44	11.4%	146	37.8%	187	48.4%	53	13.7%	185	47.9%	131	33.9%	70	18.1%
25	Fitting Cubicle	335	86.8%	51	13.2%	186	48.2%	142	36.8%	58	15.0%	165	42.7%	129	33.4%	92	23.8%
Measuring Equipment																	
26	Long and Short Ruler	348	90.2%	38	9.8%	145	37.6%	172	44.6%	69	17.9%	12	3.1%	210	54.4%	164	42.5%
27	Tape Measure	360	93.3%	26	6.7%	183	47.4%	169	43.8%	34	8.8%	173	44.8%	144	37.3%	69	17.9%
28	French Curves and Ruler	367	95.1%	19	4.9%	173	44.8%	144	37.3%	69	17.9%	167	43.3%	143	37.0%	76	19.7%
29	Skirt Marker	375	97.2%	11	2.8%	184	47.7%	140	36.3%	62	16.1%	150	38.9%	185	47.9%	51	13.2%
30	Set Square	350	90.7%	36	9.3%	169	43.8%	188	48.7%	29	7.5%	152	39.4%	142	36.8%	92	23.8%
Storage Equipment																	
31	Cupboard	300	77.7%	86	22.3%	176	45.6%	146	37.8%	64	16.6%	165	42.7%	168	43.5%	53	13.7%

NIU Journal of Humanities

32	Wardrobe	295	76.4%	91	23.6%	132	34.2%	191	49.5%	63	16.3%	188	48.7%	168	43.5%	30	7.8%
33	Chest of Drawers	280	72.5%	106	27.5%	146	37.8%	135	35.0%	105	27.2%	331	85.8%	52	13.5%	3	0.8%
34	Hangers	310	80.3%	76	19.7%	227	58.8%	111	28.8%	48	12.4%	170	44.0%	143	37.0%	73	18.9%
35	Rack	290	75.1%	96	24.9%	260	67.4%	75	19.4%	51	13.2%	312	80.8%	64	16.6%	10	2.6%
36	Tool Box	280	72.5%	106	27.5%	213	55.2%	127	32.9%	46	11.9%	277	71.8%	63	16.3%	46	11.9%
37	Bag	275	71.2%	111	28.8%	170	44.0%	108	28.0%	108	28.0%	172	44.6%	112	29.0%	102	26.4%
Cutting Equipment																	
38	Cutting Tables	275	71.2%	111	28.8%	211	54.7%	116	30.1%	59	15.3%	144	37.3%	136	35.2%	106	27.5%
39	Dressmaker's Scissors	260	67.4%	126	32.6%	188	48.7%	156	40.4%	42	10.9%	254	65.8%	111	28.8%	21	5.4%
40	Awl	245	63.5%	141	36.5%	262	67.9%	119	30.8%	5	1.3%	259	67.1%	93	24.1%	34	8.8%
41	Trimming Scissors	245	63.5%	141	36.5%	320	82.9%	35	9.1%	31	8.0%	241	62.4%	105	27.2%	40	10.4%
42	Embroidery Scissors	328	85.0%	58	15.0%	227	58.8%	87	22.5%	72	18.7%	240	62.2%	141	36.5%	5	1.3%
43	Pinking Shear	356	92.2%	30	7.8%	270	69.9%	85	22.0%	31	8.0%	192	49.7%	145	37.6%	49	12.7%
44	Seam ripper	279	72.3%	107	27.7%	177	45.9%	166	43.0%	43	11.1%	255	66.1%	94	24.4%	37	9.6%
45	Buttonhole Scissors	240	62.2%	146	37.8%	194	50.3%	184	47.7%	8	2.1%	272	70.5%	92	23.8%	22	5.7%
Marking Equipment																	
46	Dressmaker Carbon Paper	301	78.0%	85	22.0%	320	82.9%	65	16.8%	1	0.3%	231	59.8%	147	38.1%	8	2.1%
47	Tailor Chalk (Different Colours)	339	87.8%	47	12.2%	183	47.4%	122	31.6%	81	21.0%	196	50.8%	103	26.7%	87	22.5%
48	Tracing Wheel	296	76.7%	90	23.3%	183	47.4%	158	40.9%	45	11.7%	357	92.5%	26	6.7%	3	0.8%
49	Brown Paper	242	62.7%	144	37.3%	254	65.8%	92	23.8%	40	10.4%	192	49.7%	173	44.8%	21	5.4%

50	Dressmaker Pencil	25 6	66.3 %	13 0	33.7 %	19 0	49.2 %	17 0	44.0 %	26	6.7%	30 2	78.2 %	77	19.9 %	7	1.8%
51	Ordinary Pencil	29 9	77.5 %	87	22.5 %	23 0	59.6 %	89	23.1 %	67	17.4 %	34 0	88.1 %	39	10.1 %	7	1.8%

Source: Field Survey (2025)

4.1.4 Skills Acquisition of the Respondents

Table 4 provides a comprehensive evaluation of undergraduate students' acquisition of skills in garment and textile-related disciplines across Southwestern Nigeria. The assessment covers a range of areas, including garment/dressmaking, knitting/crocheting, laundry, embroidery, pattern drafting, textile design, and weaving. Data from 386 participants is analyzed, with results categorized based on mean scores. A score of Agreed (mean ≥ 2.60) indicates proficiency, while Disagreed (mean < 2.60) highlights areas of improvement for entrepreneurship and innovation in the textile and garment industry.

Table 4: Skills Acquisitions on Garment/Dressmaking by the Respondents (n = 386)

S/N	Garment/Dress making skills acquired	Responses (F)				Mean	S.D.	Decision
		SA	A	D	SD			
1	To take body measurements.	138	108	44	96	2.75	1.18	Agreed
2	Pattern laying and cutting out procedures for different fabrics.	142	87	58	99	2.70	1.21	Agreed
3	Identification of types of sewing machines for different dress-making.	120	118	55	93	2.69	1.15	Agreed
4	The use of sewing machines and other equipment for clothing construction.	118	102	40	126	2.55	1.23	Disagreed
5	Types and parts of a sewing machine	110	103	50	123	2.52	1.21	Disagreed
6	Care for sewing machine	135	119	53	79	2.80	1.13	Agreed
7	Ways of lining a garment	102	101	50	133	2.45	1.21	Disagreed
8	Interfacing the parts of a garment needlecrafts	101	103	41	141	2.42	1.22	Disagreed
9	Use different types of needles for different stitches	129	117	31	109	2.69	1.20	Agreed
10	Procedures for hems and seams stitches	120	112	41	113	2.62	1.20	Agreed
11	Threads for different stitches	121	104	46	115	2.60	1.21	Agreed
12	Types of openings suitable for children's garments and underclothes	126	107	57	96	2.68	1.17	Agreed
13	Method of finishing edges of garments using stitches techniques.	115	94	59	118	2.53	1.21	Disagreed
Knitting and Crocheting								
14	Method for knitting/crocheting	146	82	34	124	2.65	1.28	Agreed
15	Differences between crocheting/Knitting	106	100	38	142	2.44	1.24	Disagreed
16	Types of needles for knitting/crocheting	138	97	33	118	2.66	1.25	Agreed
17	Making of articles using knitting/crocheting.	124	93	47	122	2.57	1.23	Disagreed
Laundry Skills								
18	Removal of various stains from fabrics	108	105	50	123	2.51	1.20	Disagreed
19	Use different types of laundry machines	101	99	57	129	2.45	1.20	Disagreed
20	Procedures and rules observed when Ironing	146	86	41	113	2.69	1.25	Agreed
21	Uses of soap and detergents	107	114	43	122	2.53	1.20	Disagreed
22	Dry cleaning different types of fabrics	116	115	47	108	2.62	1.18	Agreed
Embroidery								
23	Making and transferring designs onto fabrics using different decorative materials	139	83	31	133	2.59	1.28	Disagreed
24	Use of beads for interior decoration	105	83	51	147	2.38	1.24	Disagreed
25	Types of decorative stitches	128	97	55	106	2.64	1.20	Agreed
26	Making embroidery works on the table clothes and garment	143	113	39	91	2.80	1.17	Agreed
Pattern Drafting								
27	Adaptation and alternation of patterns	135	93	45	113	2.65	1.23	Agreed
28	Drafting of patterns for various styles	114	87	43	142	2.45	1.25	Disagreed
29	Arrangement of fullness through patterns	122	119	50	95	2.69	1.16	Agreed
30	Difference between commercial and drafted patterns	115	97	44	130	2.51	1.23	Disagreed
----Textile Design								
31	Designing fabric using dyes	123	105	54	104	2.64	1.19	Agreed
32	Preparing and dyeing different garments/fabric	144	108	44	90	2.79	1.17	Agreed
33	Local and commercial dyes	144	80	54	108	2.67	1.24	Agreed
34	Principles of Underlying Dye	106	88	53	139	2.42	1.23	Disagreed

Weaving								
35	Types and parts of a loom	100	87	53	146	2.37	1.23	Disagreed
36	Use of different types of looms	110	96	37	143	2.45	1.25	Disagreed
37	Producing cardigans/sweaters for students/pupils	134	114	30	108	2.71	1.21	Agreed
38	Procedures for Aso-oke Production	104	118	55	109	2.56	1.16	Agreed
Grand mean						2.59	0.12	

Source: Researcher’s field survey (2024)

Note. Decision rule: 4= Strongly Agree (SA), 3= Agree (A), 2= Disagree (D), 1= Strongly Disagree (SD). A mean score < 2.60 is disagreed; a Mean score between 2.60-3.40 is agreed; a Mean score > 3.40 is strongly agreed.

4.1.5 Extent of Mastering the Acquired Skills among the Respondents

Table 4 provides a detailed and comprehensive analysis of the extent to which respondents in the study mastered various skills related to garment and textile work. This categorization into four levels of mastery Very Well Mastered, Well Mastered, Fairly Mastered, and Not Mastered offers valuable insights into the skill acquisition trends and the areas where additional support and training may be necessary. By examining each category, we gain a clearer understanding of the strengths and weaknesses across the range of evaluated skills.

Table 5: Extent to which Skills Acquired were Mastered (n = 386)

S/N	Skills Acquired	Very Mastered		Well Mastered		Fairly Mastered		Not Mastered	
		F	%	F	%	F	%	F	%
1	Sewing different cloth styles with the sewing machine	131	49.62	73	27.65	44	16.67	16	6.06
2	Engaging in fashion designing for purposeful living.	94	36.43	109	42.25	37	14.34	18	6.98
3	Starting a personal business in designing dresses based on the knowledge acquired through garment/dress-making	140	44.16	117	36.91	43	13.56	17	5.36
4	Creating suitable styles for different occasions using different types of machines	100	41.49	68	28.22	52	21.58	21	8.71
5	Depending on garment construction for my living	103	38.43	85	31.72	69	25.75	11	4.1
6	Designing fabrics for children and adult	82	32.28	112	44.09	50	19.69	10	3.94
7	Training interested youths on how to sew with different types of sewing machines	101	43.53	61	26.29	45	19.4	25	10.78
8	Engaging in customized design for livelihood	132	41.64	79	24.92	74	23.34	32	10.09
Textile Skills									
9	Starting a personal business on tie and dye/batik based on the knowledge acquired through fabric production	81	32.79	87	35.22	47	19.03	32	12.96
10	Training interested youths on screen printing thereby creating self-employment for myself	109	33.03	106	32.12	76	23.03	39	11.82
11	Engaging in emblems and badges for economic empowerment	117	36.34	119	36.96	53	16.46	33	10.25
12	Creating logos for schools, colleges and institutions and also being an employer of labour in the field	81	37.5	66	30.56	55	25.46	14	6.48
13	Selecting and selling textile items and accessories for livelihood	143	45.83	103	33.01	54	17.31	12	3.85
14	Producing Adire-Eleko and equally training interested youths thereby creating self-employment for myself and the youths	139	46.18	67	22.26	74	24.58	21	6.98
15	Engaging in different tie/dye/batik production for a living	100	34.13	106	36.18	70	23.89	17	5.8
Laundry Skills									
16	Depending on laundry and dry cleaning thereby creating self-employment	112	37.97	94	31.86	58	19.66	31	10.51
17	Training interested youths on the operation of washing machines for economic empowerment	137	47.24	73	25.17	44	15.17	36	12.41
18	Engaging in ironing different fabrics using the right temperature and gaining a living through it	101	38.4	76	28.9	74	28.14	12	4.56
19	Making different clothing articles for laundry and also being employer of labour in the field	128	48.67	95	36.12	30	11.41	10	3.8
Weaving Skill									
20	Producing traditional woven fabric (Aso-Oke) using any type of Loom	138	44.09	109	34.82	54	17.25	12	3.83
21	Training interested youths on cloth weaving thereby reducing Unemployment	121	44.81	99	36.67	36	13.33	14	5.19
22	Producing different types of woven articles suitable for interior Decoration	139	52.65	63	23.86	38	14.39	24	9.09
23	Producing modernized aso-oke to encourage patronage	94	40.69	61	26.41	53	22.94	23	9.96
24	Mass-producing modernised fashionable cardigans/sweaters for school children/students	141	56.85	65	26.21	30	12.1	12	4.84

Embroidery									
25	Mass-producing beads for commercial purposes	141	41.84	113	33.53	73	21.66	10	2.97
26	Producing beaded articles suitable for interior decoration	126	45.32	101	36.33	37	13.31	14	5.04
27	Producing fashionable hats for commercial purposes	141	48.29	63	21.58	53	18.15	35	11.99
28	Training the youths in millinery (hat production) to encourage self-reliance	130	41.27	113	35.87	40	12.7	32	10.16
29	Training other people in bead making to encourage self-reliance	134	46.05	88	30.24	46	15.81	23	7.9
Pattern drafting									
30	Training the youths on drafting, adaptation and alternation to reduce unemployment	143	52.38	77	28.21	37	13.55	16	5.86
31	Depending on draft patterns for children and adults	82	30.71	85	31.84	64	23.97	36	13.48
32	Depending on knock-off design techniques in buying and selling cloth items of companies	130	41.27	103	32.7	64	20.32	18	5.71
33	Training interested youths in dart manipulation hereby reduces unemployment	86	32.45	93	35.09	62	23.4	24	9.06
34	Producing different shirt patterns and gaining a living	100	44.05	69	30.4	34	14.98	24	10.57
35	Training the youths in the arrangement of fullness through pattern	118	36.99	95	29.78	71	22.26	35	10.97
Needlecrafts/Knitting and Crocheting									
36	Knitting/crocheting items to make a living	97	37.74	73	28.4	68	26.46	19	7.39
37	Training the youths on different types of needles for knitting/crocheting and also being employers of labour	83	29.64	90	32.14	70	25.0	37	13.21
38	Depending on knitting/crocheting articles for a living	139	42.77	107	32.92	57	17.54	22	6.77

Source: Researcher's field survey (2024)

Statistical Finding

Relationships between the availability, adequacy and functionality of clothing and the entrepreneurial skills inclination of undergraduate students

H₀₁: The availability, adequacy and functionality of clothing and textile equipment have no significant influence on the entrepreneurship skills inclination of undergraduate students.

Interpretation of Table 5

Table 5 presents an in-depth analysis of the relationship between the availability, adequacy, and functionality of clothing and textile equipment and the entrepreneurial skills inclination of undergraduate students in Southwestern Nigeria. The findings are based on the Pearson Chi-Square test, a statistical method used to determine whether these variables significantly influence entrepreneurial skill development among students in this region.

Table 5: Relationships between availability, adequacy and functionality of clothing and textile equipment have no significant influence on the entrepreneurship skills inclination of undergraduate students

Variables	Chi-Square Values	Df	p-Values	Decision
Availability of Clothing and Textile equipment	232.126 ^a	2	0.000	Significant
Adequacy of Clothing and Textile equipment	216.248 ^a	4	0.000	Significant
Functionality of Clothing and Textile Functionality	237.827 ^a	4	0.000	Significant

Source: Researcher's field survey (2024)

Note. Df = Degree of freedom, X² = Pearson Chi-Square, p-Value = significant level (0.05)

5. Discussion

The demographic data revealed that the majority of respondents were female (57%), aged 21–25 years (63.7%), and predominantly enrolled in public universities (53.4%). The higher female representation underscores the societal trend of women's increasing participation in clothing and textile disciplines, which traditionally align with gendered career roles. This demographic composition highlights a critical opportunity to design gender-inclusive entrepreneurial strategies that leverage the high engagement of young women in this field. Furthermore, the dominance of youth in this cohort suggests that entrepreneurial training programs should capitalize on the adaptability

and energy of this demographic (Okpokwasili & Onwuatuogwu, 2024).

6. Conclusion

The assessment confirms that the adequacy and functionality of facilities and equipment in Clothing and Textiles Programmes are fundamental to enhancing entrepreneurial skills among undergraduates in Southwestern Nigeria. While foundational skills are well-developed, the paucity of advanced technical training and infrastructural gaps remain impediments to achieving full entrepreneurial potential. The positive correlation between facility readiness and entrepreneurial readiness reinforces the need for continuous investment in technical education

and strategic collaborations between institutions, industry, and government.

7. Recommendations

Based on the findings, the study recommends the following:

Infrastructure Improvement: Invest in upgrading and expanding critical laboratories (e.g., Pattern Drafting, Laundry) to ensure a holistic, practical training environment.

Curriculum Enhancement: Integrate advanced garment construction techniques and modern textile operations into the curriculum to bridge the skills gap.

Partnership and Industry Collaboration: Foster partnerships with clothing, textile, and fashion industries to facilitate internships, mentorship programmes, and hands-on projects.

Gender and Demographic Considerations: Leverage the higher participation of female students by designing inclusive programmes that further encourage entrepreneurial activities among under-represented groups.

Monitoring and Evaluation: Establish mechanisms for regular assessment and feedback on facility performance, equipment functionality, and skill mastery to ensure continuous improvement.

References

- Angela, A. O., Ego, A. J., Uzoma, E. M., & Rachael, E. M. E. F. E. (2023). Impediments and Strategies for Acquisition of Competence in Pattern Making among Clothing and Textiles Students for Apparel Production in Nigeria.
- Ayinde, O.E. (2018), Empirical Analysis of Agricultural Growth and Unemployment in Nigeria. *African Journal of Agricultural Research*, 3, (7):465-468
- Azonuche, J. E., & Abamba, D. C. . (2024). Factors influencing Choice of Clothing and Textiles among undergraduate students: A study of Teaching facilities, Career prospects and Strategies improvement. *Shodh Sari-An International Multidisciplinary Journal*, 3(1), 369-393.
- Communications Commission (2006), "Fostering entrepreneurial Mindsets through education and learning". Com.33 final. Available at ec.europa.eu/enterprise/policies/sm.
- Dunstan, P. (2013), Dire Youth Unemployment Growing Worse, Available at: www.foxbusiness.com/economy/2013/05.
- Ibidapo, A. B. (2020). Development of Entrepreneurial Skill Training Modules for Building Technology Graduates of Colleges of Education in South West Nigeria. An Unpublished Ph.D Thesis Submitted to Department of Industrial Technical Education, University of Nigeria, Nsukka.
- Kelechi, E. (2012), Experts identify entrepreneurial education as key to curb unemployment: Published in Business day Newspaper of 12th May 2012.
- Njoku, C.N. and O. A. Ihugba (2011). Unemployment and Nigerian Economic Growth (1985-2009). *Mediterranean Journal of Social Sciences*. 2 (6): 23-26
- UNESCO. (2020). Global Education Monitoring Report: Inclusion and Education, All Means. Paris: UNESCO.
- Undiyaundeye, F. A., & Otu, E. A. (2022). Entrepreneurship skills acquisition and the amongst the undergraduate students in Nigeria. *European Journal of Social Science Education and Research*, 9(1), 24-32. REPLACE JENNING
- Van Horne, C., Dutot, V., Castellano, S., Sosa, M., & Ahmad, L. (2021). Integrating entrepreneurship into the design classroom: Case studies from the developing world. *Journal of the Knowledge Economy*, 12, 56-72.



Enhancing Teachers' Productivity Through Differential Continuous Training in Edo State, Nigeria

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Abstract. The purpose of this paper is to investigate teachers' differential continuous training as a correlate of teachers' productivity. The paper also presented the various needs of teachers and their concerns as it relates to job productivity. To guide the study, four research questions were raised. Two were answered while others were formulated into hypotheses and tested at 0.05 level of significance. The study was a descriptive survey research. It adopted the correlational research design. The population consists of one thousand, seven hundred teachers in Edo State senior secondary schools. Ten percent of the population was employed as sample size which was one hundred and seventy senior secondary school teachers in Edo State. The research instrument was Likert type scale questionnaire consisting of fifteen items. The instrument was validated by three experts. Split-half reliability method was employed and Cronbach alpha reliability statistic was used to determine the reliability of the instrument. Data collected was analyzed using mean and standard deviation while hypotheses were tested using Pearson product moment correlation coefficient at an alpha level of 0.05 and the Fisher's Z statistic. The findings reveal that teachers have individual needs and problems in their teaching career. It was also discovered that there is no significant difference between teachers' differential training and job productivity. Teachers were to participate in in-service programs that address their needs. Teachers' regular training should be funded to improve their productivity.

Keywords: Teachers' Productivity, Differential Continuous Training, Seasoned Teachers, Teaching Profession

1. Background to the Research

Teachers in their day-to-day work make huge differences to children's lives. This is done through

curriculum, teachers' behaviours, attitudes and values. Debate on how best to prepare teachers for productive teaching in today's demanding is the important focus of developing countries like Nigeria where the relevant education for all children is priority.

The world that teachers are preparing young people to enter is changing. Thus, the teaching skills required are involved. Education in Nigeria has witnessed lots of changes. It tailored towards meeting certain goals such as Education for All and the Nigeria Vision 2030. The brain of most of Nigerian contemporary children tends to be digitally wired than most of the teachers. Teachers need certain abilities to use new tools, methods, process, procedures and techniques in their specialized disciplines. Nigerian academic researchers are challenged to deliver teachers professional development opportunities to fill those gaps and be productive. Productive teachers are those professional teachers who use themselves as bridges over which they invite students to cross, having facilitates their crossing. Teaching as a process has triple relations: content, the student and the outcome. Teachers like human beings, develop throughout their careers as they grow from new teachers to experienced teachers. Many researchers across the globe and in Nigeria have been conducting research on in-service training. This appears to yield little effects on educational industry (Francy, 2016). Again, he stated that teachers seem to be ignorant of the changes in the society and how to teach those changes even when they attend several in-service trainings continuously.

The inability of teachers not to manage large class couple with inadequate space is not only alarming but lamentable. This project will reveal several options teachers could adopt in handling their specific concerns through differential continuous trainings. This study will also eliminate biases in continuous training programme while reinforcing and strengthen teachers of varied experiences.

Policy makers in education through this study will determine areas of individual teachers' improvement. This will help them to inform their decision on how different classes of teachers will be developed. Teachers through this study will know that it is their right to be considered individually before any continuous training. This will definitely affect both their personal and national development

Most often, when teachers confront new skills and issues in schools, they tend to get lose their interest in innovation and change. Some of them according to Ekejiuba (2014) appear to display ignorance in the application of modern pedagogical skills for effective teaching. More so, others seem not to see the need to undergo continuous training for self-development and professional efficiency where fresh perspectives and methods are provided. Thus, Ahmed (2020), stated that teachers need certain skills to teach effectively. Though effective and seasoned teachers are confident and competent, they are constantly reaching out to the world around, to the researchers, colleagues, with an assertive curiosity that says "I do not know it all, but I am always growing, adding to my knowledge, skills and productivity". This openness and reaching out is an important element of professionalism.

In spite of government and research institutions' efforts to retrain teachers, experts, such as Aghaosa and Nwanze (2008) noted that the teachers continuous programmes seem to be unproductive because teachers were not differentially considered in their continuous training. Yes, most of these continuous training of teachers (such as conferences, workshops, induction, advance studies, meetings and the like) are done based on the areas of common interest and not on teacher's specific needs and experiences. It appears these continuous training agencies tend to choose same theme of continuous training of all the teachers in a particular discipline which they rigidly apply to every teacher irrespective of their experiences and location. These agencies tend not to forecast that teachers have different experiences and concerns and will understand based on these. All the teachers in the conferences/workshops set pretty much the same materials. The organizers of the continuous programmes seemed not to tailor their meetings within the teachers' range. They tend not to recognize knowledge and experienced base of teachers. Continuous training is a deliberate and continuous process involving the identification and discussion of present and anticipated needs of individual teachers for furthering their profession. It is design to fill the gap of specific professional inadequacies of a serving teachers' problems. However, continuous

programmes in Nigeria tend to characterize by non-differential considerations, excessive sales of handout and multiple registration for financial gains. They appear not to be well planned and not having the same social and intellectual constructions especially academic and social experiences. Most often, most of the themes in the Nigerian teachers' conferences are few and often restricted to only certain believed crucial subjects such as computer, mathematics and the like. Some teachers most concern may be how to teach insecurity management in school, religious tolerance, civic education, climatic change, large classroom management, disposition of waste and the like. When all their needs are not considered, there may be conflict of interest. Teachers, therefore need to set their own individual agendas, before the retraining exercises. This is because many teachers tend to respond with desire when they are provided opportunities to express themselves honestly. Discovering what matters to individual teachers and how best to retrain them for sustained and improved productivity is a novel idea which this project is aimed to examine.

The continuing training that has been tired in the past have generally seemed not to be productive. This project is useful because of public outcry over the dwindling academic performance of students, couple with reported antisocial activities. These are pointers to the low level of teachers' productivity.

1.1 Statement of the Problem

Teachers that are productive in teaching profession are "made not born". One of the most impactful strategies to make productive teachers is through continuous learning. In Nigeria, the same thematic programmes are provided of all teachers irrespective of their learning experiences and status. Such training tends to be insufficient because teachers' needs and responses were not sought. Many teachers tend to get irritated about how to manage large classroom while others are how to confront students with digital versatile knowledge. Non differential factors in retraining of teachers make it difficult for teachers to understand and apply what they learnt. Even those who understand something tend to do that with great difficulty. Such situation tends to frustrate and discourage some teachers not to put their best in teaching professionally. Similarly, continuous programmes in Nigeria tend to be far only favoured teachers in terms of connections and financing. It seems to be very short and dwell on general audience of a particular discipline irrespective of teachers concerns and experiences. Some teachers appear to be obsolete in teaching and learning situation. Research

is convincing that 70 – 80 percent of teachers even after continuous training still employ teacher centered method in classroom situation. Consequently, poor teaching methods and high failure rate still characterized school system. Could these be attributed to lack of differential continuous training of teachers? This project will investigate and respond to this question.

1.2 Objectives of the Study

The general purpose of this project is to investigate if there is any relationship between teachers' differential continuous training and job productivity.

Specific Objectives are to:

- identify the training needs of teachers.
- ascertain the likely problems that militate against differential teachers' training.
- find out if there is any relationship between teachers' differential continuous training and job productivity
- investigate whether there is any difference between teachers' differential continuous training and job productivity based on experience.

1.3 Research Questions

- What are the training needs of teachers in Edo State?
- What are the problems that militate against differential continuous teachers' training?
- What are the relationship between teachers' differential continuous training and job productivity in Edo State?
- Is there any difference between teachers' differential continuous training and job productivity based on teachers' experience?

2. Literature Review

According to Aghaosa (2008), teachers' professional development is not an event but a process. According to him, most Nigerian teachers seem not to stimulate students' experiences in teaching and learning activities. He further discovered that Nigeria secondary school education is grossly lacking in differential training of teachers which tend to result on teachers' ignorance of content; pedagogical strategies and the like. This is against the intention of the Federal Republic of Nigeria (FRN, 2004) that emphasizes that "no educational system can arise above the quality of its teachers". This implies that teachers are the pivots on which any educational programme depends upon to yield tangible development. One of the FRN (2004) goals on education is therefore to promote in-service education. Chimezie and Ezeala (2022) and Bolarinwa

et al., (2020) in their study discovered that there is significant relationship between teachers specific training and job productivity. Ekejiuba (2019) stated that some educational agencies (such as Teachers Registration Council of Nigeria) have tried to organize several in-service trainings for teachers to enhance their productivity. However, these programmes seem to be discriminative in terms of connection and funding. It does not consider specific teachers' needs and experiences.

2.1 Theoretical Framework

The writer employed Franey (2016) understanding teacher development theory. According to this theorist, teachers as human beings develop throughout their careers as they grow from new teachers to experienced teachers. This theory will help teachers to identify where they are and why they are facing certain challenges. It will also help them to desire on continuous training, programmes to solve their individual and collective problems. Fuller (1969) theory of teachers' developmental concerns across time will also be employed. The theorist explained that teachers move through three stages of concerns (i.e., self, task and impact). This implies that a teacher must first solve the first stage of concern before moving to the next one. Consequently, teacher must be retrained based on the level of their concerns and experiences. Such concerns according to India (2022), could be managing classroom, lesson preparation, knowledge of subject matter, lesson presentation, knowledge of Information Communication Technology (ICT).

3. Research Methodology

The researcher employed descriptive correlational research design to establish the relationship that exists between teachers' differential continuous training and their productivity in senior secondary school of Edo State. The population consists of the two thousand seven hundred (2,700) senior secondary school teachers in Edo State. Multi-stage sample technique was adopted for sample size selection from three senatorial zones. Ten percent of the teachers' population (270) were randomly selected in each selected schools across three senatorial zones. The schools were stratified into urban and rural while teachers were stratified based on experienced and inexperienced teachers. The research instrument was five-point Likert type scale questionnaires consisting of fifteen items. The instrument (content validity) was validated by three experts. Furthermore, the split-half reliability method was employed and Cronbach alpha reliability statistics was used to determine the reliability of the instrument. The reliability coefficient

was 0.88 which implied that the instrument was reliable. Data collected was analyzed using descriptive mean statistics with the criterion mean set at 2.5 in line with the rating scale to determine the teachers' differential training needs and their job productivity while hypotheses raised was tested using

Pearson Product Moment Correlation Coefficient at 0.05 level of significant and Fishers Z test of difference in relationship between teachers' continuous differential training and job productivity.

4. Analysis of Data

Research Question 1: What are the training needs of teachers in Edo State?

Table 1: Training Needs of Teachers in Edo State.

S/N	Variables	Mean	Standard deviation	Remark
1.	Lesson preparation	3.72	.499	High
2.	Display of in-depth knowledge of subject matter.	3.66	.512	High
3.	Lesson presentation	3.62	.527	High
4.	Classroom management	3.59	.538	High
5.	Knowledge of ICT	3.32	.686	High
Level of training teachers' needs		3.55	.516	High

n = 340 and criterion mean = 2.50

Table 1 showed that all the five indices of teachers need measured were high with lesson preparation as the highest (3.72), followed by display of in-depth knowledge of subject matter (3.66), lesson presentation (3.62), classroom management (3.59) and lastly, in-depth knowledge in Information and Communication Technology (ICT) (3.32).

Research Question 2: What are the problems that militate against differential continuous training of teachers?

Table 2: Problems that militate against differential continuous training of teachers.

S/N	Variables	Mean	Standard deviation	Remark
1.	Poor finance	3.78	.483	1 st
2.	Corruption	3.76	.465	2 nd
3.	Lack of training expertise	3.69	.513	3 rd
4.	Lack of time	3.66	.511	4 th
5.	Availability of concern teachers	3.31	.608	5 th

n = 170

Results in Table 2 are presented in order of predominance. Funding was ranked 1st with the highest mean score of 3.78, followed by corruption which came out 2nd with a mean score of 3.76, then lack of training expertise with 3rd position with a mean score of 3.69. Lack of time records 4th with a mean score of 3.66, while availability of concern teachers came 5th with a mean score of 3.31 which was the last in the rank.

H₀₁: There is no significant relationship between teachers' inferential continuous training and job productivity.

Table 3: Pearson r of the relationship between teachers' inferential continuous training and job productivity.

Variables	n	Pearson (r)	r %	Sig.	Remark
Teachers' differential training	170	.083	.07	.128	Not significant
Teachers' job performance					

@ = 0.05

The result in Table 3 showed a Pearson (r) value of 0.83 with corresponding p-value of .128. The p-value of .128 is greater than the alpha values of .05, i.e. (.128 > .05). Thus, the relationship between teachers' inferential training and job production is not significant.

Hypothesis 2: There is no significant difference in relationship between teachers’ differential continuous training and job performance based on years of work experience of teachers.

Table 4: Fisher’s Z test of difference in relationship between teachers’ differential continuous training and job performance based on years of work experience of teachers.

Variables	N	Pearson (r)	Z calculated	Z critical	Remark
Less than 5 years’ experience	44	.254	1.82	±1.96	Not significant
5 years and above	126	.031			

@ = .05

Table 4 revealed that the Pearson Product Moment Correlation coefficient is .254 and .031 respectively. The calculated z-value is 1.82. it is not significant testing at an alpha level of 0.05. Since the calculated Z falls within the acceptance region of ± 1.96 (i.e. $1.82 < \pm 1.96$), the null hypothesis which states that “there is no significant difference in the relationship between teachers differential continuous training and job performance based on years of teachers’ experience” was retained.

5. Discussion of the Findings

Research question 1 revealed that all the indices of teachers differential continuous training needs are high. These are in line with India (2022) who stated that teachers’ continuous training needs such as learning how to teach, managing the classroom, knowledge of subject matter and the like were high. This implies that teaching as an act has a procedure which teachers are required to follow accordingly for effective teaching and learning. The finding in Table 1 is in line with that of Ahmed (2020), who in his study revealed that teachers needed more skills in lesson plan, teaching methodologies, classroom management and the like. The finding indicates that for teachers to be productive, they must master the subject matter, explore adequate teaching methods and manage their classroom well. Hence, the quality of teacher is determined on how he/she enhances his/her training needs.

Research Question 2 showed that certain factors constitute problems that obstruct effective continuous differential training of teachers in Edo State and they are: inadequate financing with the mean score of 3.78, corruption, 3.76, lack of training experts, 3.69, lack of time, 3.66 and non-availability of concerned teachers.3.31. These factors tend to hinder teachers’ productivity in teaching and learning situations.

The findings in Table 3 revealed that there is no significant relationship between teachers’ continuous differential training and job productivity. Although, there is a positive relationship but it is not significant.

This finding aligned with that of Chimezie and Ezeala (2022) which revealed that there is no significant correlation between teachers’ continuous training and job productivity. This implied that the more the continuous inferential training of teachers, the more productive they become in their specific teaching area.

The findings in Table 4 revealed that years of teachers work experience do not significantly influence teachers’ job productivity. This study showed that years of teachers’ experience does not correlate with their job performance. This could be so because teachers’ job productivity could be affected by other variables outside years of work experience which may include attitude to work, management training, differential training and the like.

This finding in Table 4 is not in consonant with that of Bolarinwa et al., (2020) whose work revealed that there was a significant relationship between teachers’ experience and job productivity. This implies that continuous inferential training of teachers can affect both low and highly experienced teachers’ productivity in about the same way. They concluded by saying that the more the work experienced; the more the productivity of teachers.

6. Conclusion

Continuous inferential training of teachers was identified as an important tool for their productivity. Problems associated with teachers’ continuous training such as funding were identified. Adequate continuous differential training of teachers is necessary for their productivity. This is done irrespective of teachers’ years of experience. Identification of the training needs of teachers are necessary before the training.

7. Implications of Findings for Teachers

It is necessary for teachers to identify the areas of their needs in teaching and learning before embarking on their job training. Every innovation is bound to have pros and cons. So, also is the implementation of

continuous inferential training of teachers. Some of such problems were funding, lack of experts and the like. Teachers should therefore strive to be acquainted with these problems and be able to manage them adequately.

8. Recommendations

- Government should give incentives for teachers' productivity by funding their continuous differential training.
- Teachers need to regularly update their knowledge through continuous inferential training.
- Teachers should be asked what the need, what gaps they have and what suits their context before they participate on the in-service training,
- A similar study can be conducted and replicated in private sectors to have in-depth knowledge of the teachers' inferential training.

References

- Aghaosa, I.P., & Nwanze, P.E. (2008). Bridging theory and practice. *Eko Journal of Educational Research* 3(3), 220 – 229 Faculty of Education, University of Lagos.
- Ahmed, S.G. (2020). Exploring Faculty perception on the Covid-19-imposed shift in higher education of Bangladesh: A neoliberal analysis. *Policy Futures in Education*, 20(4), 209-523. Retrieved from <https://doi.org/10.1177/1478210321052151>
- Bolarinwa, D.A., Kolawole, A.O., Ayodele, O.V., Fakunle, A.F. & Adetule, O. (2020). Teachers' teaching experience and educational qualification as correlates of academic performance of students in public secondary schools in Ekiti State, Nigeria. *Journal of Education and Practice*, 11(2).
- Chimezie, M.O. & Ezeala, C.A. (2022). Principals' supervisory strategies as correlates of teachers' effectiveness in public secondary schools in Anambra State. *Journal of Educational Research and Development*, 5(1), 128-139.
- Ekejiuba, P.N. (2012). Perceived insecurity among teachers and teaching practice. *Journal of Education*, University of Benin.
- Federal Republic of Nigeria (2004). National Policy on Education. Yaba, Lagos.
- Franey, J.T. (2016). Understanding teachers' development theories. Retrieved from developingdifferencemakers.com
- Fuller, F.F. (1969). Theory of concerns of teachers. Developmental study of teacher concerns across time. Paper presented at the Annual Meeting of the American Educational Research Association, Boston, MA.
- India, S. (2022). What kind of training techniques do teachers need? Retrieved from schoolnetindia.com on 5th of Aug., 2024.



Technological Infrastructure and Employee Capacity of Selected Tertiary Institutions in South-South Nigeria

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Abstract. This paper's main goal is to investigate how technological infrastructure affects the development of staff capability in a few South-South Nigerian postsecondary institutions. Examining the connection between staff productivity and organisational structure at a few South-South Nigerian educational institutions is the particular goal. Resource Based Theory (RBT), created by Birge Wenefeldt in 1984, serves as the foundation for this investigation. For the study, a survey research design was chosen. 346 workers were included in the sample, which was taken from a primary source of data. The developed hypothesis was tested using regression analysis. According to the results of the test of the hypothesis, there is a positively significant correlation between employee productivity and organisational structure (F-statistics = 78.1; R-Squared = 0.793, $P > 0.05$). Based on the results, the study came to the conclusion that staff capability and technology infrastructure in South-South Nigerian tertiary institutions are strongly positively correlated. In conclusion, the study suggests that South-South Nigerian tertiary institutions should be well-structured since this would promote staff productivity and capacity building, which may ultimately result in better performance from these institutions.

Keywords: Technological Infrastructure, Employee Capacity, Organizational Structure, Employee Productivity, Tertiary Institutions

1. Introduction

The most valuable assets in any organisation are capable and competent workers who possess the necessary skills to perform their jobs. These workers have the ability to make a substantial contribution to the long-term positive outcomes of the organisation and help it move from its current state to its desired future state (Obiekwe, 2018). In educational institutions, where teachers are expected to be used to the current, expanded technical infrastructures

necessary for high-quality teaching, research, and administrative assistance to students, employee capacity is even more important. Every organization's ability and the calibre of work performed by its personnel determine how well it functions in achieving its aims and objectives (Nwaeke & Obiekwe, 2017). An organisation must give its personnel proper training if it hopes to increase and maintain productivity (Nwapi, 2023). Building employee capacity is one of the main ways that organisations invest in their workforce for higher returns both now and in the near future (Williams, 2017). Enhancing employees' technical expertise and abilities in their roles is the goal of employee capacity building (Akinola, 2015). Employee capacity building essentially entails giving staff members the information, abilities, and tools they need to improve their output, performance, and career development. The process of enhancing people's, organisations', and systems' capacity to carry out essential tasks in a sustainable manner while also continuing to evolve and grow over time is evidence-based (Okonkwo, 2022). The increasing advancement of an organization's technical infrastructures and capacities is a major factor that necessitates the development of staff capability (Appel-meulenbroek, 2022). Prior to 2019, several companies have nearly made some job descriptions obsolete due to improvements in technological advancements (Thorpe and Gordon 2015). It is noteworthy that organisations are using technology, especially information and communication technology (ICT), extensively to improve employee productivity, empowerment, and operational efficiency (Oluoch & Mengich, 2023). Teachers may expand their knowledge, expertise, and ability to communicate both within and outside of the classroom with the use of technology (Essien, et al, 2018).

There are no differences between South South Nigerian tertiary institutions and those in other

countries. It is essential for South South Nigerian tertiary institutions to comprehend the connection between staff capability and technology infrastructure. This is especially important because the region's higher education system has faced several depressing obstacles, such as inadequate facilities, inept staff, and poor organisational performance. The study found that the region's postsecondary institutions are poorly set up to support staff capacity building, which has a significant impact on organisational productivity. Employee inefficiency and low productivity may result from an organisation that is not technologically organised. Thus, the study's main goal is to investigate how organisational technology infrastructure and staff capacity building in South-South Nigerian postsecondary institutions relate to one another. This study specifically aims to investigate the connection between employee productivity and organisational structure.

2. Review of Related Literature

2.1 Technological Infrastructure

Workplaces will inevitably undergo a revolution due to the rapid advancement of technology over the past 20 years (Smith, et al, 2019). For example, social media's explosion and the fact that millions of people use it for communication (Smith et al., 2019). network connectivity capabilities, which increased from 2G to 4G (Tleuken, 2022). Since these and several other technology advancements have changed the nature of work and the organisational structure, it is now desired by households and organisations to increase productivity (Trede, et al, 2019). In many businesses, technological advancements have changed the credentials, abilities, and work history of individuals (Smith et al. 2019).

In order to effectively utilise technology advantage in organisational operations, businesses must constantly adapt their policies, procedures, and processes (Green, 2022). The fundamental hardware, software, and services that facilitate the creation, implementation, and use of technology inside an organisation are referred to as technological infrastructure. According to Mauerhoefer, Strese, and Brettel (2017), it includes everything from the software that powers computers and network equipment to the services that offer internet access. In essence, it serves as the "backbone" of technology, allowing educators and learners to use it to enhance their education. Any organization's productivity in achieving innovation management is greatly influenced by technology (Adamides & Karacapilidis 2016).

The diverse range of hardware, software, and other technological tools that can be integrated into the overall technological platforms, distribute any kind of information to any location within or outside the organisation, and facilitate the design, development, and deployment of a variety of institutional applications are known as an organization's infrastructure tools (Byrd, 2014). Knowledge seekers today have more options to study thanks to technology, which has made the globe a smaller place (Samson, et al, 2014; Ojerinde, et al, 2014).

The 21st century educational system has seen a significant shift in improved instructional delivery due to technology, which has given people several chances to succeed in their careers. The use of online learning was made possible by technological infrastructure, which allows students to receive instruction from the comfort of their homes. Educational institutions are also required to give instructors access to online resources, such as hardware and software components, to improve the educational experience, particularly in light of the growing number of students and the need to offer them flexible learning opportunities (Eynon, 2015). The internet offers instructors and students a wealth of technology tools for learning in addition to in-person interactions in a typical classroom (Ornstein & Levine, 2006; UNESCO, 2020).

Additionally, access to electronic materials is made easier by the usage of infrastructure technology in higher education libraries (Balaji & Kumar, 2019). Additionally, the quick developments in IT improved the exchange of publications and information (Ranjan, 2018). After acknowledging the commendable role that technology infrastructure plays in improving employee performance in postsecondary institutions, these institutions can now enhance their current resources to increase employee commitment by allowing them to work from any location, regardless of distance, as this will ensure a consistent, seamless, and uninterrupted school calendar. (Karacapilidis & Adamides, 2016).

2.2 Organizational Structure

An organisational structure is a framework that shows the departments, divisions, or units that comprise the organisation. These are arranged in a pyramidal fashion, with each level above the others and connected to an official authority. It may also be described as the internal organisation structure that encompasses all of the divisions that make up the organisation. The structure shows how these divisions relate to one another in terms of power, responsibility, and the decentralisation of each division and its

constituent parts from the lower divisions. Asri (2016). The rules governing the interactions between individuals or groups working to accomplish organisational objectives can be viewed as organisational structure. The duties of employees are often determined by their work, their supervisors, and, in the case of managers, their subordinates, regardless of the size or complexity of the organisation. The formal system of task and reporting linkages that establishes how people utilise resources to accomplish organisational goals is known as organisational structure (Sunday, Adenike & Anthony). A university's organisational structure is the hierarchy that allows for the distribution of duties and provides direction to both staff and students. It includes assigning, coordinating, and supervising tasks with the aim of achieving the aims and objectives of the organisation. It may also be thought of as the prism through which people interpret their surroundings and organisation (Zziwa, 2014).

2.3 Employee Capacity

Since capable and competent workers are an organization's most important asset, they may greatly contribute to long-term beneficial organisational results when managed well. To put it another way, workers are essential to an organization's ability to perform better, meet its stated or emerging goals, and assist it in moving from its current condition to its desired future state (Obiekwe, 2018). According to Nwaeke and Obiekwe (2017), the ability and calibre of work performed by the individuals inside an organisation determines how well it functions. Establishing a system that guarantees regular in-service training, the provision of essential working tools, and a work environment that inspires courage, strength, and empowerment in employees is crucial to ensuring that they perform at their best and are dedicated to long-term organisational improvements (Obiekwe & Ejo-Orusa, 2019). One of the main strategies used by organisations to invest in their workforce for higher returns both now and in the near future is capacity building (Williams, 2017).

The goal of capacity development is to improve people's technical knowledge and abilities in their individual roles while also giving them the knowledge they need to be qualified for any job (Akinola, 2015). Building capacity is similar to honing an existing ability to reflect changes in an organization's social and cultural environment as well as technological advancements. In today's cutthroat corporate environment, increasing capacity might serve as a launching pad for increasing production. The goal is to empower them to fully contribute to the organization's

welfare, health, and development (Onah, 2017). Capacity building and development enhances employees' ability to carry out the tasks that an organisation requires of them, and organisations have an interest in advancing their careers so that they can be retained and perform more effectively and efficiently. Graham (1955). According to Walker (2016), companies increased their investments in employee training, retraining, and talent development in 2004 and the first part of 2005. Organisations use capacity building and development as a technique to prepare their personnel to achieve predetermined goals and objectives. An organization's internal structure consists of socio-technical arrangements that are purposefully created to accomplish the organization's goals by acting appropriately at the appropriate moment.

2.4 Employee Productivity

The amount or degree of output obtained from a specified input is implied by employee productivity. It is the connection between the input used to produce an output and the output produced by a production or service system (Barzoki & Sarand, 2014). Firm-level aggregate metrics, such as value-added per worker, are used to calculate employee productivity (Anitha, 2014). Productivity, according to Mathis and Jackson (2018), is a measure of the amount and quality of work completed while accounting for the cost of the resources used. The ratio of output volume to input volume is known as employee productivity. To put it another way, it assessed how effectively labour and capital, two production inputs, are employed in an economy to generate a specific amount of output (Oduyoye, et al, 2019). Thus, an employee's productivity at a company might be calculated as an output (like sales or units produced) divided by an input (such the number of hours worked or labour costs).

2.4 Empirical Review

The impact of technology infrastructure on worker performance in Kenya's Kisumu County Government was examined by Oluochi and Mengich (2023). The study's premise, which was based on resource-based theory, was that employee performance and technology adoption variables were positively correlated. A descriptive study strategy using a quantitative method was used. A standardised questionnaire was used to survey 375 participants in the research. A noteworthy 36.1% variation in employee performance was explained by technology adoption, according to the study ($R^2 = 0.361$, $F(1, 367) = 68.885$, $p < .05$). Notably, staff

performance was positively improved by technology infrastructure. The idea was tested using regression analysis.

Kimani (2015) studied how information technology affects organisational effectiveness using Kenyan population services as an example. The survey was descriptive. Utilising a semi-structured questionnaire, primary data was gathered. This study's population consisted of all 438 employees of PS Kenya. A statistical package for social sciences (SPSS) computer application was used to import the study's data and analyse it using descriptive statistics such as averages, percentages, and frequency distributions. Regression analysis and other inferential statistics were used, and the standard deviation was calculated to check for consistency. To collect data, the questionnaire was sent electronically. According to the study's findings, the majority of respondents had access to a variety of IT firm gadgets that allowed them to carry out their jobs. The results of the study also showed that Population Services Kenya's organisational effectiveness and the degree of IT use were positively correlated.

Jabbouria, Zahari, and Khalid (2015) examined the influence of information technology (IT) infrastructure on employee innovativeness as a crucial problem in Iraqi private universities. A self-reported questionnaire, five information technologies as the independent variable, and subjective assessments of innovation performance as the dependent variable were all required of participants in the suggested design strategy. To determine which banks' IT infrastructure with innovation performance needed testing, factor analysis was done. Six private universities in Iraq made up the study population. Seventy-five faculty members were selected from these. The statistical method used to assess the proposed hypothesis was regression analysis. The analysis's findings showed a statistically significant and favourable correlation between innovation success and IT infrastructure.

Bakare (2025) investigated staff performance and technological development at private institutions in North-Central Nigeria. A structured questionnaire was used to gather data from 543 individuals at seven private universities using a descriptive survey study methodology. Multiple regression and other statistical analysis were used to evaluate the connection between employee happiness and technology. The findings showed that implementing digital infrastructure had a substantial beneficial impact on employee satisfaction ($\beta = 0.229$, $p = 0.001$), indicating that well-integrated technology improves employee engagement and work

performance. Kumar (2021) investigated how technology advancements affected the work effectiveness of instructors at South Asian higher education institutions in Nepal. The study design employed was a descriptive survey. 105 academic staff members from two reputable, approved higher education institutions in province 2 made up the study's population. 57 academic staff members were chosen from the population using convenience sampling procedures.

The data was analysed using regression analysis utilising a standardised questionnaire with a five-point Likert scale. The findings demonstrated that instructors' job effectiveness has been significantly improved by technology. The impact of organisational structure on employee performance at telecommunications businesses in Enugu, Nigeria, was investigated by Agu, et al (2023). Oral interviews and questionnaires were used to gather data. The data was analysed using the Simple Linear Regression approach at a significance level of 5%. Additionally, the investigation showed that MTN Telecommunications Enugu employees' dedication is positively impacted by organic structure.

2.5 Theoretical Framework

The Resource Based Theory (RBT) is the foundation of this investigation. This idea was developed in 1984 by Birge Wenefeldt. According to the notion, businesses use a synergistic mix of resources that are valuable, uncommon, hard to replicate, and non-replaceable to get a competitive edge and perform better (Barney, 1991). Furthermore, firms use these resources to carry out plans by effectively and efficiently developing skills that may be used to sustain a competitive edge, according to RBT (Barney, 1991). The role that resources play in helping organisations achieve better organisational performance is emphasised in the RBT model. Since physical resources are easily purchased on the market, they don't give organisations a long-term competitive edge because competitors may easily get equivalent assets. Conversely, everything that an organisation owns but does not physically exist is considered an intangible asset (Anand, et al, 2013).

Intangible assets include things like trademarks, brand recognition, technology infrastructures, and intellectual property. Brand reputation, which is based on the institution's technology resources, develops gradually and is not something that other institutions can buy on the market like material resources can. This theory is pertinent to the study because the ability of institutions to obtain and use better technological

infrastructure for teaching, learning, and administrative tasks is what gives them a competitive edge over their rivals. This, in turn, will improve the employees' capacity to carry out their assigned responsibilities.

3. Methodology

3.1 Research Design

3.3 Sample Size and Sampling Technique

The Krejcie and Morgan (1970) sampling technique was used for this study. The formula is:

$$S = \frac{x^2 NP(1-P)}{d^2 (N-1) + x^2 P(1-P)}$$

Where S = Sample Size

X² = Table value of chi-square for 1 degree of freedom 0.05 confidence level (3.84)

N = population Size (3,460)

P = Population proportion (0.5)

d² = Degree of accuracy (0.05)

$$\begin{aligned}
 S &= \frac{3.84 (3,460) (0.5) (1-0.5)}{(0.05)^2 (3,460-1) + (3.84) (0.5) (1-0.5)} \\
 &= \frac{3,321.6}{8.6475 + 0.96} \\
 &= \frac{3,321.6}{9.6075} \\
 S &= 345.7298 \\
 &= 346
 \end{aligned}$$

The questionnaire was created using a five-point Likert scale: Strongly Agree (SA), Agree (A), Undecided (U), Strongly Disagree (SD), and Disagree (D). 346 copies of the questionnaire were sent at random to respondents from the targeted tertiary institutions. The copies to be distributed at random to each organisation were determined using Bowley's (1926) allocation formula as follows:

N_h = n(n_h)/N

Where N_h = Number of units to be distributed to each group.

n_h = Number of respondents in each group.

N = Total Sample Size.

N = Total Population Size.

University of Benin	-	346(1340)/ 3,460 = 134
University of Port-Harcourt:	-	346(1180)/3,460 = 118
University of Uyo	-	346(940)/3,460 = 94

Survey research design was adopted for this study, which enabled the researcher to observe what happens to the sample subjects without manipulating them.

3.2 Population of Study

The three selected Federal Universities in South-South, Nigeria that were used in this study are: University of Benin (1,340), University of Port-Harcourt (1,180) and University of Uyo (940). This gives a total population of 3,460.

4. Data Presentation and Analysis

Table 1: Tabular representation of returned and unreturned questionnaires

Questionnaire	Number	%
Returned Valid	309	89.31
Unreturned (unfilled)	37	10.69
Total No. of questionnaire Administered	346	100.00%

Source: Field work, 2025

Table 1.1 above shows that out of three hundred and forty-seven (346) questionnaires that were administered to the researched institutions, three hundred and nine (309) copies representing 89.31% were returned legitimate, while thirty-seven (27) copies representing 10.69% were unreturned. The data analysis was conducted using 309 copies of the returned surveys.

Table 2: Descriptive Statistics on Technological Infrastructure and Employee Capacity

S/N	Technological Infrastructure	SA	A	UD	SD	D	Total	Mean	Remark
1.	The technological infrastructure in my organization makes me to work tirelessly.	123	82	44	28	32	309	3.76	Accepted
2.	The technological gadgets in my organization makes work to be stresslessly carried out.	98	103	43	39	26	309	3.67	Accepted
3.	There is regular in-service training in my organization.	104	108	43	31	23	309	3.77	Accepted
4.	My organization uses modern technological gadgets for her operation.	113	98	36	31	31	309	3.75	Accepted
5.	I am satisfied and at home with the technological infrastructures in my organization.	78	115	49	32	35	309	3.55	Accepted
Employee Capacity		SA	A	UD	SD	D	Total	Mean	Remark
6.	The employees in my institution are very competent in the discharge of their responsibilities.	99	102	41	38	29	309	3.66	Accepted
7.	Competent staff are appreciated and rewarded in my institution.	119	81	33	41	35	309	3.67	Accepted
8.	There is quality performance of staff in my institution.	124	96	31	33	25	309	3.84	Accepted
9.	The employee in my institution are less supervised in the discharge of their responsibilities	102	94	42	38	33	309	3.63	Accepted
10	The employees in my institution are well equipped with the necessary tools needed to carry out their responsibilities.	99	112	34	35	29	309	3.70	Accepted

Source: Field Work, 2025

The descriptive analysis, which uses a baseline of 3.0 for the research, reveals that respondents affirm all questions about personnel capability and technical infrastructure, with mean scores ranging from 3.55 (the lowest mean score) to 3.84 (the highest mean score). This suggests that staff capability is a result of the technological infrastructure in South South Nigeria's understudied higher institutions.

Table 3: Correlation between technological infrastructure and employee capacity

Correlations

		Technological Infrastructure	Employee Capacity
Technological Infrastructure	Pearson Correlation	1	.786**
	Sig. (2-tailed)		.000
	N	309	309
Employee Capacity	Pearson Correlation	.786	1
	Sig. (2-tailed)	.000	
	N	309	309

With r value = 0.79 (79%), Table 3 shows a high positive correlation between personnel capacity and technology infrastructure. The result is statistically significant since the P value is 0.00<0.05. Oluochi and Mengich's (2023) study, which looked at how technical infrastructure affected employee performance in Kenya's Kisumu County Government,

found a high positive correlation between the two. This result supports their findings. Additionally, the results are consistent with the research of Jabbouria, et al (2015), who examined how information technology (IT) infrastructure affects innovation performance as a crucial concern at private universities in Iraq. According to the study's findings, staff innovativeness and technological infrastructure have a substantial beneficial correlation.

Test of Hypothesis

Regression analysis was used to test the hypothesis with the aid of SPSS version 20.

H₀: There is no significant positive relationship between technological infrastructure and employee capacity.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				Durbin-Watson	
					R Square Change	F Change	df1	df2		Sig. F Change
1	.889 ^a	.793	.776	1.88863	.776	78.099	1	23	.000	1.654

Predictors: (Constant), Organizational Structure

Dependent Variable: Employee Productivity

The findings showed that staff productivity at the tertiary institutions under study is significantly impacted by organisational structure ($\beta = 1.89$, $p < 0.05$). Employee productivity is predicted by organisational structure (F-statistics = 78.1; R-squared = 0.776; $p < 0.05$). The predictor variable alone accounted for 79.3% of the variation in work satisfaction; the impact of the extraneous factors may have contributed the remaining 20.7%. The absence of first-order serial correlation is indicated by the Durbin Watson value of 1.7.

5. Discussion of Finding

According to the research currently available on organisational technology infrastructure, technological tools and knowledge inside an organisation significantly improve employee capability, especially in a developing region like South-South Nigeria. According to the results, an organisational structure that improves staff competences and productivity can boost employee capacity building and overall organisational performance. The results of the hypothesis test show a considerable positive correlation between employee productivity and organisational structure. This supports the research conducted in 2023 by Agu, Ero, Okoro, and Chike-Aliozor, who looked at how organisational structure affected the performance of workers at telecommunications firms in Enugu, Nigeria. According to the study's findings, MTN Telecommunications' organic structure in Enugu State, Nigeria, has a favourable impact on employees' dedication.

6. Conclusion

Based on the results, the study comes to the conclusion that staff productivity at the chosen tertiary institutions in South-South Nigeria is strongly positively correlated with organisational structure. Employees will be productive in carrying out their duties in well-structured companies. Thus, organisational technology infrastructure plays a major role in staff capacity building. This indicates that when an organisation is technologically well-structured and its personnel are exposed to the ways in which technology may be used to do their duties, their capacity increases at tertiary institutions.

7. Recommendations

According to the report, South-South Nigerian tertiary institutions should be well-structured in order to promote staff productivity and capacity growth. Higher education institutions, especially those in South-South Nigeria, will become more effective and efficient as a result of increased employee productivity. As a result, tertiary institutions in South-South Nigeria must be well-structured in order to increase staff productivity and enhance their overall performance. In order to effectively use technology advances and gain a competitive advantage, tertiary institutions must modify their policies, procedures, and processes.

References

- Anand, A., Wamba, S., & Sharma, R. (2013). The effects of firm IT capabilities on firm performance: The mediating effects of process improvement. 24th Australasian Conference on Information Systems (pp. 1-10). Australia: RMIT University.
- Anitha, J. (2014). Determinants of employee engagement and their impact on employee performance. *International Journal of Productivity and Performance Management*, 63(3), 308-323.
- Agu, J. C., Ero, K. A., Okoro J. C. & Chike-Aliozor, V. U. (2023). Effect of organizational structure on performance of telecommunication companies in Enugu, Nigeria. *International Journal of Management Studies and Social Science Research*. 5(4) DOI: <https://doi.org/10.56293/IJMSSSR.2022.4673>.
- Akinola, C.A. (2015). The role of bilateral donors in capacity building: The Techno serve Experience. Paper presented at a Workshop on Capacity building and Utilisation by Federal Ministry of Finance in collaboration with World Bank PACT Workshop. Abuja, Nigeria.
- Asri A. S., (2016). Measuring the Effect of Organization Structure on the Institution' Performance Efficiency: Empirical Study. *International Journal of Social Science Studies*. 4(10)
- Bakare, A.A. (2025). Technological Change and Employee Performance in Private Universities in Nigeria: An Empirical Analysis. *Journal of Informatics Education and Research*. 5(2), DOI: 10.52783/jier.v5i2.2595
- Barzoki, A.S., & Sarand, V.F. (2014). Investigating the relationship between organisational justice, organisational commitment and staffs quality of work life (case study: Islamic Azad University employees Shabestar). *Journal of Management Studies*, 3(4), 43-61.
- Jabbouria, I., Zahari, S., & Khalid, M. (2015). Impact of information technology (IT) Infrastructure on Innovation performance as a critical issue in the Iraqi private Universities. *Procedia Economics and Finance*, Vol. 39. 861 – 869
- Kimani, K. (2015). Impact of information technology on organizational performance, a case of population services Kenya. *Journal of Technology*, Vol. 3. 125-134.
- Kumar, C. J. (2021). Impact of Technological Changes on Job Performance of Teachers in Higher Education Institutions in Nepal, South Asia. *Research Journal on Multi-disciplinary Issues*. 3(1)
- Mathis, R. L., & Jackson, J. H. (2018). The role of human resource management information system in the process of manpower activities. Greater Region (Ghana). *American Journal of Industrial and Management Science*, 5(6), 20-28.
- Obiekwe, O. & Ejo-Orusa, H. (2019). Impact of employee performance appraisal on performance of business organisations: A theoretical review. *EPRA International Journal of Economic and Business Review* 7(9)
- Oduyoye, O., Ashikia, O. U., Adefulu, D & Abimbola, M. M. (2019). organisational learning and employee productivity of selected private universities in Lagos and Ogun States, Nigeria. *International Journal of Advanced Research in Statistics Management and Finance*. 7(1).
- Okonkwo, C. O. (2022). Capacity building and employee performance in plastic manufacturing companies in Anambra State. *International Journal of Business & Law Research* 10(3). 44-60,
- Oluochi, F., & Mengich, E. (2023). Effects of technological infrastructure on employee performance among Kisumu County Government Employees. *International Journal of Innovative Science and Research Technology*. 8(11)
- Mauerhoefer, T., Strese, S., & Brettel, M. (2017). The impact of information technology on new product development performance. *Journal of Product Innovation Management*, 34(6), 719–738. <https://doi.org/10.1111/jpim.12408>
- Nwapi, R. O. (2023). Effect of capacity building on workers' productivity in public sector organization. A case study of Enugu State. *International Journal of Public Administration (IJOPAD)*. p-ISSN: 2617-129X;
- Smith, E. F., Gilmer, D. O. & Stockdale, M. S. (2019). The importance of culture and support for workplace flexibility: An ecological framework for understanding flexibility support structures. *Business Horizons*, 62(5), 557–566. doi:10.1016/j.bushor.2019.04.002.
- Sunday C. E., Adenike O. B. & Anthony T. Adekola (2017). The effects of organizational structure on the performance of organizations. *European Journal of Business and Innovation Research*. 5(6) 46-62,

- Thorpe, M., & Gordon, J. (2015). Online learning in the workplace: A hybrid model of participation in networked, professional learning. *Australasian Journal of Educational Technology*, 28(8), 1267–1282. DOI: 10.14742/ajet.763
- Williams, F.O. (2017): “Capacity building and Utilisation in the Private Sector In Nigeria: Status, Problems and Prospects PACT Workshop, Nigeria.
- Zziwa G. (2014). Does the organizational structure affect the management universities in Uganda? An empirical Analysis. *International Journal of Educational Administration and Policy Studies*. Vol. 6(8) 159-169. DOI: 10.5897/IJAPS2014.0344. ISSN 2141-6656

Part Three
Social Philosophy



A Highlight of Henry Venn's Innovation in Entrepreneurship for Sustainable Poverty Eradication Programme in Nigeria

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Abstract. The processes of impoverishment that mainly underpin poverty are underscored in many critical aspects of deprivation engendered by lack of access to resources for dignified livelihoods (natural, material and financial), health burden precipitated by inadequate access to good health facilities; poor housing and lack of basic services i.e., the basic necessities of life and powerlessness to mention few. More often than not, the aforementioned impinged extensively on the poor because they limit people's access to income-earning opportunities, basic necessities of life, and resources which ultimately undermined the fulfilment of their civil, socio-political, and economic and resource-use rights. Unfortunately, it is an attempt to forestall this encroachment that Henry Venn, the British Missionary Church co-founder in his "Instruction to Missionaries" presents certain principles that will enhance economic viability and financial independence. This endeavour is a far-reaching Church-based entrepreneurial innovation that is embedded with the potential of curtailing poverty and emancipate the impoverished and the society at large for social and global sustainable development. To this extent, we shall do a rapprochement into Venn's concept of Church-based entrepreneurship programme in the light of its viability for a sustainable global development. We engaged the tool of historical and analytical method in data analysis. We conclude that, Church-based entrepreneurial enterprise is a viable engagement; and with illustrations from some selected churches on their entrepreneurial activities in Nigeria, it is obvious that Henry Venn's 18th century innovation is classic and pivotal to sustainable global development in the 21st century.

Keywords: Christianity, Entrepreneurship, Sustainable Development, Innovation, Poverty Eradication

1. Introduction

In the words of Kofi Annan, the former UN Secretary General, speaking on Johannesburg Summit in the year 2002, said that, "... the quest to build a more sustainable future... send out a message that sustainable development is not a necessity, but also an exceptional opportunity to place our economies and societies on a more durable footing." This statement cannot be truer for the continent of Africa in recent times than when this pronouncement was made. There is no gainsaying that the poverty level of most African countries is very high. This has made it impossible for Africans to meet up with the basic necessities of life including food, shelter, good environment, primary healthcare etc. In this conjecture, one might begin to be curious in asking how the world and Africa in particular can get rid of poverty. Without mincing words, solutions to the world's endemic and pinching poverty phenomenon demands multi-dimensional approach. Hence, in ridding the world of poverty, towards sustainable development for sustainable livelihood, from the Christian perspectives entails an historical search into the efforts made in the past to bring about self-reliance.

1.1 Conceptual Underpinnings

The need to rejuvenate the quest to build a society with equal opportunity for all and the achievement of sustainable development and livelihood came on board with the launching of a 15 years developmental programme agenda by the United Nations that was widely known as the Millennium Development Goals (MDGs). The MDGs are eight goals synthesized from previous development goals to be achieved by 2015 that responds to the world's main development challenges. It was officially established at the UN Millennium Summit in September 2000 and was adopted by 189 nations and signed by 147 heads of state. The goals may be said not to be wholly new but were articulated from the goals of the previous

millennium that must be tackled headlong at the beginning of the new millennium that started in year 2000. In the course of time, the MDGs constituted the nerve centre and focus of global development agenda. One or more targets have been set for each of the eight goals and all major international and regional organization are collaborating with a view to making the goals, with their respective targets, achievable. With 1990 as a benchmark, indicators have been formulated to measure the progress made against all targets as each country is expected to adjust each goal, with its targets and indicators, based on the peculiarity of its own situation. The need to review the success or successes of this millennium agenda apparently led to the launching of another development goals tagged 'Sustainable Development Goals' SDGs. The issue of Poverty, hunger, health conditions, education and the climate continue to be pressing global challenges. As a result, the new agenda, the 17 SDGs can be grouped into six "essential elements": dignity, people, planet, prosperity, justice and partnership. The new agenda is driven by International Development works which saw between 1990 and 2015, the number of those living in extreme poverty fallen from an estimated 1.9 billion to 836 million. This success in development works points to the fact that, institutions; government, NGOs, and faith-based corporations can play an important role by leading change and innovation, using business practices in developing regions to spur sustainable economic growth, promoting inclusive and sustainable industrialization, championing peace and gender equality, and providing much-needed financial support. This is the nexus in which the pivotal role of the church is germane. The role of the church in human development is essential and is not just a new concept. The more reason why it is needful to re-focus the agenda of the church and bring to the fore the innovation made in time past to achieve financial empowerment and self-reliance.

idea behind the concept of development is described as "the act, process or result of developing or state of being developed, gradual advance or growth through progressive changes. Achieving sustainable development growth would connotes, then, the act, process or result of developing sustainable growth or state of sustained growth. From this assertion, Gerhard Sauter mentions two concept that are central to the idea of development. Firstly, is the sense of an "organisation by creation." This means a development towards a higher and better process. Another concept of development is that of the mind leading to a complete mastery over nature in which case the humanity of man is no longer subjugated to nature. Sauter describes this as one of the sources of the technical development of western civilization, the idea

of freedom, and the conception that man must progressively understand the whole world in itself in order to be able to develop from it an environment which is suitable for him. Mala noted however, that, this understanding of development in the western world entails strong economic, technical, scientific and technological connotations. To this end, if development is understood to mean an enhancement of human knowledge and productivity, then, development can be viewed in another sense as the process of improvement in basic human needs, jobs, incomes, food, homes, health, participation in decision making, to mention few.

In context therefore, from an economic angle, development is about human satisfaction as well as social context of growth. Hence, it can be conceived at both the individual and the social levels. At the individual level, it equates, according to Rodney, increased skill and capacity, greater freedom, creativity, self-discipline, responsibility and material well-being. Thus, Rodney defines development at the societal level as an increasing capacity to regulate both internal and external relationships. Thus, from a socially grounded and materially-sensitive conceptualisation, development, as An-Na'im portrays it, is usually taken to involve not only economic growth, but also some notion of equitable distribution, provision of health care, education, housing and other "essential services", all with a view to improving the individual and collective "quality of life". In essence, "true" sustainable development growth agenda viz-a-viz social development in the view of Adelman, not only reflects "the degree of social, political and spiritual satisfaction in the society", but also "the extent of progress in fulfilling societal material needs". Against this background, the issue of sustainable development growth can be fixed. The idea behind The Sustainable Development Goals (SDGs) agenda are an aggressive, but achievable group of objectives that, if attained, will make the world a much better place. The 17 goals seek to end poverty, ensure food security, make access to healthcare universal, protect the environment, and much more. At the end of the 2015 the UN General Assembly formally accepted a new set of 17 measurable Sustainable Development Goals (SDGs), ranging from ending world poverty to achieving gender equality and empowering women and girls by 2030. These goals succeeded the Millennium Development Goals (MDGs), a set of eight measurable goals which were signed in September 2000. And just as it was in the MDGs, so do we have it in the SDGs that is to achieve total eradication of poverty in the world.

However, before leaving this section, a brief critical analysis of the role of the church in financial empowerment of the poor, and poverty eradication will be in order. The conceptual framework of A.O Dada is adopted here. He examines the role of the Church, at both the 'conceptual' and 'paraxial' level. In his discussion of the roles of Nigerians churches in poverty alleviation, he noted that, at the conceptual level, Nigerian churches have contributed to the conceptualization of the issue of poverty alleviation, and have raised people's consciousness about this canker. The Church has done this by using motivational teaching with the hope of re-orienting the mentality of individuals. This is done in order to enhance productivity, efficiency and wealth. At the paraxial level, churches in Nigeria have established people-oriented programmes to alleviate poverty, like empowering people in business skills, seminars on financial independence, and of course continuous prayers to fight against the forces of poverty. By this, poverty eradication is conceptualized within spiritual and physical realm. And this is an initiation that the church in Nigeria has continued to pursue.

Notwithstanding, it should be noted that some churches still believe that the role of the church is not to fight poverty, that should be left for the government to pursue. Rather the church's main role is salvific and to present the church to Christ without spot or wrinkle. This assertion is totally incongruence to the liberative work of Christ on earth. The church has liberative role to carry out if the message of the gospel is going to be meaningful to the poor, the down-trodden who are at the verge of despair. This is the juncture at which the import of Henry Venn's work is central to the present-day church. Perhaps a brief examination of the conditions of the poor and the impoverished state of Africa and Nigeria in particular will suffice.

The Miasma of Poverty

Poverty has been and continued to be a stigma in the African continent. It is like a thorn in the flesh, whose pain and irritation has started to spread. The Concise Oxford English Dictionary defines poverty as the state of being extremely poor. But Igbuzor tried to capture the state and condition of poverty in its entirety. He argues that poverty in Africa is multifaceted which encompasses the following: income, politics, ideology and society. He explains further, that, income poverty is a condition where people lack access to basic needs whereas political poverty projects a situation when people are denied basic rights in governance and participation in decisions concerning the generation, distribution and utilization of resources. In social poverty, the society is stratified into discrimination, stigmatization and dehumanization of individuals. While ideological poverty is a condition where people are bereft or forced to abandon indigenous, genuine,

people centred and practical ideas to organise society and distribute resources. Igbuzor notes that, the aforesaid are various brands of poverty which are interconnected and reinforce each other.

Arising from this scenario, it is obvious that the debilitating condition of Africa is like the analogy of a deformed child from birth; his ability to survive is limited or hampered greatly from childhood and he has to demonstrate exceptional ingenuity to keep him going in the midst of other children that are not disadvantaged. For instance, the capacity of Nigeria in particular and Africa to feed its people and stand tall in the circle of human modern progress, is pitiable. Africa still remains the poorest continent with over 38 of the world's least developed countries (LCDs). It has only 1% of the world's investment, 80% of which is the extractive in only about 5 countries. The continent has only about one percent of the world's share of trade and unfortunately some 340 million of its population live on less than \$1 per day. Even Nigeria, during the days of its petro-dollar has nearly 70% of its population within the crushing and destructive poverty line. This summation points to the fact that Africa is at a crossroad. It is of great concern that the situation of Africa has degenerated to such an extent that a good number of youths from many African countries including Nigeria, who are pushed to the precipice, have resorted to heart stopping risks, by illegally crossing over to other continents with healthy economic systems in search of greener pastures. Sadly, some of them die in the process of this adventure. The majority of those who make it alive engage in the most pathetic jobs there which ordinarily they would not do in their countries.

Indeed, Nigeria presents a paradox when it comes to poverty situation. The country is rich but the people are poor. Poverty in Nigeria encompasses a very complex society: regional climatic and ethnic differences are reinforced by different historical and socio-economic legacies. Poverty, either as a plague or cause of other specific under development ailments, afflicts Nigeria as it does other Nations of the World. Nigeria is ranked among the world's 25 poorest Nations of the world and retains its 152nd Human Development Index, yet, Nigeria has not been known to lack in such programmes of poverty reduction strategies. In spite of the expressed concerns of past governments and the plethora of programmes and policies that have a bearing on poverty, the incidence and scourge of poverty have worsened over the years.

The prospects of achieving the sustainable development goals of 'no more poverty' therefore, hinges on the compelling need for a pursuit of

economic independent for all. To this end, the sustainable poverty eradication agenda that can be used by the church and various stakeholders in ridding the world and Nigeria in particular of poverty is to pilot a sustained self-reliant and entrepreneurial programme.

There is indeed, a growing concern over the pervasive state of poverty in Africa and there must be concerted efforts to stem down the tide. According to Egwu, a correct and well-designed system provides the best guarantee for attaining a human resource development level capable of sustaining development at the individual, community and national level. He says that, a sustainable and genuine efforts aimed at poverty reduction or eradication must inter alia address human resources development and training in a manner that is linked to improvement in the quality of life. This assertion points to the import of this paper. In other words, in engendering sustainable development growth agenda, there is the need to empower people. As empowerment is the easiest and fastest way out of poverty. This parameter can be developed upon by embarking on entrepreneurial programmes. And viewing it from the Christian and theological perspective, Henry Venn's concept of entrepreneurial training is explored to further drive home this position. A discussion on what entrepreneurship is all about is what the next section shall focus on.

Theoretical Framework for Entrepreneurship and Sustainable Development

Entrepreneurship is an economic enterprise, and economics as a social science deals with human behaviour. As a concept, it rests on the state of mind of the investor and a lot of variables usually come into play. The variables, according to Okechukwu, are; the environment, personality attributes, capital and labour. From this parameter, it is obvious, that entrepreneurship deals with the wealth and welfare of people, the government and the country at large. Abe also observes that, aspects of entrepreneurship within the national economy may concentrate on food, shelter, clothing, health, entertainment, transport and education. Entrepreneurial activities may specialize in one or more areas of these economic interests. While it is the government that usually provides public services, individuals or groups of people may participate in production of certain goods. Entrepreneurship can therefore be presented as a process that is dynamic in the creation and innovation of new values through time inference that centres on financial, psychological and sociological environment.

Therefore, stemming from Robert Hisrich's (1985) definition, someone that engages in entrepreneurial activities, viz-a-viz an entrepreneur is a person that involves in a process of creating something different with value by devoting the necessary time and effort, assuming financial, psychological and social risk, and receiving the resulting rewards of monetary and personal satisfaction. Although, there is no universal accepted definition of entrepreneur, nevertheless, from the foregone, an entrepreneur identify an opportunity, mobilize money and management skill and take calculated risk to open market for new product, processes and services.

Sustainable development entered the development discourse in the early 1970s. The 1972 UN Stockholm Conference on the Human Environment may be argued to be the first international conference that brought the concept of sustainability to the international arena. However, there is a general consensus in the literature that it was the 1987 World Commission on Environment and Development (WCED) that was largely responsible for providing the normative- conceptual bridge between environmental concerns and development outcomes. Sustainable development was further legitimized following the United Nation's Conference on Environment and Development held in Rio de Janeiro, Brazil in 1992 (known as the Earth Summit); the United Nations' Conference on Sustainable Development held in 1993; and the World Summit for Sustainable Development which was held in Johannesburg in 2002. These conferences facilitated the globalization of the concept and the establishment of an international consensus on the concept of sustainable development by the formulation of such action plans and guidelines; such as the Brundtland Report and Agenda.

However, since the introduction of this concept in development discourse, a variety of definitions have been conferred on the concept of sustainable development. Nonetheless, the most popularly employed definition, provided by the Brundtland Report (WCED 1987), states that, "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs". Another often-quoted definition of sustainable development is the one provided by Caring for the Earth. According to him as cited by Munro, (1995, p.29), sustainable development is, "improving the quality of human life while living within the carrying Capacity of supporting ecosystems". Nevertheless, considering the multiplicity of definitions and interpretations, there is a general view that identifies ecological and environmental factors as the limiting factor on

development. At the core of these views is the notion of an “inter-temporal conflict of interest” between the development practices of present generations and the perceived needs and capabilities of future generations. Critical to this agenda is the requirement of compromise between ‘needs’ and ‘wants’, hence the idea of limitations placed on the development process in order to sustain or improve the balance between homo-centric and nature-centred development.

Over the years, sustainable development has mainly focused on environmentalism framework as a result of climatic change and ecological degradation. However, as the world synthesized in globalization, the use of the term became interconnected to social and economic dimensions of development. This explains the reason why contemporary mainstream notions of sustainable development has been portraying it as a tri-dimensional concept featuring the interface between environment, economic, and social sustainability. As a result, as the concept of sustainable development gains more grounds, it has recently opened up the debate for diverse reflection. This underscores the consideration of ridding the world of poverty towards building sustainable development for sustainable livelihood. At this juncture, the essence of this paper is pinpointed. It should be noted however, that the idea of entrepreneurship is not a new concept. What the next section presents to us centres on the fact that, as far back as the 1866 the issue of engaging the people to be self-reliant came to the fore. Then, it was an innovation by Henry Venn, which, as spelt out today, are purely entrepreneurship enterprise. It is believed that if this has been followed to the letter, the extent of poverty woes that has befallen the continent of Africa would have been minimal.

Henry Venn’s Innovative Concept of the Church in Entrepreneurship

This section examines the importance of the active participation of the Christian church in entrepreneurship which was an age-long innovation that emanates from Venn’s policy for church development. In doing this, we shall extrapolate the principle of Thomas Fowell Buxton’s promotion of respectable livelihood and subsequently, Henry Venn’s positive development of Buxton’s “the Bible and the Plow.”

In the course of campaigning against slave trading in Africa, Thomas Fowell Buxton and his associates envisioned the possibilities of legal commerce that would provide the African peasant with a respectable livelihood and restore his dignity. As a result, Buxton and his associates like, William Wilberforce, Clarkson

formed themselves into a “Committee for assisting the black poor” attempted to bring to realization their plans to open Africa to the principle of the Bible and the plow. The publication of Thomas Buxton, titled “The African Slave Trade and its Remedy”, published in 1849 contained the idea commonly referred to as the Bible and the Plow.

The largest effort put forth in the 1840s was the Niger expedition promoted by Buxton. Although the first voyage was not successful, subsequent voyages opened the Niger area to philanthropic efforts and inspired subsequent endeavours in other parts of the continent in later years, such as the African Lakes company in the Lake Nyasa region and east Africa Scottish Industrial Mission in Kenya.

An enterprise combining commercial and philanthropic objectives for the introduction of European civilization on the Niger was undertaken in 1841. The emphasis that Buxton’s book placed on the use of Africans as trading and missionary agent laid a good foundation for the take-off of the native pastorate of Henry Venn. It was Henry Venn that thoroughly expanded the scope of “the Bible and the Plow”.

According to Abe, Henry Venn (1796-1873) was one of the British Missionary Church founders of note. To his credit, Venn’s vision was far ahead of that of his contemporaries. In 1866, he wrote “Instruction to Missionaries” on their principles for national character of Nigerian Churches. The church, he advised should be trained for self-propagating and self-dependence, i.e., she should be viable economically to cater for her financial obligations and that of her members, especially the less privileged. She should be organised to be able to generate enough funds with which to exist and function effectively without necessarily jeopardizing her spiritual obligations.

The three “selves” should be operational within the primary objective of the church to bring salvation to souls in the faith of Jesus Christ. According to Venn, the breath of life in a native Church depended on these “Selves”. The Church labours should practically be all embracing. For over-dependence upon “God loves a cheerful giver”, that is, mere generous giving or excessive taxation and assessment, without making efforts for self-support, may eventually incapacitate the church for both her spiritual and material responsibilities, especially to the ‘haves not’.

It should however be noted, that this innovation does not in any way hamper evangelistic work. Some argued that, the church is essentially set up to cater for the spiritual welfare and nurturing of the souls of

believers. While this is true, Venn's policy still gave priority to evangelism and Church planting but was also conscious of the people's poverty and encouraged agriculture and commerce, especially of coffee, cocoa and Palm oil. It is apparent from the aforesaid, that in addition to the missionary interest and propagation of the gospel, a concern for the well-being of the people of Africa was prevalent in Venn's thought. Therefore, Henry Venn, secretary of the Church Missionary Society, advocated lawful trade to replace slave trade. He maintained that profitable, legitimate commerce would cause chiefs to desist from the slave trade. He requested that missionaries send samples of products of the country to him. He presented these samples to brokers to stimulate trade with the countries. Missionary societies and governments introduced new crops, such as coffee, cocoa, cotton, and citrus fruits.

Therefore, in eradicating poverty, Henry Venn encouraged trade with the people. Commerce increased rapidly and became profitable after Lagos was taken and their country had benefited from economic advantages. By the end of the century, an important cotton industry was developing. This was, as Ayandele attests to, Henry Venn's 'euthanasia' of missions, his 'self-supporting, self-governing and self-extending' Church programme policy. By and large, instead of the church to develop on Venn's efforts towards this line, education and building of schools, which are not bad in themselves, was prioritized. Hence, as Nigeria witnessed growth in educational turn-out, the few governments' white-collar jobs was no longer sufficient to cater for the increasing population. As a result, unemployment set in. Urban migration consequently led to reduced number of people manning the production of food in the rural areas; and this led to the gradual increase of the poverty situation in Nigeria. I shall subsequently sum-up with the implication of Henry Venn's innovation in entrepreneurship for sustainable development.

Implication for Sustainable Development

In articulating innovative ideas as something that can engender entrepreneurship, it must not be misunderstood to exploitation and capitalism. The principles that hinge on innovation cum entrepreneurship is "to strengthen the leadership of social (and religious) sector and engendering the eroding of class distinctions. Hence, as Mellor (2003) puts it, innovation is essential to development and human progress. Innovation builds on education and intellectual freedom.

To this end, Venn's innovation in entrepreneurship development as far back as then, would still be

relevant in our day in ridding the world of poverty. Venn's innovation could be used as a method of restructuring to actualize value chain so as to reap an entrepreneurial profit and this will be of benefit to the poor if they are mobilized into it.

The implication therefore, draws on the fact that entrepreneurship as a socio-economic innovation, enhances development through the entrepreneur who is often seen as an active 'change agent'. The entrepreneur consciously uses innovation and creativity as tools to achieve enterprise. The Church should therefore pay attention to this particular angle. It should be noted that, in any growing economy like Nigeria, a great many changes take place simultaneously which calls for continuous adaptation of the structures of the economy in order to maintain balance between the different elements in it. As a result, a transformational process is birthed that will engender new techniques to facilitate development.

References

- Kofi Annan (2002) A statement made in preparation for Johannesburg Summit 2002 of the World Summit on Sustainable Development; quoted by Clare Shaw, Editor, *The International Development Magazine*: "Developments". Issue 18 Second Quarter, p.3
- C.O.E. Onwuliri, "The Millennium Development Goals and the Church in Nigeria" A Keynote Address presented at the annual Theological Conference of the Catholic Institute of West Africa, Port Harcourt, Rivers State Nigeria, on Monday, 10th March, 2008. Retrieved at <http://www.futo.edu.ng/speech> on MDGs and the Church.html. Accessed on 21/12/2010.
- Is-haq O. Oloyede (2008) "MDGs: With God, all Things are Possible". Text of the Address Delivered on the occasion of the Formal Opening Ceremony of the 29th Annual Conference of the Nigerian Association for the Study of Religions (NASR) at the University of Ilorin on Wednesday, September 3
- Global Impact, "Sustainable Development Goals" <https://sdgfunds.charity.org>. Retrieved on 31/08/2016
- Websters' New International Dictionary of the English Language. 2nd Edition, Springfield; G and C. Merriam Company Publishers, 1957, p. 713.
- Gerhard Sauter (1985) "The Conception of Man and Development", H. Dobers, W. Erl, et.al (eds.), *Development and Solidarity Joint*

- Responsibility of Muslims and Christians. Mainz: Hase and Koehler Verlag, p. 30
- Sam Babs Mala (1988) "Religion and Development: The Case for Christian-Muslim Joint Responsibility". In I.A.B. Balogun, (Ed-in-chief), *The Place of Religion in the Development of Nigeria*. Ilorin: Amora Press Ltd, p. 178
- Brian Davies (ed.), *Introducing Development Education*. London: Centre for World Development Education; 1979, p. 8
- N.O. Mimiko (1997) *The Global Village: Selected Topics on International Economic Relations*. Akure: ABM Research & Services, p. 2
- W. Rodney (1982) *How Europe Underdeveloped Africa*. Enugu: Ikenga; pp. 9-11
- A.A. An-Na'im (1995) "Towards an Integrated View of Human Rights." *Hunger Teach Net*, 6(3), September, pp. 19-20
- I Adelman, "Social Development in Korea, 1953 – 1993" Conference paper at the International Conference on the Korean Economy, 1945-1995, Korea Development Institute, Seoul, December 1995.
- Global Impact: "Sustainable Development Goals"; <https://sdgfunds.charity.org/>. Retrieved on 31/08/2016
- Sustainable Development Goals (SDGs) and United World Schools (UMS). <http://www.unitedworldschools.org/sustainable-development-goals-sdgs-and-uws/>. Retrieved on 31/08/2016
- A Dada, *Redefining the Church's Role in Poverty Alleviation in Nigeria*. *Mission Today or Indian Missiological Journal* 11 (3): 45-58.
- C.O. Kwarteng & H.E. Acquaye, "The Role of Ghanaian Churches in the Financial Rehabilitation of the Poor: Implications for Re-Visiting the Social Mission of Religious Institutions." *Journal of Financial Services Marketing* Vol. 15, 2011, pp. 309-319. Retrieved via google search in 2012.
- Brenda Kimengich, "Poverty reduction Strategy." In a Book Review titled: *Alternative Poverty Reduction Strategy for Nigeria*. <http://www.africanexecutive.com/modules/magazine/articles.php>. Retrieved on 21/12/2010.
- A.M Adejo, "Globalization and Ownership of Development Agenda", a paper delivered at the Globalization Studies Network Conferences in Kuala Lumpur, Malaysia, August 2006.
- Francis Uneke & Austin Atabo, "Thawing the Glacial System of Africa." *The Gleaner*, Vol. I No. 10, 2007/2008, p. 6
- "Poverty Reduction Strategy": <http://www.africanexecutive.com/modules/magazine/articles.php>. Retrieved on 21/12/2010.
- A Cairn Cross, *Introduction to Economics*. London: Butter Worths, 11978, p. 6
- O.C Okechukwu, *Entrepreneurship development: Principles and Practices*. Kaduna: Wolsak Printers Ltd; 2009, p. 6
- G.O. Abe, *Perspectives in Religious Studies*. Vol. II. Lagos: New Dawn- International; 2008, p. 287
- O.C. Okechukwu, *Entrepreneurship Development*: pp. 6-7
- Olakunle Makinde, "Cultural Heritage Preservation as the Fourth Pillar of Sustainable Development and Poverty Alleviation: Osun-Osogbo Sacred Grove as a Case Study", in Joseph Ngu, et.al (eds), *World Heritage and Sustainable Development. Reflection on the 40th Anniversary of the UNESCO World Heritage Convention (1972-2012)*. UNESCO, 2013, p.60
- Munro, 1995, p.29 cited by Olakunle Makinde, "Cultural Heritage Preservation as the Fourth Pillar of Sustainable Development and Poverty Alleviation..." In Joseph Ngu, et.al (eds), *World Heritage and Sustainable Development*, p.61
- Olakunle Makinde, "Cultural Heritage Preservation as the Fourth Pillar of Sustainable Development and Poverty Alleviation", p.61
- Simon Bell, *Measuring Sustainability: Learning by Doing*. London: Earthscan Publications Ltd, 2003, p.
- Peter Falk, *The Growth of the Church in Africa* (Kinshasa: The Zondervan Corporation; 1979), p. 123
- G.O. Abe, *Perspective in Religious Studies*. Vol. II, p.297
- Peter Falk, *The Growth of the Church in Africa*, p.128
- E.A. Ayandele, *The Missionary Impact on Modern Nigeria. 1842-1914: A Political and Social Analysis*. (London: Longman; 1966), p.283
- Robert Mellor, et.al., *Entrepreneurship for Everyone*. A Student Textbook. London: SAGE Publications Ltd; 2010, p.22



Noahic Covenant in Genesis 9:8-17 and Its Relevance to Global Warming and Flooding in Port Harcourt

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Abstract. The rising spate of flood in the global space majorly attributed to global warming in recent times makes is alarming. The devastations caused by floods cannot but make Christians to wonder if God has reneged on his promise in the Noahic covenant. The problem of this paper therefore, is to examine the validity of the Noahic covenant in Genesis 9:8-17 in relation to the challenges of global warming and flooding in Port Harcourt and the Niger Delta. It aims to investigate the message of the covenant and find out if global warming as well as flooding has invalidated the covenant. In order to foster an understanding of the text and its implication on global warming and flooding, evaluative model of Justin Ukpong is employed. It was found out that the flood in the covenant was not regional, but the floods experienced today are regional. It was also discovered that the flood of Genesis which the covenant refers to, had divine origin, though necessitated by human disobedience, but the contemporary floods, which emanated from the refusal of humans to care for nature as demonstrated in the covenant, is human cause and can be reversed by human adjustment. It is concluded that, as long as flooding does not wipe out the entire creation at a time, Noah's suzerain has kept his part of the bargain. A deliberate return to creation care to reduce the impact of global warming and deliberate actions by government and other stakeholders to address issues aggravating flooding are therefore recommended.

Keywords: Noahic Covenant, Global Warming, Flood, Port Harcourt, Genesis.

1. Introduction

The ecological crisis as well as its attendant devastating effects on the world is undeniable. Tsai (2015:1) notes that "Whatever one's view of the details of any particular debated ecological problem, all can agree that there are multiple ecological crises

with which we must reckon in today's world". The challenge associated with flooding, attributed to global warming, ranks top among them. White, in his seminal article "The Historical Roots of Our Ecologic Crisis" (1967), accuses Christianity for being responsible for the ecologic crisis. By using the plow method change as an example, White points out that man's relation to soil profoundly changed from being part of nature to the exploiter of nature. White claims that "especially in its Western form, Christianity is the most anthropocentric religion the world has seen," and traces it to the story of the creation in Genesis chapter 1 where "God planned all of this explicitly for man's benefit and rule: no item in the physical creation had any purpose save to serve man's purposes" (1967:1205, Olusakin & Udoh, 2018:77, Olusakin, 2019a:76). Cha (2012:89) however explains that White's argument regarding the exploitative attitude of Christians towards nature is mainly based on his interpretation of the Genesis mandate for humans to "have dominion" over the rest of living things.

White's contribution in this regard is not novel. Feuerbach, for example, had earlier commented: "Nature, the world, has no value, no interest for Christians; the Christian thinks only of himself and the salvation of his soul" (1957:287). However, Tsai acknowledges that it is in response to White's accusation that the ecological crisis deserves deeper attention from the theological field today (2015:1, Olusakin, 2019a:77), even though Pihkala has identified the work of Liberty Hyde Bailey in the early 20th century as foundational for what we now refer to as eco-theology (2016:268). It was in furtherance of this cause that at the 1990 Moscow Global Forum of Spiritual and Parliamentary Leaders Conference thirty-two eminent scientists and two hundred and seventy-one spiritual leaders challenged religious communities and scientists to join hands in fighting for the preservation of the environment. In an open letter

they expressed their concern about the depletion of the ozone layer, global warming, obliteration of forests, rapid extinction of species and the possibility of nuclear war (Dyk, 2009:187).

Many have tried to resolve the perceived indifference of Christianity towards ecological issues. For example, Northcott presents a new ecological reading of concepts such as covenant, land, justice and natural law in the Bible and the Christian traditions, and finds in natural law tradition an ethical vision to reconnect the quest for social justice and the common good in human society and for sustainability and ecological harmony in the natural world (1996). Others, such as Roman Catholic theology, for example, have tried to establish environmental ethics from a liturgical and sacramental perspective (1994). In November 2013, the World Council of Churches Assembly in Busan identified eco-theology and climate justice as two of the key priorities for the working period between 2014 and 2021 (Werner & Jeglitzka, 2016:13).

These attempts and efforts are important and helpful for looking into the important contemporary issue. However, Frick has described the flawed biblical hermeneutic of stewardship and the theological distortions it engenders. He draws upon the works of Robert Murray, Michael Northcott and Karl Barth to establish the theological foundations of a covenantal theology (2014); while Tsai rhetorically affirms that the environmental issue is not contemporary only (2015:2). Tsai's major contribution in this area is that of drawing the attention of theological thinkers to the Noahic covenant as the pivotal passage from which they must draw the imperative for creation care, seeing that the inclusion of the entire creation in God's plan both before and after the deluge is very instructive of God's passion for its preservation. This is the same motif in the work of Barrick who argues:

God's desire to provide a climatic environment suitable to the preservation of plant, animal, and human life on the planet, evident in his promise that the environment will be stable, provides a model for mankind in his vice-regency; they must follow practices that contribute to the preservation of a stable environment (2012:1).

While Tsai's and Barrick's calls for a return to the Noahic covenant as a viable approach to solving our current environmental challenges are worthy of emulation, this study narrows the scope of the context to the flooding that is currently bedeviling the society and rendering many homeless. Accordingly, the significance of the Noahic covenant in biblical theology is highlighted, the state of global warming in

general and flooding in particular especially in Port Harcourt is reviewed. The Noahic covenant is analyzed and its implications for man with regards to flooding is considered using the evaluative model of Justin Ukpong. The Justin Ukpong's evaluative model, especially the second approach, while recognizing the historical-critical method of Biblical exegesis as its starting point, employ a Biblical text to critique a particular issue in society or church life (Ukpong, 1999: 319)

2. Significance of the Noahic Covenant in Biblical Theology

The concept of "covenant" is a pivotal one in the Bible. Both the Old Testament and the New Testament utilize words denoting this idea, and their contexts reveal how crucial certain covenants were in explaining the actions which followed (Kent, 1985:289, Olusakin & Essang, 2024: 268, Olusakin & Asanga, 2025:137). The covenants mentioned in the Old Testament include: Noahic (Gen 6: 18; 8:20-9: 17); Abrahamic (Genesis 15, 17); Mosaic or Sinaitic (Exo. 19:5, 20); Palestinian (Deuteronomy 29-30); Davidic (2 Sam 7:4-16; 23:5); and New Covenant (Jer 31:31-34; Ezekiel 36-37). In addition, some would posit by deduction an Edenic Covenant, and would separate the Mosaic into Sinaitic and Levitical (cf. Busenitz, 1999:186). It is clear that from an early stage in the Christian era, the significance of the covenant concept in biblical theology was recognized. Such is noticeably reflected in the canonical nomenclature applied to Christian Scripture: The Old and New Testaments (Williamson, 2007:19). However, the Noahic covenant seems to have been overlooked in biblical scholarship until recent times (Chalmers, 2009:207-208)

However, Hughes accentuates its place as "the very first covenant in the Bible, and as such one that informs every covenant to follow (the Abrahamic, Mosaic, Davidic, and new covenants)" (2004:147). For Reno, the covenant with Noah is "the foundation for... the subsequent, sanctifying covenant begun with Abraham, given full form on Sinai, and completed on Golgotha (2010:143). Rabali (2004:19-21) summarizes Robertson's six characteristics that are noticeable in the Noahic covenant. They are: the covenant with emphasizes the close interrelation of the creative and redemptive actions of God; it shows that God's grace is particular as it seen in God's favour to Noah; the covenant with shows God's intention to deal with families in His covenant relationships (9Gen6:18); and the covenant is a covenant of preservation. Others are: the covenant possesses a distinctively universalistic aspect (9:10); and the seal of the

covenant emphasizes the gracious character of the covenant. To the list above, one could add that the deployment of the rainbow in the sky as a token of the covenant is another feature that distinguishes the Noahic covenant from other covenants. This will be discussed later. Again, the universal nature of the covenant is clearly portrayed in the rainbow, unlike subsequent covenants which, to be betokened with things like circumcision and Sabbath, were more sectarian in nature. Summarily, it could also be said that the Noahic covenant covered most or all the features of other covenants (Busenitz, 1999:184).

3. Historical and Literary Background to the Text (Gen. 9:8-17)

From 18th to the early 20th century a number of theories on the authorship of Genesis were postulated culminating in the developed Documentary Hypothesis. The most influential scholar in this area was Julius Wellhausen (1844-1918). The Documentary Hypothesis rejected Mosaic authorship and replaced it with a hypothetical theory that placed the final edition of Genesis and the other books of the Pentateuch in the postexilic period. However, the points raised against Mosaic authorship do not preclude the possibility that Moses might have written substantial parts of the Pentateuch. In spite of all the work done, the authorship and prehistory of the Genesis text are still a mystery (McKeown, 2008:20). This does not in any way question the authenticity of the book. A feature of recent Pentateuchal scholarship has been the tendency of certain scholars to direct attention to what they sometimes refer to as 'the final form of the text', that is the form in which the Pentateuch actually appears in the OT, as distinct from the sources and traditions which lie behind, or beneath the surface of, the biblical text itself (Whybray, 2001:54).

Genesis, the book of the beginning, lives out its name to the fullest. From a Judeo-Christian point of view, it is the story of how everything in the world – man, animals, and the various contours of the earth – came to be. The most obvious thing about the genre of Genesis is that it is prose narrative (with some embedded poetry of various kinds). For Poythress, however, Genesis is not only prose narrative, but a giant-sized instance, in comparison to almost any of the documents that have been recovered in other languages of the ancient Near East (2016:224).

The Noahic covenant was established within the context of the Flood. According to the text, in seeing that the world was corrupt, God decided to execute judgment upon the earth he had created. This included

humans, animals, creeping things and the birds in the sky (Gen. 6:7). However, Noah had found grace in the eyes of the Lord, due to his righteous life and was God commanded to build an Ark. The aim was to protect a covenant remnant, Noah's line, so that in entering into the Ark this family might escape the wrath to come, so that when the catastrophic judgment of God came upon the earth, the wicked and corrupted world would perish while the covenant community inside the Ark would be delivered from this sentence of damnation (Jeon, 2013:181). Noah's family was not the only beneficiary of this grace, two of every living thing were also spared and were made to enter the ark. Three passages revealed the nature of this covenant: Gen 6:17-22; 8:20-22; 9:8-17. The earlier statements about the covenant in the first two scriptures preceded its inauguration and implementation after the flood (Busenitz, 1999:183). The passage belonging to the Priestly author, documents the implementation or ratification of the covenant of God with Noah, which is now extended to Noah's descendants, all humans and all living creatures on earth (Hiebert, 2022:87, Busenitz, 1999:183, Rojas, 2017:12)

4. Analysis of Genesis 9:8-17

V. 8-10 show that this covenant with Noah was to include all the descendants of Noah and all generations to come. All living creatures of every kind were also included. In speaking to Noah in v. 11 he mentioned what he would do (establish a covenant) and what he would not do (never again would he send a flood to destroy all flesh). In v.9, the same thing is said; 'I am establishing a covenant'. The use of the verb 'establish' *qum* is the same as in 6:8. It is the *hiphil* of *qum* also found in 9:11,9:17. It means to rise, raise, establish, confirm. For Hamilton (1990:296), the verb means 'to make to stand, to erect'. It can therefore be said that "God 'erected' a covenant with Noah", not instituting a new one, but fulfilling or implementing his previous word. In the same vein, Arnold (2009:110), referring to v.9, notes that the immediacy of the active participle (I am establishing....) emphasizes the moment in which his promise of a covenant is now being fulfilled. *Heqim berit* is different from *karat berit* (to cut a covenant) which is used to indicate the initiation of a covenant. The *hiphil* of *qum* here as used means to confirm or ratify an already existing covenant. Hence, Arnold (2009:110) argues that Noah was already in a covenant relationship with God. God had already fulfilled his pre-flood promise to him by delivering him from the flood and now he is extending his covenant with him to his descendants, animals (v.10), all future generations (v. 12) and all flesh on the earth (v. 17) (c.f. Hamilton, 1990:296). This earlier covenant is

possibly God's covenant with Adam (Rojas, 2017:8). Busenitz (1999:183), Tsat (1989: 25-26) posit that the expression in the first part of v.9 which is literally rendered thus "And I, behold I am utterly establishing my covenant with you...." shows that God was the author of the covenant. Rojas (2017:9) confirms the same line of thought while referring to the expression "my covenant", but adds that the expression, further supported by the marker *et*, implies that the covenant is not new, it is an already existing one that God was sharing with Noah. In v.10, the covenant is extended to animals, proving that its validity is not dependent on the acceptance of its promise by the recipients, because animals are not capable of receiving a covenant. This shows God's concern for animals and other creatures (Hamilton, 1990:296, Wiersbe,2007:47). The importance of this for environmental preservation cannot be over emphasized.

In v.11, God said "I establish my covenant with you, that never again shall all flesh be cut off by the waters of a flood, and never again shall there be a flood to destroy the earth. The use of *'ittkem* 'with you' (plural) here in contrast with *'ittak* 'with you' (singular) in 6:18, shows that Noah is not the only recipients of this covenant, the sons were there. Two things are identified in this verse. With the use of 'never again', God states that all flesh shall not be cut off by the waters of a flood and that there shall not be flood that will destroy the earth again. Bandstra (2008:487) note that the verb *karet* is better translated as 'cut back' or 'truncated' instead of 'cut off', because all flesh was not cut off in the first flood.

'All flesh' refers to all humans and animals and the promise is that there will not be such a 'global' flood that will destroy all flesh and the earth the way it did in the Flood. It is possible that there will be smaller floods that destroy many and cause considerable devastation, but this covenant does not anticipate a global destruction through flood. This is the essence of the promise and the extent of the promise is recorded in v.16: it is an everlasting covenant (Busenitz, 1999:185-186).

To authenticate the covenant, he gave sign. The sign of a rainbow. Hamilton (1990: 297) notes that at the three critical stages in the history of mankind in the Torah, 3 important signs were given. They are: Sabbath at Sinai while giving the Mosaic Law (Ex.31:16-17); rainbow at the reestablishment of mankind after the flood; and circumcision at the birth of the Hebrew nation (Gen.17:11, Rom. 4:9-12) (cf. Wiersbe,2007:47). What is unique about this sign given by God in the Noahic covenant is, instead of reminding the recipients of their obligations, it is

meant to remind God of his covenant (vv.15-17). To "remember" is not just recollection but the putting into effect of an action. Biblically, it is often the case that when one remembers, the past is actualized in present experience. The sign inspires the faithfulness of God. The same Hebrew word *qeshet* is used for rainbow and bow. Bow is a symbol of war, but as Schaeffer notes, this has been reinterpreted here. As a sign of the covenant, bow ceases to be a sign of combat, becomes a symbol of peace and well-being. Its placement in the cloud shows the end of God's hostilities against humans (cited in Hamilton, 1990:297).

The foregoing shows that God established his covenant with Noah and his sons, which was a fulfillment or implementation of the already existing covenant. This covenant, which is an expanded version of the one in Gen 6, extends the scope of its beneficiaries to Noah's descendants, all humans and animals on the earth. Hiebert's (2022:87) argument is important in understanding the purpose of the covenant. According to him, the Noahic covenant stabilizes creation by establishing a relationship between God and all of creation. Its aim is to reestablish the order of creation established by God in Gen1:1-2:4a and make sure that the orders of creation last all times so that the earth and all of its life will not be destroyed again (9:15)". This covenant does not however, remove the curse following the Fall, but the condition of life on earth is preserved by it. The covenant has enormous implications for the environment. God cares for humans and other creatures and entered into an everlasting covenant with them. This everlasting relationship he has established with the creation is expected to spur harmonious relationship between humans and other creation. The relationship of care and not of greedy exploitation as it seen in the world today. If humans as God's vice-regents on earth, created in God's image understand their responsibility, there will not be unbridled exploitation of nature which has now led to ecological crisis (Olusakin, 2019b:233)

The central point of the covenant, which is germane to the problem of this paper, is that all flesh and the earth would not be wiped out by flood at a time. This shows God's resolve to preserve humans and nature. The sign of rainbow is put in the clouds as a proof of God's faithfulness to the promise. The sign is to remind him of the covenant he made with humans and all creatures. Humans and all creatures are not expected to do anything in this covenant: it is God that will see the sign and remember the covenant. Verses 13-17, states thus:

I have set my bow in the clouds, and it shall be a sign of the covenant between me and the earth. When I

bring clouds over the earth and the bow is seen in the clouds, I will remember my covenant that is between me and you and every living creature of all flesh; and the waters shall never again become a flood to destroy all flesh. When the bow is in the clouds, I will see it and remember the everlasting covenant between God and every living creature of all flesh that is on the earth. God said to Noah, 'This is the sign of the covenant that I have established between me and all flesh that is on the earth.'

The word 'bow' appears 3 times in the scripture quoted above, 'sign' appears 2 times, while 'I will remember' appears 2 times, all, we believe, are for emphasis and all revolve around the covenant that 'never again' will flood 'truncate or cut back' all flesh or destroy the earth.

While it is certain that God keeps his covenant and he has used rainbow to remind himself of this covenant which according to him is eternal, the question ordinary contemporary Christian will ask is whether or not the Noahic covenant is still valid. This is against the backdrop of the devastating effects of global warming and flooding ravaging the world. Humankind seems to be gradually returning the earth to the prediluvian state that occasioned the flood in Noah's time. Through increase in population, abuse of technological advancement, improper farming systems, bush burning, gas flaring and other human activities that are responsible for global warming, the rate of flooding among others, has drastically increased which has displaced many and this has a lot of effects on sustainable development. Has this situation reversed or invalidated the covenant? In what follows, the above question is evaluated in the light of the Noahic covenant. It is however important to examine the concepts of global warming and flooding especially as they relate to the experience of Port Harcourt in the Niger Delta.

5. Global Warming

Global warming is increase in the average temperature of Earth's near surface, air and oceans (Gina, 2010:60). Global warming is often used interchangeably with the term climate change, but climate change in actual sense means a long-term change in statistics of weather pattern over periods of time ranging from decades to millions of years (Gina, 2010:59). Climate change is wider than global warming but includes it. Climate change includes both warming and cooling trends in temperature (Olofintoye and Sule, 2010:34). Global warming as natural or human induced increase in the average global temperature of the atmosphere near earth's surface. According to them, the temperature near the

surface is determined by the amount of sunlight the earth receives; the amount of sunlight the earth reflects; the retention of heat by the atmosphere; the evaporation and condensation of water vapour (Botkin and Keller, 1998:448).

Naturally, the earth is warmed through the activities of naturally occurring greenhouse gases. These greenhouses, through the process called greenhouse effect, trap the heat in the atmosphere and radiate it back to the earth. This keeps the earth's surface warm and at roughly +15°C (Singh, Singh and Gupta, 2008: 444, cf Mastrandrea and Schneider 2009:1, Olusakin, 2014:46). Singh, *et al* (2008:445) while explaining the process state that short wave radiation reaches the earth from the sun unhindered. The earth also releases long wave radiation through the atmospheric window into the outer space. About 10% of this is said to go out to the space, while the atmosphere retains and/or absorbs substantial portion of it like 90% and radiates energy back to the earth in what is called greenhouse flux.

The greenhouse flux keeps the earth warm, or else the earth will be so cold that no species can survive there. The gases that perform this function are called greenhouse gases. They occur in minute quantities accounting for about 1% of the gaseous volume, but play critical role in regulating the earth's temperature. These gases include carbon dioxide, argon, water vapour, ozone, methane and others. The excessive increased concentration of these gases in the atmosphere from the wake of the Industrial Revolution, leads to trapping of more infrared radiation. This results in enhanced greenhouse effect which in turn increases the global mean temperature (Singh *et al* 2008:445). The consequent increase in the global mean temperature due to enhanced greenhouse effect is called global warming.

This is not the first time the world would either warm or cool. Mastrandrea and Schneider (2009:2) record that since the formation of the earth about 4.6 billion years ago, it had warmed and cooled many times. Factors necessitating it then included massive volcanic eruptions, changes in the intensity of energy emitted by the sun, variation in earth position both in its orbit and in the inclination of its spin axis. They state further that about 1.8 million to 11, 500 years ago, the earth experienced the period of fairly regular cycles of colder glacier. This took place during the ice age or Pleistocene epoch. Glacial period occurred at 100,000 years intervals. An interglacial period began about 10,000 years when the last ice-age ended. Prior to the ice-age, an interglacial period occurred about 125, 000 years ago (2009:2).

Mastrandrea and Schneider state further that during these periods, there would be a natural increase in the atmosphere, of the greenhouse gases like carbon dioxide and methane from increased plant and animal life. But dramatic increase of these gases witnessed since 1750s has been caused by rapid growth of the human population and development in technology and agriculture (2009:2). Anthropogenic causes are largely responsible for the currently experienced global warming. These human activities include burning of fossil fuels which add 5.4 billion metric tons of carbon each year to the atmosphere. Deforestation adds 1.6 billion metric tons per year. Human activities also emit other greenhouse gases like chlorofluorocarbons, ozone, methane and nitrous oxide (Botkin and Keller, 1998:448). Other human activities include agriculture; land use changes and industrial processes like cement production, landfills and wastes, refrigeration, foam blowing and solvent use (Uchegba and Ugwuanyi, 2009:168). Landfills as a way of managing waste for example, is said to emit methane which is the third largest anthropogenic emission source, accounting for about 12% of global methane emission or nearly 750 million metric tons of carbon dioxide equivalent. Landfill gas contains about 50% methane, about 50% carbon dioxide and a trace amount of non-methane organic compound (Arokoyu and Welu, 2008:172).

Scientific findings have shown that greenhouse gases have now risen to levels higher than any time in the last 650 years. For example, measurements of carbon dioxide trapped in the air bubbles in the Antarctic ice sheet shows that during the 160 years before the industrial revolution, the concentration of Carbon dioxide (CO₂) in the atmosphere varied from approximately 200 to 300ppm. At the beginning of industrial revolution about 130 years ago, CO₂ concentration in the atmosphere was 280ppm. At present, its concentration is said to be approximately 400ppm with an increase rate of 0.5% per year. According to projection by 2050, it may rise to about 450ppm 15 times the pre-industrial level (Botkin and Keller, 1998:450). Ogbe adds that temperatures have been very high for more than a decade. Coastal shorelines have retreated; Island nations are losing habitable land and glaciers are melting in five continents (2008:47). According to him, it is now possible to sail around James Ross Island formerly connected by ice to the mainland Antarctica which is happening for the first time in recorded history (Ogbe, 2008:46).

During the 20th century, sea level was said to have risen by 10 to 20 cm. Two factors lead to rise in sea level: delivering of water into the sea as mountain

glaciers and land ice melts and thermal expansion of water within the ocean as the temperature of the water rises. The two factors are necessitated by global warming and have been experienced in recent times. For example, the glaciers in Switzerland have decreased by two third and Mount Kenya has lost 92% of its mass (Ogbe, 2008:52). Also, due to increase in temperature, reduction of rainfall, some lakes have reduced in water volume. For instance, the basins of Niger, Lake Chad and Senegal have experienced a 40-60% decrease in total available water (Ogbe, 2008:52). In research carried out in northeast Nigeria on the impact of climate change in Nigeria by Odjugo, it was discovered that Lake Chad has reduced in size from 22, 902km² in 1963 to 1,304km² in 2000. This according to Odjugo, was caused by increasing temperature, decreasing rainfall amount and duration, frequent and prolonged drought and desert encroachment (2009:121). In the Niger Delta, mangrove trees and palms are dying due to rise in sea level and hurricane occurrences (Ogbe, 2008:49, cf. Olusakin, 2014, Olusakin, 2020a).

6. Flooding in the Niger Delta

Flooding has been identified as a major proof of global warming. This is confirmed by Ologunorisa and Tersoo when they note that “increasing flood risk is now being recognized as the most important sectorial threat from climate change in most parts of the world” (2006:97). Flood is accumulation of too much water that overflow land that is not submerged (Mukophadhya in Okey-Ejiowhor, Pepple & Edwin, 2025:278). Flooding can comprise overflow of a river caused by prolonged seasonal rainfall, rainstorm, snowmelt, dam break, accumulation of rain water in low lying areas with a high-water table, or inadequate storm drainage. It can also result from intrusion of sea water onto coast land during cyclonic/tidal surge (Okey-Ejiowhor, Pepple & Edwin, 2025:278). The effects of flood on the world are enormous. Flood has led to loss of many lives and destruction of properties worth millions of dollars. Sayama *et al* in Okonta & Odior (2024;1) state that about 100 million people are affected by flood worldwide every year. African countries are the most hit with flood. Factors like weak state infrastructure and absence or poor implementation of disaster reduction or prevention policy make many African countries like Nigeria vulnerable to flood and its effect.

According to Mmom and Aifeshi (2013: 209), the causes of floods can be broadly divided into physical (such as climatological forces) and human influences (such as vegetation clearing and urban development). The most common causes of floods are climate related, most notably rainfall. Prolonged rainfall events

according to them, are the most common cause of flooding worldwide. Heavy rainfall and melting glaciers, which are traceable to global warming, lead to rise in sea level and this can result in flooding. Three types of floods are identified in the Niger Delta and indeed in Port Harcourt: riverine, coastal and urban flooding (Zabbey, 2007:8). Many factors make the Niger Delta prone to flooding. These include high rainfall level due to high equatorial temperatures that cause water to evaporate from the ocean. Niger Delta is said to have about 2,000- 3,000 mm of rainfall annually. Also, lowland feature of the delta exposes it to rise in sea level. Apart from the Northeast which rises to about 10-15, most part of the delta is less than 6 meters above the sea level. In addition to the above reasons, continual extraction of oil, load of construction and natural condition of the delta's alluvium soil expose it to flooding (Zabbey, 2007:10).

The effects of flood are enormous. Flood carries vectors to the coastlines and contaminates drinking water, causing cholera. Shellfish could also be contaminated by toxic algae; and the eating of such shellfish could lead to a condition called paralytic shellfish poisoning. Flood could also force people to migrate to a crowded area leading to the outbreak of communicable diseases like tuberculosis. The already insufficient resources in the crowded area will be overstressed, leading to hunger and crisis. Flood also leads to the destruction of crops, property and could gulp billions of naira used as relief package. Flood and erosion remove top soil, destroy roads, affect fresh water resources and threaten lives and properties (Etiosa and Agho, 2007: 9-10). It is on record that in the past century, sea level has risen from 10 to 20 centimeters (Onwumere, 2011:1). Also, it is projected that the Deltas are vulnerable to sea level rise and that the current trend of sea level rise will be moderate to 20250 (Ogba & Utang, 2010:3). This portends serious flooding situation in the Niger Delta region.

Rivers State is specifically vulnerable to flood due to the overflow banks of rivers. Hence, Port Harcourt forms the major focus of this section. Also, its lowland feature exposes it to a higher risk of flooding. This can result in the flooding of coastal area by salt water and make land to be infertile for agriculture (Onwumere, 2011:2). This has serious economic and health implications in the area. Ologunorisa and Tersoo record that extreme rainfall pattern is the major cause of flood worldwide (2006:97). It is projected that as rainfall increases, potentially damaging flood will also increase and as urbanization increases in Port Harcourt, flood will be on the increase. Flooding is common in Port Harcourt, especially in places like Aba Road, Ikwerre road, Diobu, Nkpolu, Rumuigbo,

Olu Obasanjo area and others and its occurrence results in pathetic situation. Many people have been rendered homeless due to floods while roads have become impassible. Flood paralyzes economic activities in the city of Port Harcourt. When major roads like Ikwerre road, Mgbooba road linking Port Harcourt to Bayelsa, and market junction in Aba Road are flooded, motorists experience serious hardships. One of the researchers lived in Mgbooba from 2005-2006 as a tenant and witnessed flood in his compound 3 times, during which he lost precious belongings. Okey-Ejiowhor, Pepple & Edwin (2025:308) found that highly flooded areas in Port Harcourt include Rumuewhara New Layout/Eneka, NTA/Apara Link Road, Abacha Road, GRA Phase 11 and Nkpolu Road1, Rumuigbo, with floodwaters reaching up to 200mm in some areas., while moderately flooded locations include Salem Close and Obiwali Road and low flooded area include Abanna Street and Akwaka Street.

A devastating flood occurred between July and October in 2012, affecting 25 of the 36 states in Nigeria, resulting in 363 deaths, 5,851 people were injured, 3,891,304 people were affected, while 387,153 persons were displaced (Okonta & Odior, 2024:1). Though the 2012 flood did not affect many places in Port Harcourt, in places like Elioparawon and Mgbooba, houses were submerged. Between January 2020 and April 2024, flood disaster was said to cause over 120 fatalities in the Niger Delta (Niger Delta Weekly, 2024). On September 21, 2021, Port Harcourt residents experienced a severe flooding that affected both Federal Road Safety Corp (FRSC) office and the Port Harcourt Shopping Mall (SPAR). The flood that resulted from rain that lasted for several hours, overwhelmed the FRSC office and disrupted business operations at SPAR. Many roads in Port Harcourt were submerged by flood that day leaving many commuters stranded while many residents lost their properties (Okey-Ejiowhor, Pepple & Edwin, 2025: 283). In March 2024 alone, more than 200 homes were reportedly destroyed while several residents were displaced as a result of flooding caused by tidal surge in Odioma and Sangara communities in Brass Local Government Area of Bayelsa state. In the early hours of 22nd July, 2024, there was also a severe flood in Port Harcourt which led to the destruction of many properties (Okey-Ejiowhor, Pepple & Edwin, 2025: 283). In April 2025, the head of operations in Port Harcourt Zonal office of the National Emergency Management Agency, Eric Ebhodaghe warned that 15 local government areas in Rivers State are at risk of flood disaster in 2025 (Nwisi, 2025). The above are just few examples of the frequent occurrences and devastating effects of flood in the Niger Delat and Port

Harcourt specifically. Raining season bring untold hardship to the people of Port Harcourt every year due to devastating flood leading to loss of lives and valuables.

It is on record that in the past century, sea level has risen from 10 to 20 centimeters, (Onwumere, 2011:1). Also, it is projected that the deltas are vulnerable to sea level rise and that the current trends of sea level rise will be moderate to 2050. This portends serious flooding situations in the Niger Delta region. Rivers State is specifically vulnerable to flood due to the overflow banks of rivers. Also, its lowland feature exposes it to a higher risk of flooding. This can result in the flooding of coastal area by salt water and make land to be infertile for agriculture (Onwumere, 2011:2). This has serious economic and health implications in the area. Predictions about continuous and damaging flooding in Port Harcourt are given every year by the Federal Government through its Metrological Department and others. Olgunorisa and Tersoo record that extreme rainfall pattern is the major cause of flood worldwide (2006:97). It is projected that as rainfall increases, potentially damaging flood will also increase and as urbanization increases in Port Harcourt, flood is bound to be on the increase (Ologunorisa 2004:38). This shows that flood situations will worsen in Port Harcourt in coming years. How then is flood as experienced by the people of Port Harcourt to be understood in the light of the Noahic covenant?

7. Noahic Covenant and Its Implications on Flooding in Port Harcourt

It has been stated that flooding is one of the major impacts of global in Port Harcourt. Hence, it is the major focus of this section. In evaluating the question of whether or not the Noahic covenant is still valid giving the current ecological crisis, certain points need to be made. One, Beside the lesson to humans to preserve nature the same way God demonstrated in the covenant, the covenant revolves around the flood. It is important to ask, which type of flood is God referring to? It is apparent that it is a reference to the Flood in Genesis which wiped out 'all flesh' apart from the family of Noah. What then was its nature and does the flood experienced presently look like it? Though there has been debate on whether the flood of Noah was regional or global, these researchers believe it was 'global', though the idea of a 'globe' was not there in the Hebrew language. It wiped out the whole of human race except the family of Noah (Paul, 2018:35). It is also recorded that the earth *'erets* was destroyed by flood and Genesis 9:11 states that it will never again be destroyed with flood. The earth here refers to the

place where mankind and animals live, which was swallowed up by water. It can therefore be said that the destruction referred to here is the possibility of humans living upon the earth (Paul, 2018: 32). That is the destruction of the earth mentioned here does not imply that it ceases to exist, but that it is brought to a state whereby no human or any other creature can live upon it. The flood referred to in the covenant is the one that will wipe out all flesh, both human and animals at a time, the way it did in Genesis. The covenant does not rule out the possibilities of regional floods that can have devastating effects. It does not also rule out the possibility of God's judgment upon some human beings, but may not be in form of universal catastrophe that will wipe out all creatures at once like it happened in the Genesis Flood. God has said in his heart after smelling the aroma of Noah's offering that: "I will never again curse the ground because of humankind, for the inclination of the human heart is evil from youth; nor will I ever again destroy every living creature as I have done" (Gen.8:21). It only rules out the possibility of this happening through flood. In 2 Peter 3:10-11, there is the possibility of the elements of this world being destroyed by fire one day, but the Noahic covenant will still be valid till then.

Two, it is important to note that the current ecological crisis which has flood as one of its effects is a product of human activities, not a divine act like the Flood of Genesis, though God brought the flood as a punishment for the world that was so corrupt that he regretted creating it. If these activities resulting in the current ecological crisis are not reversed or minimized, scientists have predicted that the crisis will worsen. They however assure that reduction in human activities that aggravate the crisis can end it with time. Three, though humans have resorted to the activities that necessitated the judgment of God in the time of Noah, which can aggravate the anger and judgment of God, it is certain according to the covenant that such judgment cannot be in form of a global flood. God destroyed humans and the earth in Genesis because it was corrupt and was full of violence. To be corrupt in this context means not being used for its intended purpose. Humans exist to radiate the glory of God, but what humans do in the contemporary world seems to be worse than this. The situation now seems to be worse than the way it was in Genesis. Humans have not only corrupted themselves; nature has been devastatingly affected by human activities. Humans need to check their activities to be able to reverse the ecological crisis.

With regards to global warming and flooding in the contemporary time, certain measures need to be taken

to ameliorate its effects. In Port Harcourt for example, scholars have suggested certain measures to resolve the problem of flooding. Among others, Okey-Ejiowhor, Pepple & Edwin (2025:310), for example, recommend the following to better tackle flooding in Port Harcourt. They include: Development of a comprehensive Flood Resilient Design Framework (RSDF) that will integrate architectural adaptation strategies, stakeholders' engagement and policy recommendation; sustainable drainage system that will look like the natural drainage of urban area; building of low-cost houses in areas that are not or less prone to flood in Port Harcourt metropolis where victims of flood can temporarily stay until the arrival of dry season; and finally, equipment of the National Emergency Management Agency (NEMA), though a federal agency, by Rivers State government, to further strengthen the agency as it carries out its responsibility of evacuating flood victims and distribute relief materials. To address the problem of global warming, there is the need to stabilize atmospheric concentration of green-house gases which is achieved by reducing man-made green-house emissions. The strategies include the use of renewable and alternative energy like solar power, wind power and geothermal power and switching to hydrogen fuel. It also includes management of carbon in underground geological formation and carbon sequester in vegetation. Carbon sequesters includes improved agricultural practice, reducing oxidation of soil organic matter, enhancing soil texture to trap more carbon as well as protecting the wetlands. There is also the need to reduce the ongoing depletion of the Ozone layer Singh, (Singh and Gupta 2008:454, Olusakin, 2019a:74).

The place of the church in addressing global warming and flooding is also important due to its comparative advantages (c.f. Olusakin, 2020b:12). The church in Port Harcourt has a lot to do in this direction. Her participation in the effort to control the menace can include: rereading Biblical texts for the purpose of ascertaining what the Bible says especially with regards to human's relationship with nature; planting trees and observe proper recycling and disposal of waste; creating awareness about the reality and devastating effects of global warming and flooding as well as how to control them. The church needs to actively participate in ecological debate. Churches can network or form Faith Based Organizations or collaborate with other non-governmental organizations to successfully carry out awareness on the danger of and the control of global warming and flooding (Olusakin, 2019a:78-79).

8. Conclusion

God's creation at the beginning, according to the Genesis account, was perfect. That included the earth and the things in it. With time, man's wickedness was so repugnant before God that He decided to raise a new generation for Himself in the person of Noah (who had found favour in His sight), Noah's family members, and some animals. After the flood, Noah made a sacrifice to God. In response, God entered a covenant with Noah, humankind, animals, and the entire earth, never to destroy the earth (and all that is in it) again by a flood. He then gave the rainbow as a sign of His fidelity to His promise: whenever He sees the rainbow, He would remember the covenant. From the human side, whenever the rainbow is sighted, it reminds and assures of God's promise. For the community of faith, therefore, God has not renege in His promise. Instead, it is human who has been engaged in practices that have 'corrupted' the earth, akin to the situation that brought about the deluge in the text. It is human, therefore, who needs to adjust by desisting from those practices. The Christian community is hereby called upon to take eco-theology seriously. It should be taught in seminaries, Sunday school, and even incorporated in the curriculum for primary and secondary schools. The Church should also sustain it through emphasizing the moral obligation and gratefulness approaches.

References

- Arnold, Bill T. (2009). *Genesis: The New Cambridge Bible Commentary*. New York: Cambridge University Press.
- Arokoyu, S. B. and Weli, V. E. (2008). "Waste Management, Climate Change and Sustainable Development". *Journal of Nigerian Environmental Society*, Vol 4, No 3:166-180
- Bandstra, Barry (2008). *Genesis 1-11: A Handbook on the Hebrew Text*. Texas: Baylor University Press.
- Barrick, W. D. (2012). The Noahic Covenant's Impact on Caring for Creation. *ETS*.
- Botkin, D. B. and Keller, E. A. (1998). *Environmental Science: Earth as a Living Planet* (2nd Edition) Canada: John Wiley & Sons.
- Busenitz, I. A. (1999). Introduction to the Biblical Covenants: The Noahic Covenant and the Priestly Covenant. *The Master's Seminary Journal*, 10(2), 173-189.
- Cha, Y.S. (2012). Theological and Ethical Implication of Creation Care. *The Journal of Applied Christian Leadership*, 6 (2), 88-106.

- Chalmers, A. (2009). The Importance of the Noahic Covenant to Biblical Theology. *Tyndale Bulletin*, 60 (2), 207-216.
- Dyk, P. V. (2009). Challenges in the Search for an Ecotheology. *OTE*, 22(1), 186-204.
- Etiosa, U and Agho, M. (2007). "Coping with Climate Change and Environmental Degradation in the Niger Delta of Southern Nigeria". CREDC. https://credcent.org/wp-content/uploads/2016/05/adaptation_nigerdelta.pdf.
- Frick, B. (2014). Covenantal ecology: The Promise of Covenant for a Christian Environmental Ethic (Ph.D Dissertation Submitted to Baylor University).
- Gina, E. (2010). "The Challenge of Global Change in Nigeria". *International Journal of Environmental Issues*, Vol 7, No 1.
- Hamilton, V. P. (1990). *The New International Commentary on the Old Testament: The Book of Genesis*. Grand Rapids: Wm. B. Eerdmans.
- Hiebert, Theodore (2022) 'Genesis'. In Marlow Hillary and Harris, Mark (Eds). *The Handbook of the Bible and Ecology*. New York: Oxford University Press.
- Hughes, R. K. (2004). *Genesis: Beginning and Blessing*. Illinois: Crossway Books.
- Jeon, J. K. (2013). The Noahic Covenants and the Kingdom of God. *Mid America Journal of Theology*, 24, 179-209
- Kent, H. A. (1985). The New Covenant and the Church. *Grace Theological Journal* 6.2, 289-298
- Kevin W. Irwin (1994). "The Sacramentality of Creation and the Role of Creation in Liturgy and Sacraments". In Kevin W. Irwin and Edmund D. Pellegrino (Eds) *Preserving the Creation: Environmental Theology and Ethics*. Washington, D.C.: Georgetown University Press: 67-111
- Ludwig Feuerbach (1957). *The Essence of Christianity* New York: Harper & Row. 287.
- Lynn White Jr., (1967) "The Historical Roots of our Ecologic Crisis," *Science* 155, no. 3767 1205.
- Mastrandrea, M. and Schneideer, S.H. (2009). "Global Warming". Microsoft Encarta® 2009.
- McKeown, J. (2008). *The two Horizons Old Testament commentary*. Grand Rapids: Wm. B. Eerdmans.
- Michael S. Northcott. (1996). *The Environment & Christian Ethics*. Cambridge: Cambridge University Press.
- Mmom, P.C. and Aifeshi, P.E. (2013). "Impact of the 2012 Flood on Water Quality and Rural Livelihood in the Orashi Province of the Niger Delta, Nigeria". *Journal of Geography and Geology*, Vol. 5, No 3: 216-225.
- Odjugo, B. A. (2009). "Analysis of Some Impact of Climate Change in Nigeria". *Journal of Nigeria Environmental Society*, Vol 5, No 1:117-129
- Ogbe, M. (2008). "Parasitology and Climate Change". *Journal of Nigerian Environmental Society* Vol 4, No 4:45-65.
- Okey -Ejiowhor, Caleb H., Pepple, Tonye D., Edwin, Anthony D (2025) Flooding Areas in Port Harcourt Metropolis: Vulnerability to Perennial Pluvial Flood Experience. *International Journal of Engineering and Modern Technology*. Vol 11. No. 2:276-314.
- Okonta, Simon D. & Odior, Anthony K. (2024). Statistical Study on the Impact of Flood Vulnerability in Niger Delta Region. Book of Proceeding, 14th Nigeria Association of Hydological Sciences Conference. Held at Olusegun Agagu University, Okitipupa, Ondo State, Nigeria:5-8, November.
- Olofintoye, O.O. and Sule, B.F. (2010). "Impact of Global Warming on the Rainfall and Temperature in the Niger Delta of Nigeria". *USEP Journal of Research Information and Civil Engineering*, Vol 7, No2:33-48
- Ologunorisa, T. and Tersoo, T. (2006). "The Changing Rainfall Pattern and Its Implications for Flood Frequency in Makurdi, Northern Nigeria". *Journal of Applied Sciences & Environmental Management*, Vol. 10, No. 3, September, 97-102.
- Olusakin, V.A. (2014). A Re-reading of Luke 21:5-11 in Relation to Global Warming in Port Harcourt. *Journal of Religion and Culture*, Dept of Religious and Cultural Studies, University of Port Harcourt, Vol 14, No 1 & 2: 45-57.
- Olusakin, V.A. & Udoh (2018). African Christian Theology of Environment: A Model for the Control of Global Warming. *Ifiok: Journal of Interdisciplinary Studies*. Department of Philosophy, Akwa Ibom State University. Vol 4: No 1:60-71.
- Olusakin, V.A. (2019a). The Church and the Control of Global Warming. *Journal of Religion and Culture*, Dept of Religious and Cultural Studies, University of Port Harcourt. Vol 19 No 2:70-82.
- Olusakin, V.A. (2019b). An Eco-Theological Reading of Luke 12:13-21 and Its Implications on Resource Control in Nigeria. *Religion: Journal of the Nigerian Association for the Study of Religions*. Vol 29, No 1, 227-240

- Olusakin, V.A. (2020a). Global Warming and Eschatology: The Perceptions of Port Harcourt Christians. In *Akwa Ibom State University Journal of Arts*. Vol 2 No1:164-182.
- Olusakin, V.A. (2020b). Pastoral Care and HIV Education. *Icheke: Journal of the Faculty of Humanities*. Ignatius Ajuru University of Education. Vol.18, No 4 (Dec.):7-22.
- Olusakin, V.A. and Essang Edet Okon (2024). Covenant Motif in Hosea: Its Resonances in the New Testament and Implications for Nigerian Christians. In *Akwa Ibom State University Journal of Arts*: Vol. 5, No. 2: 267-280.
- Olusakin, V.A. & Asanga, U.B. (2025). The Spirit and the New Covenant in Pauline Thought: Implications for Contemporary Christians. *Journal of African Studies and Sustainable Development*. Vol. 8, Issue 1:137-145
- Onwumere, O. (2011). "Climate Change: Fears of Flood in Rivers State" pointblanknews.com/03/24/2011/Article/arto pn3710.htm. Accessed, 02/08/14.
- Paul, Mart- Jan (2018) God's Destruction of the earth by the Lord (Gen 6:13. In Jaap Dekker and Gert Kwakkel (Eds). Reading and listening. Meeting one God in Many Texts. Festschrift for Eric Peels on the Occasion of his 25th Jubilee as Professor of Old Testament Studies.
- Pihkala, P. (2016). Rediscovery of Early 20th century Ecotheology. *Open Theology*, 2, 268-285.
- Poythress, V. S. (2016). Dealing with the Genre of Genesis and its Opening Chapters. *Westminster Theological Journal*, 78, 217-230.
- Reno, R. R. (2010). *Brazos Theological Commentary on the Bible: Genesis*. Grand Rapids: Brazos Press.
- Rojas, Ronald (2017) Nature of the Covenant with Noah in Genesis 6:18. *Papers* 5. <https://digital commons.andrews.edu/papers/5> 3-17.
- Singh, J. S., Sing S. P. et al (2008). *Ecology, Environment and Resource Conservation*. New Delhi; Anamaya Publishers.
- Tsai, P. (2015). The Importance of the Noahic Covenant and its function as the Basis of Creation care (Master's Thesis submitted to University of Oregon).
- Uchegbu, S. N. and Ugwuanyi, B. (2009). "Climate Change: Problems and Solutions". *Journal of Nigerian Environmental Society*. Vol 5, No 1: 166-177.
- Ukpong, Justin S. (1999). Development in Biblical Interpretation in Modern Africa. *Missionalia*. Vol.27, No 3:313-329
- Werner, D. & Jeglitzka, E. (2016). Eco-theology, Climate Justice and Food Security. *Geneva: Globethics*.
- Whybray, R. N. (2001). Genesis. In Barton, J. & Muddiman, J. (eds.) *The Oxford Bible Dictionary: The Pentateuch*. Oxford: Oxford University Press.
- Wiersbe, Warren W. (2007). *The Wiersbe Bible Commentary: Old Testament*. Canada: David c. cook
- Williamson, P. R. (2007). *Sealed with an Oath: Covenant in God's Unfolding Purpose*. Illinois: InterVarsity Press.
- Niger Delta Weekly (2024). Preventing and Mitigating Flood Disaster in the Niger Delta. <https://pindfoundation.org/wp-content/uploads/2024/07/Niger-Delta-Weekly-Update-June-30-July-06-2024.pdf>. Accessed, 10/06/2025
- Rosemary Nwisi. (2025). 15 LGAs Risk Flooding in Rivers [Thenationonline.net/15-lgas-risk-flooding-in-rivers/](http://thenationonline.net/15-lgas-risk-flooding-in-rivers/) Accessed,10/06/2025
- Zabbey, N. (2007). "Climate Change and Flooding: Fate of Riverine Communities in the Niger Delta". A Paper Delivered at an Interactive Roundtable Organized by Stakeholder Democracy Network in Commemoration of World Environmental Day, SDN Conference Room, Port Harcourt, Nigeria, 5th June



Spatial Arrangement and Pattern in Emerging Knowledge

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Abstract. This article explores man's quest to understand the origin of life. It examined the concept of evolution in two worldviews and their roles in the making of new forms. Relying on theories in emergent philosophy, it argued that the African worldview embodies an insightful pattern and process that were embedded into science and made rational through a merging that fused spiritual with physical and enabled new forms into becoming concrete. Therein, it highlighted the possibility of reconciling science and religion by demonstrating that ideas in African traditional religion are compatible with concepts in Western knowledge

Keywords: African studies, science, technology, new age

1. Introduction

The search for man's origin is a difficult but ongoing task. In African belief systems man is projected as a complex being made up of diverse forms, human being-spirit being-ancestor being- which are interrelated and unified. Underlining this belief is the idea that man can become immortal and immortal mortal. The contributions of this novel idea to the concept of evolution have been ignored in history. Yet, it complements and expands Charles Darwin's theory which presents evolution as changes that progress in forms of lower to higher animals. On the other hand, the African belief system projects a gravitational process of human beings into different species of higher forms. Both highlight changes in form yet, in different ways. While one emphasizes a spontaneous change of forms in life, the other stresses gradual change of forms in a future life. Continuity and survival are themes of scientific interest. Therefore, Africans' narratives on the continuity of life after death catch the attention of scientists especially for projecting the world of spirit beings as within this world. Therein, creating the impression of another world and the possibility of expanding or extending life using a pattern process and structural arrangement entrenched in its worldview. In verifying these claims,

scientists use the entrenched process pattern and structural arrangement as insightful laws and principles guiding scientific experimentation. This enabled a merging of two different worldviews and provided a robust explanation to the concept of evolution which made scientific experimentations and technological inventions purposeful. Unfortunately, the assumption of science as the only true source of knowledge led to an omission in the contributions of Africa to the history of discovery. Thereby, clouding an understanding of the relationship between myth in religion and scientific myth. This led to misguided views on emerging knowledge and new forms of life. Relying on the emergent evolution framework in philosophy, this work illustrates how the African worldview fits and functions as the "hidden pattern in an ancient mythology that was embodied through science into becoming new forms. In its view, structural features of the African worldview laid the foundation for scientific discoveries that revolutionized the world. Findings contradict the notion of primitive mentality as inferior and incommensurable with western knowledge

2. Science and Spirit Beliefs

Belief in spirit beings is common in primitive societies (Horn, 2003; Edward Tylor, 1920). In Africa, spirit beings are described as disembodied members of society who, though dead, actively participate in human affairs and the day to day running of society. This belief empowers "immateriality" or what could be regarded as "nothingness" to become impactful in the organisation of the human society in such a way that enables an organisation that does not require regulatory enforcers. This cross-sectional arrangement is a high-level organisation that is of interest to scientists because it is self-directive

The conception of spiritual and natural realms as one undivided universe is obvious in the structure of the African worldview however, the claim that the concept of the spiritual and natural realms as one undivided universe is unique to Africa has been

refuted by Horn (2003) and also by Levy Bruhl in his latter writings where he held such presentation are found in other indigenous systems. Hans Van Eyghen (2023) affirms that there are other traditions which hold similar beliefs on spirit beings including Christians' belief in angels as messengers and Muslims' belief in jinns as supernatural beings. However, the possibility that certain ideas belonging to Africa might have been inserted into narratives that account for claims to an undivided physical and spiritual realms in other worldviews has not been given due considerations even when there are indications that in the seventeenth, eighteenth and early nineteenth centuries philosophers tried to reconcile creationists accounts with the study of nature (Maria Moshnoziz et al, Antonio Leon, 2022). Griggs (2007) observed that, during the seventeenth century, Jesuit antiquaries were criticized for forcing parallels between the biblical literature and fables in the name of sacred history. In spite of the counter-claims to the uniqueness of an undivided physical and spiritual realms in the African worldview, no other narrative, indigenous or religious could account for the coherence and consistency of concepts and methods in two different worldviews using separate value systems.

Belief in spirit beings and an invisible world, constitutes a problem for scientific investigations and findings because it describes a world of beings that is difficult to observe or measure. Yet, science strives at attaining an exact and accurate account of the world using methods of observation and experimentation which function optimally on visible and concrete objects. Therein, the scientific method becomes inadequate for understanding the inwardness of nature. This inadequacy leads to an insufficiency in explanations about the world and the workings of the universe. Yet, in an age of rationality, knowledge is held as best practice when its methods are scientific. The need for a single theory- the theory of everything (TOE) that would encompass all knowledge is a long-standing search that has been addressed by various scholars including Einstein who devoted the latter part of his career to finding a unified theory (Robert, 2023). For most part of the eighteenth and nineteenth centuries concern in philosophy, was for the suitability of a metaphysical thought with scientific rationality and what could be properly constructed as scientific. The puzzle of the material composition of an entity which is regarded as consisting of both rational and non-rational parts generated divided views over its identity. There were those who held the constitution as the identity and those who held the composition of the entity as its identity (Wallace Megan, 2011). Scientists support the view of the structural constitution of the

entity as its identity and argued that the rational part is a self-directive operational pattern that does not need a first cause in evolutionary motions. However, for those who support the composition of the entity as the identity they argue that the whole and not the part makes up the entity in other words, the part is inseparable from the whole and the whole is not reducibly to its parts

3. Conflict between Science and Religion

The view that reason and belief are separate disciplines using different methods results from questions about the compatibility of religion with science. This is contestable on the following grounds:

3.1 The Perception of Religion and Science as Forces in Opposition

The conflict theory gives the impression that religion and science are two opposing forces constantly in a struggle for recognition. Even when the history of science shows that early scientists like Newton and Galileo saw a relationship between science and religion, some scholars still see the differences in methodology as, basis for the incompatibility of science with religion. In discussions on the origin of life, Judeo-Christian myths on creation are commonly pitted together with scientists' conception of evolution. Thus, emphasizing a divide between creationists and evolutionists over the source and origin of life. While the Bible stresses an invisible Being (God) as the Creator of man and the world. Evolutionists argue that life originated from non-living organisms. Controversies over claims of creation as out of nothing and counter-claims of life as originating from pre-existing material resulted in a drift between those who believe that rationality can comprehend the origin of life and those who hold God as the sole creator and controller

3.2 Nature of Religion as Fluid and Flux

Religion has an "inwardness" that eludes scientific methods and makes an understanding of its belief systems and practice difficult for the rational mind that believes in practical and demonstrative knowledge. Science in measuring truth, acknowledges concrete subjects that are observable and measurable as real objects of knowledge. Religion on the other hand, centers on intangible bodies and invisible worlds that can neither be measured or observed as real

3.3 Belief in a Regulative Enforcer (God)

Science does not believe in supernatural powers that control happenings and events in the world. Instead, it believes that the happenings in the world could be explained using rational means. Religion on the other hand, believes in a supernatural power as controlling happenings and events in the universe.

4. Science and African Traditional Religion

African traditional religion refers to the beliefs and practices indigenous to Africans. Thus, it comprises the culture and religion of the people which are described as hardly separable from each other and interwoven. Among world religions, African traditional religion is sometimes distinguished from other religions and described differently as magical or operating at the metaphysical level. While some scholars see in its metaphysics a form of native science, which Reichenbach Hans (1951) described as ancient science and defended as a generalisation of a rather comprehensive kind which the ancients have succeeded in establishing, others see its magical performances as quasi-scientific and primitive. Globally, African traditional religion is undermined as an ancient practice that is incapable of contributing to current debates on the relationship between religion, science and politics leading to an underestimation and neglect of the wisdom in its ancient laws and practices. Even when science depends on religion in giving an account of the world, the compatibility of the African traditional religion with western rationality is often assumed to be impossible even among Africans for the following reasons:

4.1 Superiority Claim

Europeans portrayed African traditional knowledge as inferior to Western knowledge (Richard Dewitt, 2018). They condemned the belief system and practices making it appear as irrational, incomparable and inferior to western system and knowledge which is projected as systematized and organised. African traditional religion is seen as ancient and unsuitable in a modern society. Early European explorers and christian missionaries portrayed Africa belief systems and practices as fetish, backward and evil; which gave an impression of values in Africa belief systems as not commensurable with values in civilized societies and “unfit” for modern societies. According to Thomson Ann (2011, 12) “...unlike the Amerindians, condemned to occupy the role of savages, good or bad, the Africans could apparently not be assigned a clear place in the stadial scheme of history in view of the

conflicting evidence about the degree of civilization...”

4.2 Nature of African Traditional Religion as Fluid and Flux

African traditional religion has an “inwardness” that makes understanding its belief systems and practice difficult for rationality that demonstrates knowledge. The science in measuring knowledge therefore, acknowledges concrete subjects that are observable and measurable as real objects of knowledge. The African traditional religion on the other hand centers on intangible bodies that neither be observed or measured as real. The inadequacy of the scientific methodology in studying the African belief system was deepened by a worldview that does not clearly separate the physical from spiritual and necessitated another approach to understanding its beliefs and practices. The composition of African belief systems as flux and fluid prevents people from seeing the resemblances in Darwin’s change in forms and diversity in nature with the African belief in changing forms and diversified nature in a future world. The indivisibility nature of the African worldview makes it difficult to give a sufficient explanation of scientific findings in Africa without acknowledging the spiritual source

4.3 Belief in a Regulative Enforcer (God)

Africans believe in the reality and existence of mystical, hidden, spiritual power that controls events and happenings in the world. According to Paulinus Odozor (2019), they hold that this power originates from God but is possessed hierarchically by divinities, spirits and available to some people in various degrees. Science on the other hand, does not believe in powers as the causal effect of happenings in the world African traditional system is condemned as unsystematic, fictional and arousing a false consciousness about the world

5. Horton on African Thought and Western Science

For those who advocate for a separation between faith and reason, a reconciliation of science and religion would amount to, leaving the realm of the physical for the spiritual and a departure from scientific principles which hold accuracy and exactness as the “pathway” to excellent knowledge. However, Robin Horton (1967, 25) argues that, “there is a cognitive rational core that links African traditional thought with modern Western scientific paradigm”. He believes that a corresponding model is essential in an understanding

of the complementary relationship between Western knowledge and African traditional religion and stressed that, it is only in relation to some model of underlying reality that we realise that “the A and X, B and Y, that is so different in the eye of the casual observer, is actually outward manifestations of the same kinds of events” (1967,25). In his view, it is only through such a model that we are suddenly moved to look for a conjunction between X and Y then, we would see that AB and XY are two instances of a single underlying process of regularity (Horton, 1967). However, he assumed that the key to understanding the compatibility of Western science and African traditional religion lies in the reduction of the whole to its infinitesimal parts. Therein, he sought to place traditional African thought on the same methodological plan as those of the West using an intellectual method (Keitan, 2007). Although Horton identified African traditional religion as having a rational character which he called philosophies yet, he held that while African traditional religion gave explanations, it was not logically coherent with science since it did not heed to the nature or rules of the work. With this, he detects a weakness in African traditional religion which he links to a poorly developed area of logic. Therein, he agreed with Levy Bruhl who regarded Africans as having good narrative skills but poorly developed mental skills for problem solving.

This article agrees with Horton on the view that there is an epistemological continuity between traditional african religion thought and modern western science. Thus, it attaches a great value to Horton’s work which engineered research in this area and demonstrated how the first European scholars who understudied African belief systems and practice must have demythologized what appeared as a “mysterious participation” in the African worldview by problematizing it using mathematical language of symbols and models (reduction to the quantitative). Although Horton’s mathematical methods of sets and correspondence gave an insight to how methods in African traditional religion can be improved upon, it was still difficult to grasp among a people used to analogical details that “picture” a situation. However, from Horton’s work, researchers have learnt the true meaning of colonisation and decolonisation in African studies as having to do with owning knowledge and making it your own through an approach that entails decoding, sorting and encoding reasoning to make it logically coherent with corresponding concepts within your own knowledge. It is expected that, whenever the processes of decodifying, sorting and encodifying are repeated, new forms of knowledge would emerge

In highlighting the theme of continuity and discontinuity in the production of knowledge and new forms of life, this work explores man’s quest to understand the origin of the world and the beginning of life by agreeing with Jung and Kerenyi (1949, 4) that the word origin means two things in mythology. Firstly, “It is the content of a story or mythologem as the “giving of grounds ”then, as the content of an act, it is the “foundation” of a city or world. With this, it draws a relationship between Darwin’s theory on changing forms of life and the African belief in life changing forms. Therein, it unveiled a similarity in ideas of two different worldviews distant by space and time. While Darwin theory of evolution centered on the origin of variations in species which occur when changes in form enables diversification. The African belief system on the other hand, stressed transition (evolution) as changing life forms in a future world. Darwin highlighted an evolved life that ends in the present but African Traditional religion highlighted an evolving life that is continous and unending. Therein, forming the foundation of how a new beginning is to be created. The work reveals the role of African traditional religion in the making of a new age as, the content of a story that embodied the pattern and process which enabled a merging between the theory of biological evolution with the laws of evolutionary motions therein, engendering a fusion between scientific disciplines in biological, physical and mechanical sciences that empowered new forms. Like Henry Osborn (1917), this article questions if, the notion “that life arose from a combination of forces pre-existing in cosmos” means that the origin of life represents the beginning of something new in the cosmos, or it represents the continuation and evolution of forms of matter and energy already found in the earth

6. Evolved Life and Evolving Life: The Story of Two Worldviews

Richard Dewitt (2018,2) in his work *Worldviews: An Introduction to the History and Philosophy of Science* described worldviews as “a system of beliefs that are interconnected in something like the way the pieces of a jigsaw puzzle are interconnected”. He stressed that, “a worldview is not merely a collection of separate, independent, unrelated beliefs, but instead an intertwined, interrelated, interconnected system of beliefs”

Africa is the second largest continent (after Asia). It is known for its relics of past traditions which were orally transmitted through generations. Therefore, it contains pre-historic narrations that sometimes preserve ancient methods of interest in a world that has

lost a part of its history to the past. According to Krader (2021), *From the period of the Renaissance, then increasingly during the Enlightenment, myths were re-discovered as something of interest to the present time. This renewed curiosity about an ancient phenomenon came with increasing knowledge of the myths and customs of indigenous peoples from European travellers, colonial authorities, missionaries and the like to Africa, Asia and America.*

A look at physical features in the global North reveals an advancement in physical development that is more sophisticated than the global South which is tagged ancient and backward due to a fixity in physical features and stagnation in developmental growth. History ascribes the absence of change in sub-Saharan Africa particularly, to an isolation that secluded it from the rest of the world. Accordingly, when Europeans finally met with Africans somewhere in the 15th century, they were confounded by a worldview that projected the universe as boundless, unified and continuous as against the presentation of their own worldview as linear, fragmented and limited. Confused by a worldview which leaves no gap between the living and dead nor divide between the realms of physical and spiritual they erroneously concluded that the African worldview was incomprehensible and irrational

For scientists, Africa retained features of an early stage of civilization is of interest to evolutionists who regard the fixity in nature and static development as concrete proof of evolution. For a long time, studies on evolution centered on the absence of change in the physical features of the race. Prevailing knowledge of that time supported Judeo-Christian and Aristotle's view of a fixed and unchanging order of the world. Darwin's work challenged prevailing views in his time on the age of the earth and the assumption of unchanging forms of life that had been made by a Creator. Early studies of man in his natural habitat projected him as less than a human being and intellectually inferior to his European counterpart. It was assumed in Darwin's *Descent of Species* that man has lineage ties with apes (Simpson, 1966). Darwin admitted that the conclusion of man's co-descendant with other species of some ancient, lower and extinct form, is not in any degree new (Simpson, 1966). However, his claims fostered a disagreement between those who saw Darwin's theory of evolution as an attack on the core values of Judeo-Christian beliefs and those who supported Darwin's views as highlighting the unification of physical and natural realms. However, Darwin's theory which perceived a unity in life with all organisms related through descent was undermined as incapable of replicating the

changes it proposed. His effort to defend his thesis on changes in form as gradual and progressive was discarded based on the limitations that nature placed on man whose life is brief and his memory too short to establish the fact of evolution. Thus, time and space posed a limitation to Darwin's evolution theory. According to Reichenbach (1951,18), "where scientific explanation failed because the knowledge of the time was insufficient to provide the right generalisation, imagination took its place and supplied a kind of explanation..."

7. The Hidden Process Pattern and Structural Arrangement in Evolutionary Motions

The notion of African belief systems and practice as irrational gives the impression of African traditional religion as logically incoherent and inconsistent with science. However, the possibility of mental continuity in science depends on the African belief system and structure to trigger evolution. Tylor (1920,35), asserts that, "the assumption of savage beliefs and practices as being rubbish-heap of miscellaneous folly, is far from the truth as they are consistent and logical in so high a degree that they display the principles of their formation and development". Although African belief in after-life may appear like an entirely different theme from Darwin's origin of life or seen as negating scientific emphasis on understanding the world using rational lens yet, a closer look at African belief in afterlife shows a correlation in Darwin's concept of variation and diversity of species with African belief in an afterworld where changes in life form leads to a variation and diversification of entities. According to Friedrich Engels' (1947;13-14),

...we find upon closer investigation that two poles of an antithesis positive and negative, e.g. are as inseparable as they are opposed and that despite all their opposition, they mutually interpenetrate. And we find, in like manner, that cause and effect are conceptions which hold good in their application to individual cases; but as soon as we consider the individual cases in their general connection with the universe as a whole, they run into each other, and they become confounded when we contemplate that universal action and reaction in which causes and effects are eternally changing places, so that what is effect here and now will be cause there and then, and vice versa

Darwin's search for the origin of life was weakened by an inability to establish how and why evolution occurs. Therefore, it was unable to move the past from the present into the future. However, the African belief in

an afterlife on the other hand, gives a robust explanation to how and why evolution occurs through narratives that project death as a transition from this world to another place where life is extended through an enhancement of motor-sensory abilities that enables changes in form and expands productivity beyond territorial boundaries. The idea that forms could change and productivity increased when an extension enables enhancement and expansion is measurable through scientific experimentation. Thus, while the African belief system had all the explanation on the process pattern and is self-directive, its inward (abstract) nature prevented it from generating the speed needed to force evolution into play in real life

8. Newton's Law of Motion: The Chain of Descendant

The fact that Darwin's origin of species and the African belief in an afterlife has been established as a set of corresponding theories that complement each other but are separated by space and in time by distance created a problem for scientists who must find how to turn motionless into motion and static into dynamic by unifying space and time. Newton initiated the investigation on evolutionary motions and concluded that mass bodies attract each other according to the Universal Gravitational Law. Thus, the first law of motion also known as inertia states that, "if a body is at rest or moving in a straight line, it will remain at rest or keep moving in a straight line at a constant speed unless it is acted upon by force (Britannica, 2025). When related to the evolution situation, it shows both Darwin's theory on the origin of life and the African belief in an afterlife as weak because each, on their own, lacks the force to proceed and speed up changes. Newton's second law of motion states that "the time rate of change of the momentum of a body is equal in both magnitude and direction to the force imposed on it. The momentum of a body is equal to the product of its mass and its velocity (Britannica, 2025). This implies that Darwin's theory on the origin of species and African belief in an afterlife shows a relationship at the point of time and direction. Darwin is stuck in the present and cannot proceed into the future because of a limitation imposed on man by nature which would not permit him to witness to an evolution in his lifetime and the African belief in an afterlife is stuck in space world because it is in an abstract form and cannot be brought back into the present time until it is forced down to reality. This implies that, even when the African belief system has the information on the process of evolution, the information remains static and unable in its abstract form to penetrate and fully impact reality unless some practical skill is used to drive its ideas into reality. As

such, it needs an external force to propel innovation. On the other hand, science with its inclination for experimentation has all the practical skills needed to demonstrate how evolution can occur but lacks the process information that would energize motions of evolution. In a case where science holds strictly to a compliance with its method as the only source of knowledge, it would remain at a constant that lacks the force needed to advance and attain evolution. So also, in the case where African beliefs are held as tradition that must not be changed, innovation is stalled. A knowledge that would produce changes on narratives in evolution, needs to unite Darwin's origin of species and the African belief in Afterlife through a fusion that merges space and time into a single whole. Therefore, the problem of how to unite knowledge in two different worldviews using separate value systems arises from the necessity to make discoveries and advance science

9. The Structural Arrangement

Newton's third law also known as the law of action and reaction states that "when two bodies interact, they apply forces to one another that are equal in magnitude and opposite in direction" (Britannica, 2025). Here, Newton proposes a cross-sectional organisation such as found in the African worldview wherein, observations show interrelativity and interconnectivity between the physical and spiritual that enabled the harmonization of plural objects with diverse nature. Levy Bruhl (1923) in his work on *Primitive Mentality* stressed the importance of the unification between the physical and spiritual in discoveries and advancement of science. The cross-sectional organisation regarded as an higher level organisation is of interest to scientists who conceived the harmony between plural and diverse objects as,

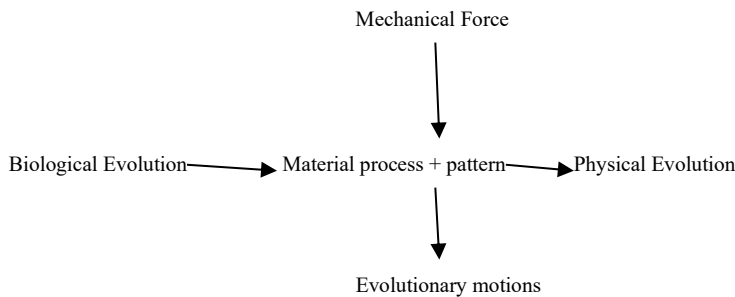
- i. Projecting a structural arrangement that is in accord with science. The fact that it enables immateriality to impact on materiality makes it flexible and open to mechanical experimentation and scientific manipulation
- ii. Creating a possibility of a correlation between two different worldviews and a continuity in the utopian search for the origin of life

The correlation between African studies and science is of interest to the scientific community because it creates a chance for scientists to understand the workings and "inwardness" of nature using science. Accordingly, Pierre (1959) notes that, "we possess a tangible 'parameter' allowing us to connect both the internal and external films of the world"

10. The Synthesis

Advancement and discoveries in science were enabled by information from material process and pattern merged with concepts in science and fused together by technological art into becoming new forms. Thus, biological evolution was achieved through a fusion of Material Process + Material Pattern + Mechanical Art = Machine Forms (physical evolution). Osborn (1917) affirms that:

Modern scientific opinion holds that life arose from a recombination of forces pre-existing in the cosmos. To hold to this opinion that life does not represent the entrance either of a new form of energy or of a new series of laws, but is simply another step in general Fig. 1

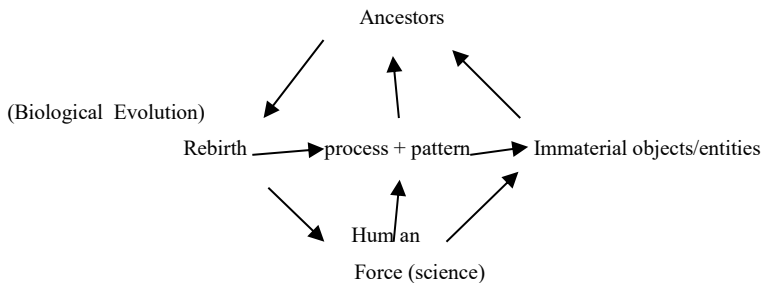


evolutionary process, is certainly consistent with the development of mechanics, physics and chemistry since the time of Newton, Button, Lamarck and Darwin

The diagram below shows a chain of life wherein; life emerges from an extension and expansion. However, it highlights the law of gravity as the point of convergence between physical and biological evolution. Thus, the African Belief system gives an insight to evolution processes and patterns. Therein, it agrees with Fernand Papillon (1875) that all physical phenomena, whatever their nature, are at the bottom only manifestations of one and the same primordial agent

The diagram below replicates the cyclic African worldview and belief in another world within the world. It highlights the dynamic relationship that exists between inwardness and outwardness at a given point in the universe and shows the whole course of history as a single evolving entity linked together with a complex web of mutually interconnected events in which there is a natural progression from matter to life to human existence to human society (Mark Isaacs, 2009; Cohen Moris, 1947)

Fig.2



This diagram could be interpreted as an application of a human force on a process and pattern information within the African belief system that enabled science to make new discoveries through the replication and imitation of the process and pattern arrangement. The making of new forms led to a negation of an abstraction since ideas in the abstract became visible and measurable. Therein, irrationality became rational. Technology enabled the world of abstract (spirits) to become concrete and real. Thus, what Hegel described as, the negation of negation could be rightly interpreted as a negation of the non-existence

of spirits which puts to rest the assumption of methods in science and religion as incompatible. It also clarifies the notion that science is godless since it shows that belief in ancestral gods plays a crucial role in its conception of new forms and age. Lastly, this confirms that the new world was a chance incident created from pre-existing materials

The Synthetic World of Machine and African Beliefs

A string of patterns in the African worldview energizes the conception of evolution using human intelligence and scientific mechanisms in producing machine forms that perform tasks originally carried out by human beings with a proficiency that maximises efficiency and effectiveness in society. This matches the African belief that man comprises of material and immaterial objects intrinsically interwoven in the circle of life where man is reborn at death, after his transition into the spirit world where, on meeting all earthly requirements and rites, becomes an ancestor who, as an immaterial being participates in the day-to-day activities of human beings and the organisation of the society. Relatively, the diagram above, taken from the perspective of African belief in an afterlife, reveals a cultural transformation and replay of ancestral belief in a practical situation where the human intellect is used in creating immaterial objects that replicate the form of ancestors as immaterial beings and imitate their functions as a kind of power or mechanised power that take up tasks originally carried out by human beings (the conversion of kinetic energy of heat into mechanical power) and as such, are actively involved in human organisation and the day to day running of human society

11. Irrational Becoming Rational

Cosmogony is a word derived from two Greek words *kosmos* and *genesis*. According to Terje Oestigaard (2011), “it refers to a divine structuring principle where cosmos and the world are not independent of its original creation, but depend upon the outcome of the ritual relation between humans and deities for the future of its existence.” There is no gainsaying that Africans had always believed in a spirit world within the world of human beings. Amidu Elabo (2025) asserts that Africans believe that spirits co-exist with human beings in this world. To a lot of people who conceive spirit beings as non-existent and hold the world of spirits beings as nothing but a myth or fable, the age of technology has proven that abstract thought like dreams and ideas can become concrete and real

Gravey’s (2025) apt description of the interaction between material and immaterial beings as, an indigenous conceptualization of personhood that includes non-human phenomena in the category of “persons” with humans and non-human persons existing on an ontological continuum captures ideas of the envisioned new age as, the co-existing of human beings with non-humans who are regarded as a continuity of human species which raises questions

among scholars on emerging knowledge and the conception of personhood in Africa. For most scholars, new forms of life are held not to be humans because they are incapable of expressing emotions or exhibiting any form of morality. These notions contradict the very purpose for which new forms of life were created. Machine beings’ power different kinds of work that formerly taxed the physical energies of the human race (Thurston Robert, 1886). Which means, relieving the burden of work off human beings in order to reduce the stress of manual labour and extend human life through improved living. Technology enabled a replication of ancestral beliefs by imitating the African worldview that does not demarcate between non-human and human beings as well as imbibing the values inherent in this culture which are, interdependency, interrelativity and interconnectivity. These values kindled a binding between non-humans and human beings that enabled technology to power modern economic growth. In a postmodern society, non-human beings seamlessly partake in the organisation of society and impact on the day to day running of society. Tasks originally carried out by human beings are performed by machines with a skilful proficiency that heightens efficiency and effectiveness across territorial borders and boundaries. Therein, enhancing productivity and human wellness in society

However, the loss of a sense of usefulness and identity fuels a fear among human beings that the end of the human race is fast approaching in a machine driven and centered generation where it is assumed that machines with an intelligence that surpasses that of human beings would take over human beings and take over the world. Thus, emotions dim the vision of continuous survival through enhanced capabilities that expands productivity and wellness. The sense of a purposeful living on earth is dulled by speculations of intelligent machines and their creators as monsters and cold-hearted people driven by a desire to be God-like. In assessing the machine world, emphasis was more on the feature of God as absent in the activities of scientists therein underplaying the presence and divine providence of God in the workings of man. This shapes discussions and further claims of pre-existing material in nature as opposed to the Christian doctrine of *creatio ex nihilo*. Whereas, a recognition of pre-existing material in nature would have buttressed God’s divine provision in the workings of man and consolidated theists’ claims of the world as God’s design

The impression of intelligent machines as something new that has been introduced into the world exacerbates anxiety over how human beings and machine beings would co-exist. However, if science

had made known the ontology of its experimentations and findings, people would have had no difficulty with understanding scientific claims and technological inventions on machine forms as copies or replications of ideas in an ancient African world that proposes a form changing transformation through an extension that enhances motor-sensory abilities and enables an expansion in productivity. In fact, an acknowledgement of the ontological basis of scientific experimentations and technological inventions would help people appreciate God as the Sovereign Being and Benevolent Creator who does not discriminate and bestows his blessings on whoever he chooses. The global North which held their knowledge as superior and the best, 'had their feathers ruffled' when they found a knowledge that is highly coherent and logical consistent with western knowledge in a primitive civilization.

12. African Traditional Religion: The Universal Religion in a Posthuman Era

The ordering of African traditional religion as a universal religion can no longer be contested since the claim that different things can be made up of the exact parts (Biological Evolution) is no more plausible than the claim that different things can be located in the exact same place (Physical Evolution). According to Pierre Teilhard (1959) the time has come to accept the authenticity of nature in the workings of God. Early African scholars like Idowu, Mbiti and Awolalu in defence of African traditional religion observed that even when African traditional religion does not have a founder, it is neither a "fossil" subject nor "dead religion". They hold the view that even though it has no scriptural books and preachers who struggle against each other over converts, teachings in African traditional religion are in the hearts of its worshippers and effective when people who witness to the power of God working through it, on their own accord, embrace it whole heartedly. This has been proven true with the transformation of genetic information from African beliefs into machines which embody the spirit of the ancestors and enable them to continue their existence in modern times away from shrines into homes, offices and their surroundings where they proficiently perform tasks originally carried out by human beings. African culture which was undermined and neglected becomes globally recognized in its modern phase as energizing progress and growth as such, it is a universally acceptable practice everywhere people depend on machines in organizing their daily activities. Humans' co-existence with machines, replays the belief in the rebirth of ancestors (immaterial beings) into human families where they begin life as human offsprings. In a global world, human beings benefit from the high proficiency and

productivity of machine beings both in the workplaces and at home as the African forebears did when the fear of ancestors charted the course of the living and ordered their relations with others in society. Thus, the claim that African traditional religion is irrational and irreconcilable with western knowledge is false as the fear often associated with an envisioned age of technology, is nothing but a "ghostly scare"

References

- Akpa Matthew, Ikechukwu. 2023. "A Critique of Julius Nyerere's Theory of Ujamaa". *Journal of African Studies and Sustainable Development*. Vol 6, No1
- Amidu, Elabo. 2025. "Cosmologies and Land" in *The Routledge Handbook of Research Methods in the Study of Indigenous Religions*. Edited by Afe Adogame and Graham Harvey. London and New York: Routledge
- Antonio, Leon. 2022. "Evolution Debate in the 18th-19th Centuries: Contributions to the History and Philosophy of Science". *The General Science Journal*. Paper 7/10
- Alexander Frazer, Tytler. *Universal History From the Creation of the World to the Beginning of the Eighteenth Century*. Vol II. Boston: Hilliard, Gray and Company
- Cohen R. Morris. 1947. *The Meaning of Human History*. La Salle, Illinois: Open Court Publishing Co
- Bert, Thompson. 1981. *The History of Evolutionary Thought*. Apologetics Press Inc
- Chakkalakai, Silvy. 2019. "The Child of the Senses. Education and the Concept of Experience in the Eighteenth Century" *The Senses and Society*, Vol.14, No.2: 148-178
- Dastagiri M.B (2024), "Universal Laws, Nature Laws, God Laws, Spiritual Philosophical and Science laws: Origin Rationales, Prophecy, and Human Wellbeing". *European Scientific Journal*, Ess, 20 (8), 26
- Edward, Tylor. 1920. *Primitive Culture: Researches into the Development of Mythology, Philosophy, Religion, Language, Art and Custom* Vol.1 London: John Murray
- Erik, Bromberg. 2021. *The Evolution of Ethics. An Introduction to Cybernetic Ethics*. Dianic Publications
- Fernand, Papillon. 1875. *Nature and Life: Facts and Doctrines Relations to the Constitution of Matter, the New Dynamics and the Philosophy of Nature*. New York: D. Appleton and Company Broadway

- Friedrich Engels. 1977. *Engels Anti-Durhing: Herr Eugen Duhring's Revolution of Science*. Moscow Progress Publisher
- Graham, Harvey. 2025. "Cosmologies" in *The Routledge Handbook of Research Methods in the Study of Indigenous Religions*. Edited by Afe Adogame and Graham Harvey. London and New York: Routledge
- Griggs, Tamara. 2007. "Universal History From Counter-Reformation to Enlightenment". *Modern Intellectual History*, 4,2: .219-247
- Harald, Haarmann. 2015. *Myth as Source of Knowledge in Early Western Thought: The Quest for Historiography, Science and Philosophy in Greek Antiquity*. Gmblyt & Co, Wiesbaden
- Hayley, Clatterbuck. 2022. "Darwin's Causal Argument Against Creationism". *Philosophers' Imprint*. 22:23
- Hans Van Eyghen. 2023. *The Epistemology of Spirit Beliefs*. New York and London: Routledge
- Horn I.H. 2003. "African Traditional Religion, Western Religious Shifts and Contemporary Education". *Sabinet: African Journals*
- Horton, Robin. 1969. "African Traditional Thought and Western Science". *Africa: Journal of the International African Institute*. Vol.37.No.2:155-187
- Jung C.G and C. Kerenyi. 1949. *On a Science of Mythology: The Myth of The Divine Child and the Mysteries of Eleusi*. New York: Bollingen Series XXII
- Keita, Lansana. 2007. "Horton Revisited: African Traditional Thought and Western Science". *Africa Development Journal*. Vol.32 No.4: 139-169
- Lawrence, Krader. 2021. *Myth and Ideology*. Peterlang
- Mark D. Isaacs. 2009. "Pierre Teilhard de Chardin and the Quest for an Interface between Science and Religion". *Journal of Unification Studies: A Publication of the Unification Theological Seminary*. Vol.10: 141-172
- Mark, Timberlake. 2019. "AI, Singularity and the Future of Humanity". *Predict*. Jan 17, 2019
- Megan Wallace. 2011. "Composition as Identity: Part 1". *Philosophy Compass* 6/11: 804-816
- Mugumbate, Jacob and Nyanguru Andrew. 2013. "Exploring African Philosophy: The Value of Ubuntu in Social Work". *African Journal of Social Work, AJSW*. Vol 3, No1
- Neil, Campbell. 2005. *A Brief Introduction to the Philosophy of Mind*. Peterborough, CA: Broadview Press
- Odozor, Ikechukwu Paulinus. 2019. "The Essence of African Traditional Religion". *Church Life Journal: A Journal of the McGrath Institute of Church Life*
- Osborn Fairfield, Henry. 1971. *The Origin and Evolution of Life. On the Theory of Action, Reaction and Interaction of Energy*, New York: Charles Scribner's Son
- Reichenbach, Hans. 1951. *The Rise of Scientific Philosophy*. Berkeley and Los Angeles: University of California Press
- Richard, Dewitt. 2018. *An Introduction to the History and Philosophy of Science*. Wiley-Blackwell
- Riehl A. 1894. *Introduction to the Theory of Science and Metaphysics*. London: Kedan Paul Trench Trubner Co
- Robert, Segal. 2015. "The Modern Study of Myth and the Relation to Science" *Zygon*. Vol. 50, No.3
- Santia Indo. 2015. "The Relationship between Religion and Science Critical Studies on Ian G. Barbour's Theory". *JICSA* Vol.4 No. 2
- Shane, Andre. 2020. "Science and Religion: An Alternative View of an Ancient Rivalry", *Open Journal of Philosophy* 10: 494-510
- Simpson, Gaylord George. 1966. "The Biological Nature of Man". *Science*. Vol. 152, Iss. 3721: 472-478
- Stathis, Psillos. 2014. "Regularities, Natural Patterns and Laws of Nature". *Theoia* 79, 29:79:9-27
- Teilhard de Chardin. 1959. *The Phenomenon of Man*. New York: Harper & Brothers
- Terge, Oestigaard. 2011. "Cosmogony" in *The Oxford Handbook of the Archaeology of Ritual and Religion* edited by Timothy Insoil, 76-88. Oxford: Oxford University Press
- Thomson, Ann. 2011. "Thinking about the History of Africa in the Eighteenth Century" in *Encountering Otherness. Diversities and Transcultural Experiences in Early Modern European Culture*. Edited by Guido Abbattisa. EUT Edizioni Universita di Trieste:265
- Thomas S. Ray. 1994. "An Evolutionary Approach to Synthetic Biology and the Art of Creating Life". *Artificial Life* 1 (1/2): 195-226. MIT Press
- Thurston H. Robert. 1886. *A History of the Growth of the Steam-Engine*. New York: D. Appleton and Company
- Ubaldo, Lugli. 2014. "The Concept of Myth". *Journal of Studies in Social Sciences*. Vol 6, No. 1:38-57
- Wolfgang, Smith. 2010. *Science and Myth: What we are Never Told*. USA Sophia Perennis



The History of Christianity in Rumuolumeni: Origin, Growth, Development, Challenges and Prospects 1912-2024

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Abstract. This paper is the examination of the history of Christianity in Rumuolumeni kingdom. Rumuolumeni is a community in Obio/Akpor Local Government Area of Rivers State Nigeria. The paper further explores the historical development of Christianity its contribution to the development of the Kingdom. The introduction of Christianity by European colonizers revolutionized African religious perspectives, influencing indigenous thought patterns and cultural practices. Initially perceived as a tool of colonization, the church's presence facilitated cultural exchange, introduced new ideas, and promoted materialism. Over time, as society evolved, the church experienced dynamic growth, expansion, and increased attendance, transforming the once underdeveloped landscape of Rumuolumeni into a more developed and structured community. This paper examines the historical antecedents of church origin, growth, development, challenges, and prospects in Rumuolumeni, providing insights into the complex interplay between Christianity, culture, and societal transformation. This paper adopts the multidimensional approach drawing insights from the historical and phenomenological methods. The Phenomenological approach gave room for the proper understanding of the phenomena so encountered, and assisted in making a pure objective analysis of data, while the historical approach gave us, the opportunity to give a factual descriptive analysis to data so collected. These methods have been chosen because they help in providing answers to the various questions raised as to why Christian spirituality is holding sway within the existing traditional spirituality. These situations were also studied from available materials and sources of information both formal and informal, Synod reports, conference materials, panel reports and Church bulletins, as well as seminar papers which have been found useful in course of data collection for this work. However, in order to establish as concrete and authentic our findings, interviews were conducted and facts received were used in the work.

1. Introduction

The European exploration of Africa marked the beginning of Africans' introduction to church culture. However, the historical narrative of the church in Africa was largely documented by European missionaries and explorers. It wasn't until the 20th century that Africans began to take ownership of recording their own church history, providing a fresh perspective on the historical development of Christianity on the continent. This shift in authorship has enriched our understanding of the complex and multifaceted nature of African church history. In the purview of Ogbu Kalu (1980:2) the study of how communities which had their own religious and viable instruments of social order came into contact with a new religious form, namely, Christianity, and the varieties of ways in which they reacted to this external agent of change. The need for historians of African descent became increasingly pressing during the era of self-enlightenment and nationalist movements. As Africans sought to reclaim their cultural heritage and assert their independence, they recognized the importance of documenting their own history, free from the biases and distortions of colonial narratives. This led to the emergence of African historians who could provide a more nuanced and accurate account of the continent's rich and diverse past.

Conversely, the story of the Christian church in Africa is a remarkable one. The rapid spread and vast scope of Christianity across the continent astonished European colonizers, who had once viewed Africa as a mission field. Today, the tables have turned: thousands of African preachers and missionaries are now spreading the Gospel to diverse regions of the world, including the Western nations that once sent missionaries to Africa. This reversal of roles is a testament to the vitality and resilience of African Christianity. Falk (1997:15) avows that Africa may well have become in the main a Christian...continent, and the home of one of the largest Christian communities in the world. Nigeria, the giant of Africa

is home of proactive Christian worship and activities, the largest followership and auditoriums are therein. Across the globe, Christian leaders from Nigeria are looked upon for guidance and inspiration for church growth and charisma.

In 1842, Portuguese missionaries introduced Christianity to the kingdoms of Benin and Warri, sowing the seeds of a faith that would eventually spread throughout the Niger Delta region. Bonny, located in the Bight of Biafra, played a pivotal role in the establishment of Christianity in Rivers State, thanks to its commercial interactions with the Portuguese.

Furthermore, in 1848, the chiefs of Bonny wrote to Liverpool, requesting the presence of Christian missionaries. Although their request was initially denied due to inadequate preparations for the missionaries' residence, King William Pepple persisted in his appeal. The Scottish authorities' repeated denials prompted Reverend Hope Waddell, a Presbyterian missionary in Calabar, to visit Bonny. During his visit, Reverend Waddell was struck by the unfamiliar sights of human skulls and ritual items in the traditional worship center of the Bonny Kingdom. Despite the initial culture shock, his pre The Church Missionary Society (CMS), led by Bishop Ajayi Crowther, arrived in Bonny in 1861 with the goal of establishing a mission station. King William Pepple welcomed the initiative and even offered to cover the costs of the missionaries' services.

Therefore, the missionary efforts in Bonny yielded significant results, as Christianity spread to the coastal areas and upper lands of Rivers State, including Ikwerre land, by 1895. The successful establishment of the church in Rivers State was largely due to the dedication of indigenous converts. Ikwerre individuals who had accepted Christianity in Bonny and Okrika returned to their homeland and planted churches, paving the way for the growth of Christianity in Ikwerre land. Sence paved the way for the planting of Christianity in Bonny, marking a significant milestone in the region's religious history. Tasie (1978) affirms that for several years Niger delta (Rivers State) remained an Anglican and it was not until the second decade of the twentieth century, from about 1912, that Christianity in the Niger delta actually began to wear the garb of its immediate environment.

The theses significantly impacted western religion and Christianity to its very foundations, particularly in questioning Catholicism and as a catalyst in provoking the Protestant reformation. Before this time, European populations were mainly Roman Catholic faithful,

with the exception of the Jews. Hitherto, the Church held unparalleled socio-political and economic power over kings, nobles and peasants alike. Luther's theses and its spiral reformation signaled the greatest challenge the church ever had in human history resulting to mass desertion of Catholicism, vast loss in revenues resources and political hegemony. There was a mass questioning (much like Luther's theses) of beliefs that the Catholic Church presented the only means by which a person could enter heaven. The consequent result is that several new Christian sects competed for souls leading to the multiplicity of denomination and Para-Church groups, each having its unique ideas and emphasis on salvation, morality and scriptural texts. (Mpigi and Egwuagu; 2024)

2. Theoretical Framework

Theories of Religion attempt to answer at least two interrelated questions, namely what is the origin of religion and what is the function of religion? These two questions come out to influence the theoretical environment where this work is located. The Substantive/Essentialist theories were used for this work as they focus on the contents of religions and the meaning the contents have for the people. This asserts that the people have faith because beliefs make sense, as they hold value and are comprehensible to them.

Taylor and Frazer focus on the explanatory value of religion for its adherents, Mircea Eliade focuses on the longing for other worldly perfection, the quest for meaning and the search for patterns in mythology in various religious traditions, while Rudolf Otto focuses on the importance of religious experiences, more specially experiences that are both fascinating and terrifying (Hinnells (ed) 2005:49-60).

Religious experience as is the focus of Otto's theory has been given various definitions and understanding. William James sees religious experience in the light of the "transient", which he calls the 'temporary', in which the individual soon returns to a "normal" frame of mind. The 'Ineffable' in which the individual cannot put his experience adequately into words. The 'Noetic' which the individual feels that he or she has learned something valuable from, and has the knowledge that is normally hidden from human understanding. The 'passive' in which the experience happens to the individual largely without any conscious control.

Richard Swinburne formulated five categories into which religious experiences fall. Namely: 'Public' - a believer 'sees God's hand at work. 'Public'- an unusual event that breaches natural law. 'Public' -

describable experience using normal language as in Jacob's vision of a ladder. 'Public' that is indescribable using normal languages, which is usually a mystical experience. 'Public' that is a non-specific general feeling of God working in one's life. Swinburne then suggested two principles for the assessment of the religious experience namely: Principles of *Credulity* – that, with the absence of any reason to disbelieve it, one should accept what appears to be true. The Principle of *Testimony*: that with the absence of any reason to disbelieve them, one should accept that eyewitnesses or believers are the truth when they testify about religious experiences.

Rudolf Otto's idea of the "Numinous" in religious experience is the bedrock on which we rest theoretical framework of this work. He divides the numinous into two aspects, the *mysterium tremendum*- concerning the tendency to invoke fear and trembling and *mysterium fascinans*- the tendency to attract, fascinate and compel. In the numinous, there is a personal quality, in that the person feels to be in communion with a holy other and may normally involve ecstasy, enthusiasm and spiritual reawakening. Indeed Ninian Smart and Stephen Gluck have made the point that experience is an essential dimension of religion. Following their views, without experience there can be no religion at all.

This work therefore, adopts the substantive/essentialist theory as it agrees with the Christian missionary experience as an experience that has reshaped so many persons and activities in mainline Christianity today. It has brought about reawakening experiences in the communities it has come in contact with, touching lives of individual church members and reshaping diverse aspects of church life and practices.

Scotland (2000:304) quoted James Packer, a prominent Anglican theologian by saying that "the charismatic renewal has brought millions of Christians, including many clergy, to a deeper, more exuberant faith in Christ than they had before. It has quickened thousands of congregations, invigorating their worship, making life of love and fellowship blossom among them and giving them stimulus in the work of evangelism. The Charismatics' insistence on openness to God has transformed countless lives that previously were not open to him".

3. The Origin of Christianity in Rumuolumeni Community.

The advent of Christianity in Akpor Kingdom (Ikwerre-Land) was facilitated by the Garrick Sokari

Braide Movement, also known as Christ Army Church, in the early 20th century. Sokari Braide, a renowned healing preacher and anti-colonialist, played a pivotal role in introducing Christianity to the region. His ministry focused on exorcising demon-possessed individuals and condemning idolatry. In 1912, Christ Army Church was established in Choba by members of the Braide Movement. From Choba, the gospel spread to surrounding communities, including Rumuolumeni. However, initial attempts to plant a church in Rumuolumeni by lay evangelists like Andrew Amadi and Rev. Kemmer were unsuccessful until 1914, when St. Mark's Anglican Church was founded (Onu, 2018:201). Years later, due to challenges related to distance, communication, and mismanagement, St. Philip's Anglican Church was established on November 20, 1970. This new church was formed after an adult harvest thanksgiving service conducted by St. Mark's Anglican Church at Pathfinder.

Likewise, Rumuolumeni witnessed a surge of missionary activities, with various groups vying to spread their message. Amidst this scramble, the Christ Army Church established a presence in the community, with its banner first flying in the air of Mgbuodohia clan in 1916. Initially, the church's membership comprised primarily of individuals from the Mgbuodohia clan. However, it soon attracted followers from other denominations, including St. Mark's Anglican Church. Notably, Lt. Rt. Rev. Vincent Amaruaharu Ogbonna, JP, a former member of St. Mark's Anglican Church, played a pivotal role in the growth, expansion, and revival of the Christ Army Church during his tenure as Bishop. Rev. Ogbonna's leadership and vision were instrumental in shaping the church's development and fostering its spiritual growth. His legacy continues to be felt in the community, a testament to the enduring impact of his ministry. (God'sWill Interv.13-02-2025).

Also, the Catholic Church's entry into Rumuolumeni was a relatively recent development. It was the vision of Catechist Declan that sparked the idea of establishing a Catholic parish in the area. After careful consideration, the request was finally approved in 1992. Upon arrival, the Catholic community found that the Anglican Church was already well-established in Rumuolumeni. Interestingly, the majority of the Catholic faithful in the area were predominantly Igbo people from the eastern region of Nigeria. Meaning, the indigenes of Rumuolumeni were devotees of Anglicanism. (Victor Atasiaran Interv. 14-02-2025)

According to Mpigi (September, 2024) a number of prominent Pentecostals today in Nigeria are products

of the schism that arose in the Aladura Churches in Nigeria, such as the Cherubim and Seraphim, and the Church of the Lord (Aladura). These were the most prominent until the arrival of Celestial Church of Christ and several other types. It is significantly worthy of note that Josiah Akindayomi who founded the Redeemed Christian Church of God initially founded it as the Cherubim and Seraphim Church but later changed its doctrines and practices, as it is today in the Redeemed Christian Church of God, now led by Enoch Adeboye. William Kumuyi, founder and Pastor of Deeper Life Bible Church was himself a member of the Cherubim and Seraphim Church, before his conversion and movement to the Apostolic Faith Church from where he founded what today is Deeper Life Bible Church. Indeed, the growth of Pentecostalism in Nigeria today has assumed a phenomenal proportion, as Hollenweger (2005) informs, "it should be noted that this growth is not based on a carefully developed liturgy, doctrine or theology but in its oral liturgy, normativity of theology and witness, maximum participation at the level of reflection, prayer and decision making."

Additionally, the Pentecostal era in Rumuolumeni Community was marked by the arrival of churches like Deeper Life Bible Church, Assemblies of God, Christ Faith Church, and Soldiers of Christ. These churches introduced a charismatic dimension to the gospel, emphasizing the demonstration of the Holy Spirit's power. Their message was characterized by a strong emphasis on legalism and holiness. They rejected practices such as polygamy, drinking, and chieftaincy affiliations, which were prevalent among some Anglican members. Those with multiple wives were required to renounce the practice and retribute. The Pentecostals dubbed their message "pure religion with holiness," emphasizing a strict adherence to biblical principles and Methodism of the Euro-American puritan.

4. The Growth of Christianity in Rumuolumeni Community

Matthew Ojo (2016:74-94) asserts that since about 1986, i.e. in the past 46 years and within our own generation, we have witnessed certain fundamental changes in the way Christianity is perceived and practiced in Nigeria, and in other parts of West Africa. The most substantial change is associated with a kind of spirituality brought into existence by the rise of Pentecostal and Charismatic movements. This new religious effervescence is part of what is generally referred to as the Charismatic Renewal, a revivalist movement within the Christian church with global dimension. From its old form as a sectarian religion in Africa in the early twentieth century, by the 1990s

Pentecostalism has moved into the public domain to become a global religion, and has thus attracted the attention of the media, the generality of Christians and non-Christians and scholars of religion.

A casual observer visiting Rumuolumeni community in the Port Harcourt metropolis over the past few decades would have been struck by the overwhelming proliferation of posters and large banners in public spaces. These vibrant announcements, plastered on schools, business shops, and private residences, loudly proclaimed the presence of numerous Christian religious groups.

The posters often touted the extraordinary charisma and powers of the anointed leaders, boasting of their ability to perform miracles and effect faith healing. This visible display of religious advertising has become a distinctive feature of the community's landscape, reflecting the dynamic and diverse religious culture that thrives in Rumuolumeni.

In essence, as Sunday morning dawns on Rumuolumeni, the community transforms into a vibrant hub of activity. The streets come alive as throngs of people, young and old, from within and outside the area, flock to the various churches. The atmosphere is electric, with a cacophony of sounds filling the air. Loud cries of "Hallelujah!" and "Praise the Lord!" punctuate the morning air, accompanied by frenzied clapping, the melodic strains of keyboards, and the rhythmic beating of drums. The din of uncontrolled speakers, blaring at varying pitches from every direction, adds to the sensory overload, creating an atmosphere that is both chaotic and exhilarating.

The streets surrounding Rumuolumeni vibrant church community are often congested, with a sea of vehicles causing traffic gridlocks. This is particularly evident as worshippers flock to and from various churches, including St. John's Catholic Church, St. Mark's Anglican Church, Deeper Life Bible Church, Christ Embassy, Church of the Latter Day Saints, and Gateway International Church. The influx of devotees from these prominent churches transforms the area into a bustling arena, with cars, buses, and motorcycles vying for space on the crowded roads. The resulting traffic congestion is a testament to the strong religiosity in Rumuolumeni.

Consequently, over the years, the community has experienced remarkable church growth, with a proliferation of diverse denominational affiliations. This vibrant community serves as a center for evangelistic, ecumenical and spiritual crusades, attracting renowned global preachers. The influence of

the church is palpable, with a strong awareness of its presence in every aspect of community life. A 2025 church census revealed an astonishing 250 new-generation churches, boasting a combined Sunday service attendance of over 1,000 members. This statistic testifies to the community's profound religious fervor and its reputation as a beacon of faith.

Additionally, a striking characteristic of the churches in Rumuolumeni is that approximately 98% of their founders are non-indigenous, while only 2% are native to the community. The average congregation size for each denomination is around 50 members. The community's demographics are constantly evolving, with an influx of immigrants leading to the establishment of new churches. Conversely, the community has also seen the emergence and demise of numerous false religious groups, highlighting the importance of discernment and authenticity in spiritual pursuits of the members. Mpigi (2024) asserts that one of the by-products of the redefinition of spirituality within the Nigerian church is the rise of leadership marked not by godly maturity but by outward signs and wonders and in some cases by the sheer lure of personal flamboyance and mesmerizing rhetoric.

5. The Development of Rumuolumeni Community

Community development is a movement to promote better living for the whole community, with active participation and if possible, on the initiative of the community. Missionaries in the colonial era were the frontiers for community development. They engaged in various educational, health and empowerment activities as their means to effective community development. They literally forced people into various manual works such as gardening, marketing, cooking, and tending horses and on plantation work, agricultural field and coffee gardens (Raghumani, 2012). Rumuolumeni, in time past was characterized by vast tracts of farmland, forests, and scattered villages. The area was largely undeveloped, with limited access to basic amenities such as electricity, water, and roads. However, the oil boom in the Niger Delta region, exposed the fortunes of Rumuolumeni. The once-rural area in Port Harcourt, Rivers State, Nigeria, has undergone a profound transformation over the years, giving way to a thriving urban center, hosting a viable educational institution, teeming with economic and industrial activity. This remarkable metamorphosis can be attributed to the influx of churches and investors who saw the potential of this area and have poured in resources to develop its infrastructure, industries, institutions and services. Bitrus (2017) opines that the globalizing effects of modernity on Africa's social, cultural and religious life

are real and far-reaching. Like in the West, the dynamic elements of modernity have transformed and shaped traditional social relations in Africa. Africans are now able to engage with the global community more than ever before, even as the global community intrudes into their intimate personal life as never before.

More so, Rumuolumeni has evolved into a thriving business hub, boasting an impressive array of flourishing enterprises. The area serves as a strategic base for numerous manufacturing plants, which produce a range of essential materials, including cement, steel, and plastics. The oil and gas sector is also a significant player in Rumuolumeni, with hundreds of tankers transporting crude oil to various states across Nigeria. This bustling industrial activity has contributed to the area's rapid growth and development. In addition to its industrial prowess, Rumuolumeni is renowned for its excellent hospitality infrastructure. The community is home to a range of top-notch hotels, restaurants, and entertainment venues, catering to the needs of business travelers, investors, and tourists. Furthermore, Rumuolumeni healthcare sector is well-equipped to provide quality medical services. Modern healthcare centers and facilities are readily available, ensuring that residents and visitors have access to excellent medical care when needed. Overall, Rumuolumeni has emerged as a vibrant and dynamic economic frontier, offering a unique blend of industrial, commercial, and recreational opportunities.

Rumuolumeni landscape is dotted with an array of modern architectural houses, showcasing a blend of sleek designs, innovative materials, and meticulous craftsmanship. These contemporary homes not only reflect the area's growing prosperity but also contribute to its visual appeal, making Rumuolumeni a desirable and upscale neighborhood for realtors.

The people of Rumuolumeni have made significant strides in politics, with notable leaders emerging from the area. A local government chairman and commissioner have been elected from Rumuolumeni, demonstrating the community's growing influence in Rivers State's political landscape. The traditional institution also holds a revered position in Rumuolumeni, with the traditional stool commanding respect from all and sundry. This blend of modern political leadership and traditional authority has contributed to the area's stability and growth.

Rumuolumeni progress is also reflected in its academic and infrastructural development. For instance, the Ignatius Ajuru University of Education,

located in Rumuolumeni, has become a reputable institution, offering various programs in education, arts, social sciences, and other disciplines. The people of Rumuolumeni are renowned for their exceptional cultural hospitality, warmly embracing strangers and fostering a sense of community. Their remarkable welcoming nature has created a conducive environment for business transactions, making visitors and investors feel at ease. In Rumuolumeni, hospitality is not just a virtue, but a way of life. The locals take great pride in their ability to make guests feel valued and respected, often going above and beyond to ensure their comfort and satisfaction. This unique blend of traditional hospitality and modern business acumen has earned Rumuolumeni a reputation as a premier destination for trade, commerce, and cultural exchange.

In the purview of Akande (2010) & Nseabasi (2012) community development is a process where community members come together to take collective action and generate solutions to common problems. Community development processes and practices entails the inclusion and participation of different interest groups, stakeholders and actors including the people whose livelihood projects are geared at improving, government and non-governmental bodies, funding organizations, project experts and executors.

6. The Challenges of Christianity in Rumuolumeni

Adams Philip (2024) asserts that Nigeria is home to a vibrant and growing Christian community, but the challenges faced by Christians in this country are many. Despite constitutional protections for religious freedom, Christians in Nigeria often find themselves marginalized and persecuted. The Christian church in Rumuolumeni, like many others, has faced its share of challenges over the years. One of the most significant obstacles has been the vehement opposition from the traditional community. In some instances, members of various churches have been denied their legitimate rights and privileges simply because of their affiliation with a particular church. This has led to feelings of marginalization and exclusion among Christian adherents. Furthermore, some Christians have faced harassment and intimidation from traditionalists, including encounters with masquerades. These experiences have created a sense of unease and tension between the Christian community and the traditional society.

Some of the prevalent challenges faced by the church in Rumuolumeni today include:

Synecriticism: One of the significant challenges facing the church in Rumuolumeni is syncretism, which refers to the blending of Christianity with elements of other faiths, including African Traditional Religion (ATR). This phenomenon is evident in the way many adherents incorporate traditional practices and beliefs into their Christian worship.

Rather than adhering strictly to Christian liturgy and doctrine, some believers in Rumuolumeni pick and choose elements from various faith traditions, creating a unique syncretic blend. This can lead to a dilution of Christian orthodoxy and a loss of distinctiveness in the church's message and mission. The consequences of syncretism can be far-reaching, undermining the church's credibility and effectiveness in sharing the Gospel. It also creates confusion among believers, making it difficult for them to discern what is truly Christian and what is not. In the view of Mpigi (2024) as with Pentecostalism, conformity to the teachings of ancient scriptures has gradually disappeared introducing giving room to "another gospel", attracting crowds to the church with little or less emphasis on Christian teachings and virtues.

Social media: Social media has revolutionized the way information is disseminated, but it has also created challenges for the church in Rumuolumeni. While social media can be a powerful tool for evangelism and outreach, it has also been instrumental in spreading negative news and scandals. A case in point is the incident involving a pastor who was reprimanded for impregnating a minor. Social media platforms amplified the story, turning it into a global sensation and bringing unwanted attention to the church. What would have been a localized issue, handled discreetly and internally, was instead broadcast to the world.

Economic hardship: The lack of financial resources hinders the church's ability to fulfill its mission and provide for the needs of its members. Many churches struggle to pay their pastors and staff, maintain their facilities, and fund community outreach programs. Economic hardship can lead to a reliance on questionable fundraising practices, creating an unhealthy emphasis on material prosperity and undermining the church's spiritual integrity. The church's response to economic hardship must be guided by a commitment to biblical principles of stewardship, generosity, and compassion.

Miracle seekers: Many individuals attend church services with the primary expectation of receiving miraculous solutions to their life's problems. Some seek financial breakthroughs, while others desire healing, protection, or marriage. This phenomenon has led to a subtle shift in focus, where the emphasis on spiritual growth, discipleship, and community is sometimes overshadowed by the pursuit of tangible,

immediate benefits. As a result, church membership has become increasingly transient, with attendees "church hopping" in search of the next miraculous experience. This "church prostitution" undermines the development of deep, meaningful relationships within the church community.

Untrained, uncultured and immature clergy: Rumuolumeni is plagued by the presence of charlatans masquerading as genuine clergy. Many self-proclaimed ministers lack formal theological education, seminary training, or conventional instruction. Instead, they claim to have received a divine calling through dreams or visions as such they need no instructor except God. This unenlightened background often leads to the dissemination of false teachings, corrupting the purity of the Gospel. These untrained leaders produce immature Christians who mirror their own spiritual immaturity.

According to Mpigi (2024) one of the by-products of the redefinition of spirituality within the Nigerian church is the rise of leadership marked not by godly maturity but by outward signs and wonders and in some cases by the sheer lure of personal flamboyance and mesmerizing rhetoric. This is particularly true when combined with the attraction of money and material success displayed by the leaders and promised to the followers.

7. The Prospect of Christianity in Rumuolumeni.

There is a growing optimism that Rumuolumeni will emerge as a hub of Christian ecumenism in Rivers State, offering a rich tapestry of denominational histories for church historians to explore. A remarkable feature of Rumuolumeni Christian landscape is the cemented amicable relationship between the church community and the traditional community. This harmonious coexistence has yielded several fruits:

Indigenous Clergy: The church has become more inclusive, with indigenes of Rumuolumeni being ordained as clergy members, thus providing leadership that is culturally sensitive and relevant. Young people in Rumuolumeni are increasingly enthusiastic about Christianity, driving the growth of vibrant youth ministries that cater to their spiritual needs and interests. Today, there's the establishment of Rumuolumeni Believer's Forum.

Integration into Traditional Ceremonies: The church has become an integral part of traditional ceremonies, such as coronations, where Christian clergy offer prayers and blessings.

Annual Thanksgiving Services: The traditional community has incorporated annual thanksgiving services into their calendar, fostering a spirit of gratitude and unity.

Increased Evangelism and Outreach: Churches in Rumuolumeni are becoming more proactive in evangelism and outreach, leveraging social media, community events, and interpersonal connections to share the Gospel.

Collaboration and Unity Amongst Churches: Rumuolumeni Christian community is witnessing a growing spirit of collaboration and unity among churches, fostering a more cohesive and effective witness, this evident through the activities of Pentecostal Fellowship of Nigeria and Christian Association of Nigeria in Rumuolumeni.

8. Conclusion

The history of Christianity in Rumuolumeni is a fascinating narrative of faith, resilience, and transformation. Christianity has grown, developed, and evolved in response to the unique cultural, social, and economic contexts of Rumuolumeni. Despite facing numerous challenges, including syncretism, social media scrutiny, economic hardship, miracle-seeking mentality, and untrained clergy, Christianity in Rumuolumeni has demonstrated remarkable adaptability and vitality. Today, Rumuolumeni stands as a beacon of Christian ecumenism and interfaith harmony, with a thriving church community that is increasingly integrated into the traditional fabric of the society. As we reflect on the history of Christianity in Rumuolumeni, we are reminded that the story of faith is always a work in progress, shaped by the complex interplay of historical, cultural, and social forces. Yet, amidst the challenges and complexities, the prospects for Christianity in Rumuolumeni remain bright, promising a future of continued growth, deepening faith, and transformative impact on the community.

References

- Adams, P. (2024). Exploring the impact of Christianity on Nigerian Culture and Society: A Christian Youth Pastor's Perspective.
- Bitrus, S. (2017). Globalizing impact of modernity in Africa. *Journal of Globalization Studies*. Volume 8, Number 2 / November 2017
- Clifton, R. (2010). Ogbu Kalu and Africa's Christianity: A Tribute. *Pneuma* 32.
- Daudu, M. & Gbule J (2000). An outline of the history of Christianity in Africa. Zaia: Micsons Press, 7 Baba Ahmed road T/wada.

- Dean, C. (1973). Modernization theory and the comparative study of societies: a critical perspective. Vol. 15, No. 2, <http://www.jstor.org/stable/178351?origin=JSTOR-pdf>.
- Falk, P. (1997). The growth of the church in Africa. Jos: Prudent Universal Press & Publishing Co. Ltd.
- God'sWill, M. Interviewed on 13-02-2025 at Rumuolumeni.
- Hennells, John R. (ed) 2005, *The Routledge Companion to the Study of Religion*. Abingdon: Routledge Press.
- Kwame, A. Old gods, New Worlds pdf. (<https://appiah.net/wp-content/uploads/2020>)
- Isichei, E. (1995). From antiquity to the present: A history of Christianity in Africa. Michigan: W.B Eerdmans Publishing Company.
- Kalu, Wariboko & Falola (2010). The collected essays of Ogbu Uke Kalu: Christian missions in Africa: Success, ferment and trauma. Eritrea: Africa World Press.
- Ilega, D. & Iheanacho N. (2008) Christianity in Nigeria, advent, variety and trends. Port Harcourt: Stepson Printing Press, 74 Azikiwe Street.
- Isichei, E. (1995). From antiquity to the present: A history of Christianity in Africa. Michigan: W.B Eerdmans Publishing Company.
- Kalu, Wariboko & Falola (2010). The collected essays of Ogbu Uke Kalu: Christian missions in Africa: Success, Ferment and Trauma. Eritrea: Africa World Press.
- Mpigi, G.M (2018). Gaining the Whole world: Pentecostalism and the changing face of Christianity in Nigeria. *AKSU Diakonia; Akwa Ibom State University Journal of Religion and Culture. Volume 1*.
- Mpigi, G.M and Egbuagu, CS (2024). The 95 Theses Of Martin Luther: Implications And Challenges For Modern Christianity *Crowther Journal of Arts and Humanities, Volume 1, Number 3, July, 2024*
- Mmejim & Ogbonna (2023) Amaruaharu: A bishop of destiny (life story and essay). Port Harcourt: Superb print concept.
- Martin, L. Presence and impact of pentecostal/charismatic Christianity in Africa. ([Presence and Impact of Pentecostal Chari.pdf](#))
- Nuelson P. (2025). Overview and history of Ignatius Ajuru University, Rumuolumeni.
- Okai M. (2016). The proliferation of Churches in modern Nigeria: A socio-political and economic reconsiderations. (online) 2225-0484 (Online) Vol.6, No.18, 2016)
- Onu, B. (2018). The emergence of Christianity in Ikwerreland: Beyond the usual narrative. Choba: University of Port Harcourt Press
- Onyemalechi, S. (2014). Saint J. Ayebakuro, the rise of an apostle of revival. Port Harcourt: Divine nature bookhouse, Iwofe.
- Ojo, M. (2018). Pentecostalism and charismatic movements in Nigeria: Factors of growth and inherent challenges," *The WATS Journal: An Online Journal from West Africa Theological Seminary: Vol. 3: No. 1, Article 5*. Otto, Rudolf:<http://en>
- Wikipedia.org/wiki/Religious-Experience #The-numinous<http://en>
- Wikipedia.org/wiki/Theories of religion
- Ramsey & Blessing (2021) (ISSN Community Development in Nigeria: History, current strategies and its future as a social work method. (Online) 2788-8169) Volume 6.
- Raghumani, N. (2012). Christian missionaries and their impact on socio-cultural development-undivided koraput district a study. (DIO 10979008370230105) *Journal of Humanities and Social Sciences* 2(3):1-5.
- Saliba, A. (2003). *Understanding New Religious Movements*. Oxford: AltaMira Press.
- Scotland, N. (2000): *Charismatics and the New Millennium (Eagle)*: Guildford Survey Inter Publishing Service Ltd
- Spickard & Cragg. (1994). *A Global History of Christianity*: Michigan, Baker academic.
- Tasie, G.O.M. (1978). *Christian Missionary Enterprise in the Niger Delta 1864-1918*. Leiden: E.J Brill.
- Turaki, Y. (1999). *Christianity and African Gods: A Method in Theology*. Nairobi: IBS-Nig press.
- Victor, A. Interviewed on 14-02-2025 at Rumuolumeni
- William, N. (1987). *Modernit*



Divination among the Etche of Niger Delta

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Abstract. The unusual occurrences such as a tree or a branch falling down especially when there is no wind or rain, a sheep growing a horn, the appearing and disappearing of millipede and by extension frequent death, in explicable diseases, resulting in fear. However, form the basis of divination among Etche as a means to proffer solutions to the above circumstances. the paper posits that divination has helped to ascertain the underlying causes of these occurrences. The paper also argues that these occurrences not only portend messages from the supersensible realm but are also manifestations of the anger of the supersensible entities. The study adopted phenomenological approach to interpret and describe the causes of these usual signs. The study also adopts primary and secondary sources (primary sources-oral interviews; report of the custodians of Etche custom and tradition and handed down tradition and secondary sources (published materials). Findings reveal that divination among Etche is so significant not only in the religious life of the people, but also as a means to offer explanations to inexplicable circumstances.

Keywords: Etche, Diviner and Divination.

1. Introduction

Among the Etche, divination is considered so significant in the religious life of the people. This is because in Etche, the two worlds of existence the physical tangible world and the spiritual invisible are believed not only to be unshaken but also real among the people. The latter for the people is believed not only to be the abode of the living dead and other spirit beings but also to have far reaching influences on the everyday existence of the people. That is why when there is an impending doom or unusual occurrences in the land an Etche man would say he is going to conduct a search. This, however, further explains that he is going to consult a diviner to find out what such

occurrences are indicating. For the people, divination is so significant if the ontological relationship that exist between the two realms must be maintained.

Two factors motivated the researcher's interest in pursuing this study. The first, was to document for posterity the beliefs and practices relating to divination especially in this period of cultural globalization and the second was to examine the importance of divination among the Etche and to see how this has helped to unravel the causes of unusual signs.

1.1 Background of the Study

Etche is one of the twenty-three Local Government Areas that make up Rivers State. It is located at the Northern part of Rivers State having boundaries with Ngor-Okpala Local Government Area of Imo State in the North, as well as Abia State in the East (Nwiyi, 2012, p. 68). According to Etche Socio-Political organization, there are five outstanding clans that make up Etche. The clans are, Mba, Okehi, Ozuzu, Igbo Agwuruasa and Ulakwo Umuselem. The essence of this, is for ease administration (Amele, 2000, p. 1).

As for their economic life, the people of Etche are predominantly farmers. They engage in production of palm oil, cocoyam, etc but the most important ones are yam and cassava which are planted in large quantities. As a people located within the Niger Delta region of Nigeria, they experience the normal Niger Delta climatic condition with two main seasons namely, the rainy and dry season. The rainy season take place between March and November. The dry occurs between November and February (Amadi and Uwom, 2023, p. 12).

With regards to their religious life, there is a strong believe in the existence of a Supreme Being to which the people refer to as Chineke (The God who created

everything in the universe). Etche, like other traditional African societies do not approach Him directly rather He is approached and worshipped through the pantheon of divinities.

1.2 Methodology

This study was carried out as an interview-based research. Two types of oral investigation procedures were utilized viz:

- i. Reports of custodians of Etche custom and tradition about meaning of divination.
- ii. Handed down tradition about meaning of beliefs and practices relating to divination

There were certain issues that were taken into account in selecting the interviewees and some of the considerations are: the position of the informant in the society; the cultural organization he/she belongs to the position or title he/she holds; the level of the interviewees' cultural affinity. Those who were culturally rooted in the practices of the local community were found to be better versed in the tradition and cultural practices of the people.

2. Diviner

According to Tasié (2013) a diviner is a person who is primarily concerned with the acts of divination (p.6). For Erivwo (2001) a diviner (*oboepha*) among the Urhobo is regarded as a doctor of divination. According to Erivwo, he is an expert in divination, able through the system to communicate with the unseen and supersensible world, and transmit messages from ancestors, spirits and divinities to his clients. He is not only able to see into the future, but also to uncover the past (p. 86).

According to Metuh (1987), person may become a diviner among the Yoruba through hereditary sometimes passing from father to son or another member of his family. In other cases, a person may be called directly from Orunmila, a divinity in charge of divination (p. 219). Generally, for Usifo (2009) diviners are mediums for divination and they are empowered by the divinities, men and their circumstances. Such power enables them to tell their clients the object of their mission at their first appearance; even before they had to anything (p.84).

As for the taboos, the diviner according to Tasié (2007) is subject to many taboos. Some of these as he noted forbid the consumption of certain foods. Others as he further noted forbid mundane activities on days

set aside for communion with the deities. Also, important according to Tasié is the fact that the diviner has to avoid defilement of any sort (p. 30). According to Awolalu and Dopamu (1979) they may either be priests connected with the cults of certain divinities or they are men of power (p. 147).

3. Divination

In the words of Awolalu and Dopamu (1979), divination is the practice of attempting to foretell the future, reveal the known, or find out the wishes of a divinity or spirit (p. 97, 47). Gerald (2008) defines divination as a magical and supernatural method of accessing information which is unobtainable by other means. Such information includes knowledge of the future events, the recovery of lost objects, insight into hidden character-traits, etc (p. 142).

Similarly, in the words of Tasié (2007) the Isiokpo term for divination is *ogbaaha*, a phrase which by implication means the manipulation of ritual objects through various techniques to ascertain the future, to identify the underlying cause of diseases, to proffer solutions to problems that cannot be solved by the ordinary man, or to fathom the desires of the deities and determine which of sacrifice requires (p. 9).

Among the people, as he observes, there is no clear-cut distinction between a diviner and a medicine man, since ideally, in order to diagnose and cure disease, the latter should possess not only the gift of communicating with the supersensible world, but also that of going beyond the physical changes in the body's condition that indicates illness, to unraveling their spiritual causes. However, the Isiokpo, as he further noted, still acknowledge the fact that certain *dibia* (as both diviners and medicine men are called/are more strongly endowed with the gift of healing with roots, herbs and other ritual preparations, whereas others are more strongly endowed with the power of foretelling the future and seeing clearly into the spiritual realm. The latter, as he explains, are described as *dibia no ohuizor cham* ("medicine man/diviner who sees clearly into the spiritual realm).

Explaining further, Tasié pointed out that there are many different systems of divination in Isiokpo. These includes, palm reading, mirror gazing, the interpretation of bird behaviour as messages from the spirits; the casting of bones, cowries, or lobes of kola nuts and the interpretation of the patterns with which they fall as messages from the gods; and divination through spirit possession (pp. 29-30).

Similarly, Owete and Iheanacho (2009) identified ten basic ways of divination:

- (1) Through dreams (which give either obvious or symbolic meanings that are further analysed).
- (2) Presentiments (a personal type of divination in which an individual develops a feeling, or presentiments about something).
- (3) Body actions like sneezing, twitching, and hiccupping, which may be interpreted as in predictions of rainfall, or good or bad luck, drought or some other events.
- (4) Ordeals-live threatening tests administered to a suspect to ascertain the veracity of his claim or guilt in a matter, for them, this method varies from culture to culture.
- (5) Spirit possession-this-facilitate the diviner's insight and knowledge to fathom mystery, and concealed knowledge.
- (6) Necromancy a technique of seeking 'signs' from the departed (dead), or through the method of close observation of a corpse lying in state.
- (7) Animal types- a form of divination technique in which knowledge is inferred through the observation of living animals.
- (8) Mechanical technique- a type of divination in which knowledge is derived through manipulation of given number and type of objects, which are interpreted in the process.
- (9) Nature divination- a type in which answers are inferred and determined from the observation of signs in nature, such as the positions, and or movement of heavenly bodies, or the way leaves wither and fall.
- (10) Yet, there are sundry ways of divination techniques, in which the medicine man fathom mysteries, and prescribe cure for one's ailment (p. 130).

According to Awolalu and Dopamu (1979) the Yoruba is believed to have the most highly developed divination system in West Africa. This divination system called *Ifa*, is connected with the Yoruba deity Orunmila (translated Heaven knows salvation), said to be a child of the Supreme Being, (Olodumare) and his deputy and oracle on earth. The diviner is called *babalawo* (father of mysteries). The basis of the *Ifa* divination as they observed is a larger collection of proverbs and parables correlated with a set of 256-divination figures, called *odu*. Some diviners claim that they can recite eight proverbs and eight parables for each *odu*. This would give about 4, 096 of the oracle provers and parables. The proverbs are meant to illustrate it. Finally, the application is made by the diviner to the needs and requests of the enquirer

There are two methods of selecting the *odu* divination figures. For Awolalu and Depamu, the more complex pattern involves a rectangular divining board and a set of sixteen palm nuts. Before the divination process, the

diviner may make a sacrifice to *Eshu* deity. While shaking the sixteen palm nuts in his loosely clasped hands, he rapidly tries to lift all the nuts from his left hand to his right. If two nuts are left in his left hand, he marks one stroke on the powered divining board. If one is left, he marks two strokes if more than two or none is left the process is repeated. He continues this process until he completes two columns each with four markings.

A shorter method as they further noted involves the use of a divination chain or string on which are attached eight halves of seed pods or shells. The chain is held in the middle and thrown in such a way that the pods fall in two parallel lines. Pods that fall with their concave side upwards are equivalent to one line on the divining board while those that fall with the concave side upwards are equivalent to two lines.

Once the set of eight marks arranged in two columns has been obtained by either process, the diviner gives the proverbs and recites the explanatory parable attached to it. This gives the oracular reply to the enquirer's problems. The rule of the diviner is simply to apply this response to the specific needs of the customer. Sometimes this may be necessary for the parables can be self-explanatory in some situations. The parables generally refer to occasions in the past when the deities, ancestors or some animals consulted *Ifa* about certain problems, description of the situation and the sacrifice that was prescribed. The practical application may be that the enquirers should likewise make a sacrifice to a named deity, and so avert the threatened danger or obtain his protection for a project in hand.

The *Ifa* divination is consulted at all important occasions in a person's life. It is consulted at birth, before marriage, during serious sickness, after a series of misfortunes, to obtain a job, to pass an examination, before building a new house, etc (pp. 147-148).

Similarly, for Tasié, divination is crucial at all levels of Isiokpo social life. At the level of the individual, it is employed at birth, to ascertain the identity of the ancestor incarnated and so to know the appropriate name to give; when the person reaches adulthood, as a means of finding a suitable marriage partner; throughout life, as a way of identifying the causes of misfortune and the means of prosperity; and even at death, as a means of identifying its cause. At the level of the group, it is employed in discovering the causes of collective misfortune and the means of achieving collective prosperity, and in choosing a priest or other office holders (p. 30).

For Olumati (2013) divination is so significant among the Ikwerre especially in cases relating to reincarnation. According to Olumati, amongst Ikwerre of the Niger Delta many of the cases of reincarnation are known through divination. When a new born child as he pointed out is manifesting strange and persistent traits, the parents quickly consult a diviner to find out the person that reincarnated in the child as well as the remedy to the situation (pp. 108-109). In the remaining section of this essay, we shall be examining divination among the Etche.

The Etche term for divination is *igba aha*, which literally, means the manipulation of ritual objects through various techniques to unravel the future, to identify the hidden cause of disease to proffer solutions to problems that cannot be solved by ordinary man, or to discern the wishes of the gods and to be double sure which of them requires sacrifice.

Thus, the Etche name for the diviner is *ogba aja*, which means the one who discovers what is hidden or revealer of secrets beyond the ordinary. Among the Etche, there is no clear-cut distinction between a diviner and a medicine man. According to our interviewee, Amadi Josuah, this is true in the sense that both are called the profession but are more strongly endowed not only with the gift of healing with herbs, roots and other magical preparations but also with the gift of communicating with the supersensible world (Amad, J. 05/06/2025, oral interview).

Among the Etche, the diviner is hedged by many taboos. Some of these taboos forbid to pass across a river or to see a river, to drink in the public. Others forbid mundane activities on the days set aside for communion with the deities. In addition to this, are the qualities of the diviner. Among the Etche, the diviner as another interviewee, Anele Moses, disclosed must be identified with certain qualities. As he noted, he must be trustworthy, honest, friendly, transparent and dutiful. Also important is that the diviner must be approachable and available at all times (Anele M, 10/06/2025, oral interview).

Among the Etche, *ilenyiyo* (mirror gazing) and *ichiokwe* or *nkpuruokwe* (casting of beads/cowries) are two major systems of divination. Our interviewee, Friday Manueke has it that before the diviner begins the real ritual (that is, the divination proper) the diviner will first perform the pre-ritual exercise; here, the diviner pours libation to his deity, draws four lines on the floor, with *nzu* (native white chalk) rhythmically beats the small drums of *ekwe* (wooden song) and *ugele* (metal song) respectively and chants the eulogies of the deity. When this is done, the diviner while in the

full glare of an enquirer casts his beads/cowries which in the process scatters about the place. Here, the diviner interprets the pattern with which they fall on the floor as messages from the deities (Friday, M. 15/06/2025, oral interview).

Divination is important at all levels of Etche life. At pregnancy, it is employed to ascertain if there is any impediment as to remove to protect the unborn child for safe delivery, when embarking on an important journey; to be double sure that the journey is successful, when choosing a priest especially where priesthood is not hereditary, it is also employed at birth (when a child is born) to ascertain the ancestor that returned as to know the suitable name to give when he gets to adulthood, when traveling in search of greener pastures outside the shores of Etche to ascertain the new environment is conducive as to bring home success. Also important is that it is employed in times of the unnatural signs or omens such as hooting of owl at night, bat cries at night, beehives in the compound, a big tree or a branch falling down especially when there is no wind or rainy, a cock crowing at odd times especially at midnight, to dig out what these occurrences portend (Nwogu, 2003, p. 93).

4. Conclusion

Among the Etche, the unnatural occurrences (frequent death, inexplicable diseases, hooting of owl at night, a big tree or a branch falling down especially when there is no rain or wind, frequent appearance and disappearance of millipede and other misfortunes, for the people are regarded not only as situations of uncertainties but often times defiles solutions from the ordinary man.

This, however, explains the importance of divination among the people. For the people, divination here, becomes a means to ascertain the underlying causes of these unnatural uncertainties; the danger inherent in them but also proffer appropriate solutions to the above circumstances.

References

Primary Sources

- Oral interview with Amadi Joshua, traditionalist at Akpoku Etche on 05/06/2025.
- Oral interview with Anele Moses ofo holder at Okehi Etche on 10/06/2025.
- Oral interview with Friday Manueke, traditionalist at Ozuzu Etche on 15/06/2025

Secondary Sources

- Amadi, E. E. & Uwom, K. O. (2023). "The significance of Traditional Burial Rites in Etche South-south Nigeria". *Sapientia Global Journal of Arts, Humanities and Development Studies*, 6(2), 58.
- Amele, E. (2000). *Socio-Political History of Etche*. Port Harcourt: Osia International Publishers.
- Anyacho, E. O. (1994). *Essential Themes in the Study of Religion*. Cross River: Niger Link Printing Publishing.
- Awolalu, J. O. and Dopamu, P. A. (1979). *West African Traditional Religion*. Ibadan: Onibonjo Press & Book Industries (Nig.) Limited.
- Erivwo, S. E. (2001). "Epha: Divination System Among Te Urhobo of the Niger Delta", in G.G. Darah, E. S. Akama et. al (eds.) *Studies in Art Religion and Couture Among the Urhobo and Isoko people*. Port Harcourt: Pam Unique Publishing Coy. Ltd.
- Gerald, B. (2008). *The Watkins Dictionary of Religions and Secular Faiths*. London: Watkins Publishing.
- Metuh, E. I. (1987). *Comparative Studies of African Traditional Religions*. Onitsha: Imico Publishers.
- Njoku, G. U. (2000). *African Worldviews in Focus*. Owerri Superficial Special Publishers Ltd.
- Nwogu, I. et. al (2003). *History of Etch*. Owerri: Springfield Publishers Ltd.
- Olumati, R. (2013). "Divination in West African Traditional Religion" in Tasie and Olumati eds.) *West African Religious Heritage*: Ghana: Clear Vision Publications.
- Owete, K. I. and Iheanacho, N. (2009). *West African Traditional Societies Fundamentals of Religion and Socio-Cultural Heritage*. Port Harcourt: Stepson Printing Press.
- Tasie, G. I. K. (2012). "Some Basic Terminologies in Religious and Cultural Studies" in Akama (ed.). *Introduction to Religious and Cultural Studies*, Port Harcourt: University of Port Harcourt Press Ltd.
- Tasie, G. I. K. (2013). *Isiokpo Ikwerre Religious World-view: The Traditional Legacy* in Tasie G. I. K. (ed.) *Aspects of Niger Delta Indigenous Religion. Essays in Honour of Professor Robin Horton*. Port Harcourt: University of Port Harcourt Press Ltd.
- Usifoh, A. O. (2009). *Religious Specialists in African Traditional Religion* in George Tasie (ed.) *Fundamentals of African Indigenous Religion*. Chadike Press.



Gendered Authority in Traditional Justice Systems: Unveiling the Role of Magajia in Customary Justice Systems in Auchi, Edo State, Nigeria.

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Abstract. Traditional justice systems in Africa are often perceived as exclusively patriarchal. However, the gendered authority of the Magajia in Auchi challenges this narrative. This study examines the role of the Magajia, a female traditional leader, in conflict resolution and moral guidance within Auchi's customary justice systems. Using purposive sampling, thirty-six key informant interviews, focus group discussions, and participant observation at community court sessions were conducted. Findings reveal that the Magajia is usually an elderly woman appointed by senior women or traditional rulers to mediate disputes, upholds moral standards, and represents women's interests. Though her judgments lack legal enforcement under the state law, but her influence within the community remains significant. Therefore, institutionalizing the Magajia's role and providing training in leadership, legal literacy, and digital skills could enhance her relevance in modern governance structures. Above all, the study underscores the need to recognize and empower gender-inclusive traditional justice systems in Nigeria.

Keywords: Unveiling, The Magajia, Traditional Justice systems, Auchi, Edo State Nigeria.

1. Introduction

Across many African societies, traditional justice systems continue to play an indispensable role in resolving disputes, maintaining social order, and reinforcing cultural values, particularly in communities where access to formal legal institutions is limited or viewed as expensive, delaying and culturally alien (Oomen, 2013). These systems are often shaped by patriarchal ideologies that prioritize male leadership and decision-making, thereby sidelining the contributions of women in conflict resolution and justice processes (Alubo, 2021). However, embedded within these same systems are unique institutional spaces that empower women in specific contexts to exercise authority and influence.

One of such institution is that of the Magajia, a female traditional leader found in Northern Nigerian communities, whose institution has also been adopted in other cultures with significant Northern influence, such as in Auchi, a dominant Muslims Etsako ethnic group of people in Edo State. Especially, with the growth of Islam in Auchi from the 19th century, many northern Hausa-Fulani socio-religious structures, including the institution of the Magajia, were integrated into local governance and culture (Osaghae, 1998). As a result, the institution of Magajia in Auchi developed as the indigenous Etsako gendered authority in traditional justice system.

Auchi presents a unique sociocultural environment where indigenous Edo traditions coexist with Islamic norms and customs, including the Magajia institution (Bello, 2023). This convergence underscores the importance of context in shaping how traditional institutions are adapted and interpreted across regions. In Auchi, the Magajia serves as both a custodian of culture and an adjudicator of justice in issues pertaining to women and families (Aminu and Yusuf, 2017). Her courtroom is not a formal institution backed by statutory law, but rather a communal space where disputes are resolved through dialogue, consensus, and appeals to customary values (Usman, 2021). In many communities, especially in the Northern Nigeria, the Magajia is the first point of contact for women experiencing domestic conflict, economic disputes, or social ostracization (Usman, 2021; Okonkwo, 2018). Her role is thus not only symbolic but functionally critical to the operation of justice systems that resonate with local customs and values.

This concept of gendered authority of the institution of Magajia challenges the perception that traditional African societies are exclusively patriarchal in nature (Tamale, 2020). While it is undeniable that male dominance characterizes many traditional leadership roles, anthropological and historical evidence suggests

that women have also, historically held positions of influence, albeit often within gender-specific domains or under culturally defined limitations (Okonjo, 2015). The Magajia is one of such figures whose authority, although operating within a gendered hierarchy, reveals the complex interplay of power, gender, and tradition (Aminu and Yusuf, 2017). As the leader of women in her community, the Magajia is entrusted with the task of settling disputes, enforcing moral codes, mobilizing women for communal activities, and advising male traditional leaders on matters affecting the female population (Ibrahim & Salihu, 2020).

While the study of gendered authority of women in traditional justice systems is gaining renewed interests among sociologists, legal anthropologists and gender scholars who seek to deconstruct the monolithic portrayal of African traditional leadership as solely male-dominated, Feminist legal scholars have argued that law and legal processes are not neutral but are shaped by historical, social, and gendered power relations that often privilege masculinity while rendering women's legal authority invisible (Smart, 2012; Chinkin and Charlesworth, 2015). Within this lens, the Magajia's role can be interpreted as a form of gendered subaltern justice, where women exercise legal and social authority within gender-specific spheres, even if this authority is not recognized by formal legal systems or public institutions. Nonetheless, the resilience of the Magajia institution speaks much of the continued relevance of traditional justice systems that are embedded in local moral worlds and gendered social structures. Recognizing and documenting the Magajia's role could provide a critical corrective to dominant narratives that ignore or minimize women's agency in traditional governance. It also opens up possibilities for rethinking how legal empowerment and gender equity can be pursued within the context of indigenous judicial traditions.

However, even though studies on gendered authority in traditional justice systems in indigenous Africa societies are essentially not a new academic interest, yet only a few or limited anthropological and sociological research has been done in this field compared to other allied disciplines like feminist and gender studies, history, law and jurisprudence. It is perhaps not out of place to say that the feminist studies and these other allied academic disciplines like history, law and jurisprudence, only took academic advantage of the field of study for their aims and presuppositions.

Over and above this, the paper is motivated by the growing recognition that indigenous justice mechanisms cannot be fully understood without

analyzing the gendered dynamics embedded in them. As this will open up possibilities for rethinking of how legal empowerment and gender equity can be pursued within the context of indigenous judicial system. Following this, this paper shall attempt to explore the Magajia gendered traditional justice systems in Auchi. Since Auchi is a prominent town in Edo State with a significant Muslim population, it provides a fertile ground for examining the operation of the traditional female authority of Magajia outside the northern geopolitical zone. As a cultural hybrid of Northern and Southern Nigerian influences, it follows that the study shall specifically seeks to address the following objectives: To explore the socio- historical background of the Magajia institution in Auchi. To examine the appointment, legitimacy and authority of the Magajia. To know the roles that the Magajia plays in dispute resolution and what types of civil and customary cases she presides over. And to identify the opportunities and challenges facing the institution of the Magajia in Auchi in the contemporary modernization and legal reform.

2. Theoretical Orientation

2.1 Patriarchal Theory and Gendered Authority in Traditional Justice Systems

Patriarchal theory provides a critical lens for understanding the gendered dimensions of authority in traditional justice systems. Rooted in feminist thought, patriarchal theory posits that societies are fundamentally structured by male dominance, where men hold primary power in political leadership, moral authority, and social privilege, including the administration of justice (Walby, 1990). In many traditional justice systems, particularly in Africa and Asia, indigenous authority structures have historically been organized along patriarchal lines, marginalizing women's participation and reinforcing gendered hierarchies (Tamale, 2008).

Traditional justice systems often reflect and reinforce the socio-cultural norms of their communities. Under patriarchal frameworks, leadership positions such as chiefs, elders, or religious leaders are predominantly held by men, with women relegated to subordinate or symbolic roles (Tripp et al., 2009). This gendered allocation of power results in a justice system where male perspectives and interests dominate and shape legal interpretations and outcomes in a way that often fail to consider women's experiences, particularly in matters related to domestic violence, inheritance, or marital disputes (Goetz, 1997).

Furthermore, patriarchal theory helps explain how customary law and cultural traditions can perpetuate systemic gender inequalities. For instance, in many African societies, the authority to adjudicate disputes or resolve conflicts is vested in male-dominated councils, while women's roles are often informal or ceremonial, such as being advisers or ritual participants with limited decision-making power (Hellum, 2001). These gendered power dynamics not only marginalize women's voices but also reinforce the legitimacy of male authority as normative and unchallengeable.

However, while patriarchal structures dominate, some traditional justice systems are not monolithic. In certain contexts, institution like the Magajia in Auchi, Edo State or among the Hausas in Northern Nigeria or

the Queen Mothers in parts of Ghana have carved out authoritative spaces, though often within the bounds of male-dominated institutions (Osei-Hwedie, 1998). Patriarchal theory, therefore, allows for an analysis of both the exclusion and strategic agency of women within these systems, offering a nuanced understanding of how gendered authority is negotiated.

In conclusion, patriarchal theory provides a foundational framework for analyzing traditional justice systems as gendered institutions. It reveals how entrenched male authority limits equitable justice for women and underscores the need for reform strategies that promote gender inclusivity and equal representation.

3. Materials and Methods

3.1 Ethno-Historical Profile of Auchi



Fig 1: Map showing Auchi. Source: <https://tinyurl.com/mu8krh3v> Retrieved May, 2025

The study was carried out in the five major indigenous village communities of Auchi. Auchi consists of five major indigenous village communities (Usogun, Aibotse, Akpekpe, Igbhe and Iyekhe). Each of these five indigenous village communities are headed by Red-Cap chief (Daudu) and Magajia, all traditionally organized under the Paramount Chief called the Otaru of Auchi. Historically, Auchi people migrated from Benin Kingdom in the 16th century during the reign of Oba Ewuare of Benin (Yakubu, 2021). Auchi people were said to have been led by a man called Uchi. Uchi had the present Auchi indigenous Village communities (Usogun, Aibotse, Akpekpe, Igbhe and Iyekhe) named after his children. These village communities, which are separated are basically located at the foot of Uchi hill while at the top of the hill is Uchi market. The indigenous administration of Auchi town was initially

gerontocracy, where the most senior man (Odion) presides over the affairs of Auchi. But this gave way to monarchical traditional administration when the Nupes invaded and brought Islam to Auchi (Yakubu, 2021). Presently, Auchi is traditionally organized under the Paramount Chief called the Otaru of Auchi. These indigenous Auchi village communities (Usogun, Aibotse, Akpekpe, Igbhe and Iyekhe) have common peculiarities in history, language, social experiences culture, traditional belief system, norms, values and taboos with strong Islamic influence and Hausa culture, which includes the traditional institution of Magajia.

Research Instrument and Sampling Method

The study focuses on Magajia institution in traditional justice systems in Auchi. A qualitative ethnographic approach was adopted for the study because the study was basically a fact-finding study. A purposive sampling method was employed to conduct an in-depth unstructured interview (IDI) with a cross section of thirty-six (36) key informants (KIIs) in each of the five indigenous Auchi village communities (Usogun, Aibotse, Akpekpe, Igbhe and Iyekhe). These key informants were: past and present Magajias, community elders (male and female), traditional rulers' aides, some adult residents (men and women), local clerics, the Otaru of Auchi and the five indigenous village communities Red-Cap chiefs (Daudu). The in-depth unstructured interview (IDI) questions were not arranged as a fixed questionnaire. Answers to the questions were also gently probed, only where necessary, to give respondents a moment to reflect and gather their thoughts for clearer responses and information. Focus group discussions (FGDs) with women and participant observation at the community court sessions presided over by the Magajia was also conducted. In all, the data gathered were qualitatively analyzed.

4. Results and Discussion

4.1 The Socio-Historical Background of the Magajia Traditional Justice Systems in Auchi

Islam is the dominant religion of the Auchi people of Etsako ethnic group of Edo State. They have a long history associated with the Uthman Dan-Fodio's Jihad followers of Nupe across the Niger, in the 19th century (Enaikele, 2014). Islam entered the present Edo State from across the Niger through the Edo North corridor where the Auchi people are geographically located. Jihad was used as a means of Islamizing the people to eradicate the people's traditional belief system (idol worshipping) and introduce Islamic culture and values, which the Auchi people share in common with the Nupes, Hausas, Fulanis and others in Northern Nigeria. The Auchi people of Etsako ethnic group still maintain a blend of ancestral worship, Islam, and Christianity in their spiritual and social lives (Omoriegic, 2002). With the growth of Islam in Auchi from the 19th century, many northern Hausa-Fulani socio-religious structures, including the institution of the Magajia, were integrated into local governance and culture (Osaghae, 1998). As a result, the institution of Magajia in Auchi developed as the indigenous Etsako gendered authority in traditional justice system.

The institution of Magajia is deeply rooted in Hausa cultural traditions but has found local expression among the Auchi people of Edo State, due to centuries

of inter-ethnic interactions and Islamic influences. In Auchi, the Magajia is selected from among respected elderly women known for their wisdom, leadership, and commitment to communal values (Audu, 2020). Her appointment is often endorsed by male traditional rulers but is functionally independent in many of her responsibilities, especially in women's affairs. The presence of the Magajia institution in Auchi traditional justice systems reflects a confluence of cultural integration, gendered social roles, and indigenous governance systems. The Magajia serves as a custodian of women's cultural interests, she plays the role of settling disputes and enforcing moral codes. As a liaison between women and traditional male authorities, she also plays the role of advising the male traditional leaders on matters affecting the female population.

4.2 Appointment, Legitimacy and Authority of the Magajia Institution in Auchi

The key informant interview with the past and present Magajia in all the five indigenous Auchi village communities (Usogun, Aibotse, Akpekpe, Igbhe and Iyekhe) revealed that the Magajia in Auchi is typically an elderly woman appointed by consensus among senior women or she is typically appointed by the traditional rulers (Otaru of Auchi or the village heads) to represent women's interests in traditional councils. She occupies a parallel role to the male Red-Cap Chiefs but operates specifically within the realm of women's affairs, family dispute resolution, community mobilization, and the transmission of cultural knowledge to younger generations. Okojie, (2011) confirms this that the Magajia in Auchi, commands considerable respect, especially within the gendered spaces and she is often chosen based on her wisdom, age, integrity, and commitment to community service. Her position is not only ceremonial but functional, acting as a conflict mediator, moral guide, and cultural custodian in Auchi. In fact, the resilience of the Magajia institution underscores the community's adherence to indigenous models of dual-gender leadership (Salihu, 2010). This institution of Magajia in Auchi therefore, reflects a deeper African tradition of complementary gender leadership authority, where women hold recognized, although often less formalized role.

The influence of Islam on the Magajia institution in Auchi cannot be overemphasised. With the rise of Islamic practices in Auchi, the institution of the Magajia adapted and incorporated Islamic virtues such as modesty, prayer observance, and piety, especially in the public presentation of women (Last, 1987). The institution of Magajia in Auchi is influenced by

Islamic practice but shaped in organization and practice by Etsako customs and tradition. Okpewho (1999) confirms and corroborated this that the institution of Magajia in Auchi remains distinctively Etsako in its organization and practice with the preservation of culture, norms values and taboos (Okpewho, (1999).

The legitimacy of the Magajia in Auchi, is deep rooted in communal consensus and spiritual recognition rather than state-backed authority. She derives her mandate from the community and must maintain her credibility through acts of fairness, charity, and spiritual insight (Yakubu, 2021). Her authority is moral and symbolic, yet she can influence public opinion, mobilize women for developmental projects, and act as a liaison with government agencies or NGOs focusing on women's empowerment. In recent years, the Magajia in Auchi has played a role in promoting primary health awareness in family planning and child spacing, girl-child education, and vocational training for women, especially in collaboration with NGOs, local government and religious bodies (Ebohon, 2017). These activities reaffirm her role not just as a conflict mediator, but also as a key stakeholder in local development.

4.3 Types of Civil and Customary Cases that Magajia has Authority to Presides Over in Auchi

The FGDs and KIIs conducted among the women, community elders, local islamic clerics and the traditional rulers aids in all the five indigenous Auchi village communities (Usogun, Aibotse, Akpekpe, Igbhe and Iyekhe) reveals a complex number of cases that the Magajia traditional female justice systems in Auchi, for example, has the cultural authority to mediate or presides over, especially within the context of the Auchi people's culture, norms, value system, taboos and community justice systems:

- Marriage disputes – issues between spouses, especially concerning neglect, roles, or misunderstandings.
- Bride price disagreements – disputes about payment or refund of bride price.
- Divorce settlements – negotiation and guidance on separation, including child custody.
- Polygamy-related conflicts – disputes among co-wives or between a wife and husband about equitable treatment.
- Child custody and care – deciding who should raise children after separation or parental death.

- Inheritance disputes – especially in female-headed households or where women's shares are contested.
- Domestic violence mediation – informal resolution or intervention in cases of abuse.
- Family neglect or abandonment – cases where a man neglects his family duties.
- Disputes over dowry items – clarifying ownership or return of marriage gifts.
- Adultery accusations – mediating community concerns and restoring social order.
- Farmland or housing disputes among women – usually involving shared family land or inherited property.
- Debts and money lending among women – resolving informal borrowing disputes.
- Quarrels among co-wives – peacekeeping and counseling among women in polygamous homes.
- Market or petty trade disputes – settling disagreements among women traders.
- Disputes over communal labor contributions – like helping with funerals or weddings.
- Problems involving in-laws – especially conflicts between wives and their husband's relatives.
- Moral conduct and discipline – advising or sanctioning behavior that brings shame to the community.
- Support for widows and orphans – ensuring customary entitlements and care.
- Mentorship and mediation for wayward girls – intervening in cases of delinquency or early pregnancies.
- Traditional rites and festival conflicts – settling issues related to participation, roles, or taboos.

Audu, and Adegoke (2015). confirms and corroborated this that these cases demonstrate the types of civil and customary matters that Magajia has the authority to mediate or presides over, particularly those involving issues between spouses, quarrels among co-wives, wayward girls and early pregnancies, wife battery and issues relating to taboos and abomination. Her role is crucial in maintaining social harmony and ensuring that custom and tradition are respected and upheld within the community.

4.4 Roles of the Magajia in Gendered Traditional Justice System in Auchi

The institution of the Magajia in Auchi, located in Edo State, Nigeria, embodies a distinct gendered authority within the traditional governance structure. Though often marginalized in patriarchal historiography, yet,

the Magajia performs multiple critical functions that support communal stability and promote justice, particularly for women and vulnerable groups. The following outlines ten core roles of the Magajia in Auchi's gendered traditional justice system:

4.4.1 Dispute Mediation Among Women

The Magajia acts as a mediator in interpersonal disputes involving women, particularly in cases of domestic conflicts, market-related disagreements, and inter-family disputes. She leverages cultural wisdom and customary precedents to resolve matters amicably, preventing escalation to male-dominated councils or formal courts (Ibrahim, 2020).

4.4.2 Enforcement of Female Moral Conduct

She enforces traditional codes of morality among women, especially regarding sexual propriety, marriage responsibilities, and respect for elders. This role helps maintain social harmony and cultural continuity within gendered expectations (Yahaya, 2014).

4.4.3 Representation of Women in Council Deliberations

The Magajia often participates in traditional council meetings where she speaks on behalf of women's concerns. Her presence ensures gender inclusivity in local governance. (Oyesomi, 2020)

4.4.4 Arbitration in Marital Conflicts

In marital issues—ranging from divorce to child custody—the Magajia serves as a preliminary arbitrator, offering culturally acceptable solutions before such issues escalate to male elders or modern courts (Okonkwo, 2018).

Custodian of Women's Cultural Practices

She preserves and teaches traditional rites, rituals, and taboos relating to womanhood, such as puberty rituals, marriage customs, and post-natal care (Yusuf, 2010).

4.4.5 Protection from Gender-Based Violence

The Magajia intervenes in cases of domestic violence or abuse, providing a culturally grounded mechanism for addressing gender-based violence and advocating for victims (Adamu, 2019).

4.4.6 Regulation of Female Economic Activity

She monitors women's market activities and ensures fair trading practices among female vendors. Her

regulation helps prevent exploitative behaviors and supports local economic equity (Bello, 2023).

4.4.7 Mentorship and Leadership Training

The Magajia mentors younger women, preparing potential successors and teaching them the responsibilities of communal leadership and dispute resolution (Usman, 2021).

4.4.8 Liaison with Religious Institutions

In communities like Auchi where Islam coexists with traditional practices, the Magajia may serve as a liaison between women and religious leaders, especially in enforcing family and inheritance laws (Mama, 2011)

Preservation and Interpretation of Customary Law

As a living archive of customary law, the Magajia interprets indigenous legal principles from a female perspective, thereby contributing to gendered justice and oral legal tradition" (Yusuf, 2010)

5. Contemporary Challenges Facing the Institution of Magajia in Auchi

The KIIs conducted with the past and present Magajia and the traditional ruler aids in in all the five indigenous Auchi village communities (Usogun, Aibotse, Akpekpe, Igbhe and Iyekhe) revealed a number of contemporary challenges facing the institution of Magajia in Auchi as:

5.1 Erosion of Traditional Values

The globalization of culture, particularly through Western education and digital media, has led to a devaluation of traditional institutions. Youths in Auchi increasingly associate roles like the Magajia with backwardness and irrelevance. As modern lifestyles replace communal values with individualism, the respect and obedience once accorded to traditional authorities, including the Magajia, continue to decline (Oyesomi, 2020).

5.2 Religious Tensions and Misinterpretation

The Magajia historically participated in public ceremonies and had a visible community presence. However, the growing influence of conservative Islamic ideologies in Auchi, often conflicts with such traditional practices. Reformist groups advocate for gender segregation and discourage female public leadership, which limits the Magajia's participation in social and cultural events (Salihu, 2010). These shifts

challenge the compatibility of the Magajia's duties with contemporary religious expectations.

5.3 Political Marginalization

Modern political structures in Nigeria are not designed to accommodate traditional female authorities. While male traditional rulers are sometimes given formal advisory roles in local governance, female leaders like the Magajia are often excluded. This results in limited influence on policy decisions affecting women and the community at large (Ibrahim and Salihu, 2020). The marginalization reflects broader gender disparities in Nigeria's political system.

5.4 Political Interference

There is also the problem of political interference, where the traditional institution like that of the Magajia is influenced or manipulated by local power brokers for political gains (Adebanwi & Obadare, 2010).

5.5 Decline in Communal Support

Historically, the strength of the Magajia is derived from the collective support of women in her jurisdiction. With increasing urbanization, migration, and the breakdown of extended family networks, this support base is shrinking. The weakening of communal bonds means that the *Magajia* has fewer women willing to participate in traditional activities or accept her authority (Mama, 2011). Community fragmentation reduces the cohesion necessary for the institution to function effectively.

5.6 Male-Dominated Traditional Hierarchies

Despite the *Magajia*'s historical authority, she often operates within patriarchal traditional councils where her voice is either limited or symbolic. Male chiefs and elders typically hold decision-making power, while female leaders are expected to support, not challenge, male authority (Aminu and Yusuf, 2017). This structural subordination hampers the autonomy and leadership scope of the *Magajia*.

5.7 Absence of Legal Recognition

The legal framework governing chieftaincy and traditional institutions in Nigeria seldom includes female leaders. While some male traditional rulers receive state stipends and are listed in government gazettes, the *Magajia* remains largely unrecognized by formal institutions (Garba, 2021). Her power is largely symbolic and moral rather than coercive. She lacks

formal enforcement mechanisms and her judgments are not legally binding under the state law. Moreover, her authority is constantly challenged by shifting gender norms, generational differences, and the encroachment of formal legal institutions. The lack of legal status limits access to resources, official platforms, and institutional protection.

5.8 Generational Communication Gap

There is a noticeable disconnect between the *Magajia* and the younger generation, who often do not relate to the cultural symbols and oral traditions. In Auchi, younger women increasingly bypass the *Magajia* in favour of formal courts or religious leaders who are perceived as more authoritative or responsive (Oyesomi et al., 2022). Younger people who are influenced by global youth culture and technology, find traditional institution of the *Magajia* outdated (Aminu and Yusuf, 2017). Without a rebranding or modernization of the institution of the *Magajia*, the *Magajia* stands the risk of becoming irrelevant to future generations.

5.9 Gender-Based Discrimination

The *Magajia* faces systemic gender discrimination rooted in patriarchal norms. Even within her community, she is often seen as subordinate to male leaders, and her contributions are undervalued. Structural gender inequalities in Nigeria's cultural, economic, and political institutions reinforce this marginalization (Usman 2021).

5.10 Economic Constraints

Unlike male traditional rulers who sometimes have access to land rents, tributes, or government stipends, the *Magajia* typically lacks financial autonomy. Her inability to support community initiatives or respond to women's needs reduces her influence and visibility (UN Women, 2020). The lack of economic power also limits her capacity to mediate disputes effectively or offer assistance during crises.

5.11 Exclusion from Development Programs

Despite increasing focus on gender-sensitive roles in development, traditional female leaders like the *Magajia* are often excluded from planning and implementation processes of development programmes. Government agencies and NGOs frequently collaborate with elected officials or male traditional leaders while neglecting female structures of authority (Ibrahim, 2020).

6. The Advantages in Repositioning the Magajia for Legal Empowerment and Gender Equity in Contemporary Modernization and Legal Reforms.

6.1 Cultural Renaissance and Identity Preservation

The Magajia can be repositioned as a custodian of indigenous knowledge, language, and cultural heritage, playing a role in cultural tourism and education. Her leadership can bridge generational gaps and instill cultural pride among youth.

6.2 Community Mediation and Peacebuilding

The Magajia's traditional role in conflict resolution and mediation, especially among women can be institutionalized as part of community justice systems. She can complement formal justice systems by handling sensitive gender-related cases, reducing court burdens.

6.3 Empowerment through Legal and Institutional Recognition

With proper legal backing, the Magajia can be incorporated into local governance structures (e.g., as part of local government advisory councils). NGOs and development agencies can partner with Magajias to implement community-based gender programs.

6.4 Promotion of Women's Rights and Gender Advocacy

Given her influence among women, the Magajia can serve as a critical ally in promoting maternal health, girls' education, and anti-GBV campaigns. She can mobilize traditional support for modern gender rights initiatives, using culturally accepted frameworks.

6.5 Capacity Building and Digital Engagement

Training in leadership, legal literacy, and digital skills can enhance the Magajia's ability to remain relevant and effective. She can use social media and mobile communication platforms to engage wider audiences and advocate for women's issues.

7. Conclusion and Recommendation

The Magajia is a pivotal figure in traditional dispute resolution, community governance, and women's affairs in Auchi, where the institution reflects both Etsako cultural traditions and Islamic influences. As a mediator, cultural custodian, and representative of women, the Magajia plays an indispensable role in

maintaining social cohesion and promoting community development. Far from being a mere relic of the past, the Magajia embodies a dynamic form of female leadership that responds to communal needs through culturally rooted and gender-sensitive justice practices.

In Auchi, the Magajia continues to be central to women's cultural life and local governance, demonstrating the flexibility of indigenous institutions to adapt to evolving socio-political realities. Her authority is grounded in moral leadership, religious adaptability, and grassroots mobilization. As Nigeria confronts the dual pressures of modernization and globalization, institutions like the Magajia offer valuable frameworks for inclusive governance and restorative justice that resonate with local values.

However, the survival of the Magajia institution faces significant challenges. Modern legal systems, gender bias, and lack of formal recognition have increasingly marginalized traditional institution of Magajia. To safeguard and strengthen the institution of the Magajia, deliberate efforts are required. These include legal acknowledgment, capacity-building initiatives, and strategies to integrate her role within contemporary governance structures. Such efforts must balance respect for cultural institution of Magajia with the need for institutional reform.

Ultimately, revitalizing the Magajia institution presents an opportunity to promote gender equity, preserve indigenous governance, and foster culturally relevant justice mechanisms. Recognizing and repositioning the Magajia would not only empowers women but also reinforces the social fabric of navigating change. The Magajia's traditional role in conflict resolution and mediation, especially among women should be institutionalized as part of customary justice system. Training in leadership, legal literacy, and digital skills can also enhance the Magajia's ability to remain relevant and effective.

References

- Adamu, F. (2019). Traditional Institutions and Women Empowerment in Northern Nigeria: Challenges and Prospects. *Journal of Gender Studies in Africa*, Vol. 10(2) Pp. 55–68
- Adebanwi, W. and Obadare, E. (2010). *Encountering the Nigerian State*. Palgrave Macmillan.
- Alubo, O. (2021). Gender, Culture and Customary Justice in Nigeria. *African Studies Review*, Vol.64(3), Pp. 512–529.

- Amadiume, I. (1987). *Male Daughters, Female Husbands: Gender and Sex in an African Society*. Zed Books
- Aminu, A. and Yusuf, H. (2017). The Role of Women in Traditional Justice Systems in Northern Nigeria. *Journal of Legal Pluralism*, Vol 49(1), Pp. 42–60.
- Audu, S. D. and Adegoke, A. A. (2015). Traditional Institutions and Women Leadership in Nigeria: The Role of Magajiya. *Journal of African Studies and Development*, Vol. 7(5), Pp.115–122.
- Bello, M. (2023). The Role of Female Leaders in Customary Institutions. *Contemporary African Review*, Vol.14(1), Pp. 90–108
- Chinkin, C. and Charlesworth, H. (2015). *The Boundaries of International Law: A Feminist Analysis*. Manchester University Press
- Ebohon, O. (2017). Traditional Institutions and Community Development in Nigeria: A Study of Etsako West. *African Journal of Indigenous Knowledge*, 5(2), 45–60.
- Enaikelé, M. D. (2014) Etsako: An Anthropological Reflection of an Endangered Minority Language in Nigeria. *The Journal of Pan African Studies* Vol, 7 (4) Pp. 240-255.
- Garba, L. I. (2021). *Social Media and the Modernization of Traditional Roles: A Study of Women Leaders in Kano State*. Digital Culture & Society, Vol. 6(2) Pp.33–50.
- Goetz, A. M. (1997). *Getting Institutions Right for Women in Development*. Zed Books
- Hellum, A. (2001). Women’s Human Rights and Legal Pluralism in Africa: Mixed Norms and Identities in Infertility Management in Zimbabwe. *Social & Legal Studies*, Vol.10(3), Pp. 275–295
- Ibrahim, R. (2020). Religion, Culture, and Gender in Northern Nigeria: The Case of the Magajia. *Sociology and African Studies Journal*, 4(1), 22–36.
- Ibrahim, J. and Salihu, A. (2020). Women’s Rights and Customary Justice in Nigeria. *Gender Development*, Vol. 28(2), Pp. 245–260
- Last, M. (1987). *The Sokoto Caliphate*. Longman.
- Mama, A. (2011). Women’s Agency in African Customary Systems. *Feminist Africa*, Vol. 16, Pp.45–63.
- Okojie, C. E. (2011). Leadership and Gender in Traditional Institutions. *Benin Journal of Social Sciences*, Vol. 5(1), Pp. 22–39.
- Okonjo, K. (2015). *Women and Authority in West Africa: Historical Perspectives*. Africa World Press
- Okonkwo, R. (2018). Customary Courts and Gender in Nigeria. *African Journal of Legal Studies*, Vol. 11(2), Pp. 112–130.
- Okpewho, I. (1999). *African Oral Literature: Backgrounds, Character, and Continuity*. Indiana University Press.
- Omeregíe, P. (2002). The Etsako People: Origin, Culture, and Modernization. *Benin Journal of Cultural Studies*, Vol. 3(1), Pp.14–30.
- Oomen, B. (2013). *Justice Mechanisms in Africa: Law and Informal Institutions*. Routledge.
- Osaghae, E. (1998). *Crippled Giant: Nigeria Since Independence*. Hurst
- Osei-Hwedie, B. Z. (1998). The Role of Traditional Structures in Local Governance for Local Development: The Case of Botswana. *Regional Development Dialogue*, Vol.19(1), Pp.86-103.
- Oyesomi, K. (2022). Gender Justice in Indigenous Institutions. *Journal of African Gender Studies*, Vol.10(1), Pp. 77–92.
- Salihu, A. (2010). *Women Leadership in Traditional Hausa Society: The Case of the Magajiya*. Ahmadu Bello University Press.
- Smart, C. (2012). *Feminism and the Power of Law*. Routledge.
- Tamale, S. (2020). *Decolonization and Afro-Feminism*. Daraja Press
- Tamale, S. (2008). The Right to Culture and the Culture of Rights: A Critical Perspective on Women’s Sexual Rights in Africa. *Feminist Legal Studies*, Vol. 16(1), Pp. 47–69.
- Tripp, A. M., Casimiro, I., Kwesiga, J., and Mungwa, A. (2009). *African Women’s Movements: Changing Political Landscapes*. Cambridge University Press.
- UN Women. (2020). *Engaging Traditional Leaders for Women’s Rights in Nigeria*. Retrieved from <https://africa.unwomen.org>
- Usman, L. (2021). Indigenous Dispute Resolution Mechanisms. *African Journal of Conflict Resolution*, Vol. 21(2), Pp. 105–123.
- Walby, S. (1990). *Theorizing Patriarchy*. Blackwell
- Yahaya, M. A. (2014). Gender and Traditional Justice in Hausa Communities. *Kano Journal of Social Studies*, 12(3), 45–58.
- Yakubu, S. (2021) The Role and Impact of Islamic Religion on the Auchí Kingdom in Nigeria since 1914. *European Scientific Journal*, Vol. 17 (28). Pp. 1-17.
- Yusuf, A. (2010). The Role of Traditional Women Leaders in Conflict Resolution: A Nigerian Case Study. *Journal of Cultural Mediation*, Vol. 2(1), Pp. 37–48.



Toward a Critical Pedagogy of Music Assessment in Nigeria: Unpacking the Hegemonic Structures of Music Education and their Implications for Assessment

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Abstract. In order to confront the hegemonic structures that are common in music education and their implications for assessment practices, this research study investigates the use of a critical pedagogy of music assessment in the Nigerian setting. The study looks at the shortcomings and inadequacies in the ways that evaluation practices are currently used and suggests a framework that values critical reflection, participatory techniques, and cultural diversity. Utilising the theoretical framework of critical pedagogy, the research emphasises the applicability of this methodology in questioning and altering the dominant structures inherent in music education in Nigeria. It looks into the traits of hegemony in the Nigerian setting and examines how it affects methods of evaluating music. By scrutinising current evaluation techniques, the research pinpoints prejudices and constraints that sustain dominant frameworks. It makes the case for both student empowerment via participatory assessment techniques and the inclusion of various Nigerian musical practices and viewpoints in assessments. The study suggests tactics including professional development and training for teachers, working with local communities and cultural organisations, and incorporating critical reflection and self-evaluation to help establish a critical pedagogy of music assessment. The study recognises the difficulties and factors to be taken into account while implementing critical pedagogy in the Nigerian setting, such as cultural hurdles and opposition. It highlights how critical it is to overcome these challenges in order to guarantee the approach's scalability and durability. The study concludes by summarising the major conclusions and their implications for Nigerian music education and emphasising the necessity for more investigation and study in the critical pedagogy of music assessment. By adopting this approach, Nigerian music education may improve and preserve the rich musical legacy of the

nation while also becoming more inclusive, culturally relevant, and empowering for students.

Keywords: critical pedagogy, music assessment, hegemonic structures, Nigerian music education, cultural diversity, participatory approaches, empowerment of students

1. Introduction

Nigeria's rich and varied legacy is further enhanced by the importance of music education in the country's culture. Nigeria, a country renowned for its rich musical heritage, is home to a diverse array of musical genres, including afrobeat, juju, highlife, and traditional folk music. These musical genres are intricately woven into Nigerian society and function as significant cultural expressions (Sunday-Kanu, 2016).

Notwithstanding the importance of music in Nigerian culture, the profession of music education faces a number of difficulties. The nation's efforts to promote and advance music education have been hampered by a lack of standardised assessment procedures, inadequate infrastructure, and limited funding (Hess, 2016). Moreover, a discernible disparity exists between conventional evaluation techniques and the developing requirements of music education in Nigeria (Aluede, 2023).

The purpose of this theoretical paper is to highlight the shortcomings in Nigerian music assessment methods and recommend another approach. It looks critically at the hegemonic structures that underpin Nigerian music education in an effort to question the current evaluation techniques, which have the potential to reinforce prejudices and restrict the inclusivity of a range of musical practices and viewpoints.

Through the analysis of these hegemonic frameworks, the research seeks to improve Nigerian music appraisal methods. In order to enable teachers and students to participate in a more inclusive, dynamic, and culturally sensitive assessment process, it aims to shed light on the possibilities of critical pedagogy in music evaluation.

The research questions and objectives of this study are as follows:

- What are the hegemonic structures present in music education in Nigeria?
- How do these hegemonic structures impact music assessment in Nigeria?
- What is the potential of critical pedagogy in transforming music assessment in Nigeria?
- What strategies can be implemented to promote a critical pedagogy of music assessment in Nigeria?

This paper intends to enhance the calibre and inclusivity of music education in Nigeria by developing a critical pedagogy of music evaluation through a thorough investigation of these research questions.

2. Theoretical Framework

2.1 Overview of Critical Pedagogy in the Nigerian Context

Critical pedagogy provides a strong framework for changing conventional teaching methods and tackling social injustices in the educational system, which includes music education, in the Nigerian setting. Critical pedagogy, which has its roots in the writings of critical thinkers like Paulo Freire, contests the repressive systems and power dynamics that continue to support social injustices (Rivers, 2020). In Nigeria, critical pedagogy acknowledges the value of diversity and cultural relevance in the classroom. It recognises the variety of musical customs and traditions that the nation has to offer and seeks to establish an educational setting that honours and respects these differences in viewpoints. Critical pedagogy principles can be used into music education to help teachers create a more inclusive and equitable learning environment for their students (Grissom-Broughton, 2019).

2.2 Application of Critical Pedagogy in Music Education in Nigeria

The implementation of critical pedagogy in Nigerian music education entails a paradigm change away from conventional evaluation techniques and towards a

more inclusive and empowering methodology. It motivates teachers to have conversations, critical thinking, and reflection with their students so they can question prevailing beliefs and take an active role in their own education (Hess, 2014). Nigerian music educators can use critical pedagogy to integrate a variety of musical practices and viewpoints into their lesson plans and evaluation techniques. This entails appreciating the various genres, styles, and cultural manifestations found in Nigerian music. Students are inspired to explore their own creative potentials and are exposed to a wider variety of musical experiences as a result (Klein, 2020).

In music education, critical pedagogy also highlights the significance of student agency and empowerment. It gives students the opportunity to actively engage in the assessment process and give them a voice in assessing their own development and accomplishments. In addition to increasing student involvement, this interactive method fosters a sense of ownership and self-efficacy in their musical development (Lebler, 2015). Critical pedagogy in Nigerian music education also questions the conventional view of evaluation as a simple knowledge and skill measurement. It encourages a comprehensive strategy that takes into account not just technical skill but also artistic expression, creativity, and cultural awareness. Critical pedagogy encourages educators to adopt a more complete and contextualised assessment procedure that is in line with the different needs and goals of Nigerian students by moving the emphasis away from a limited and standardised assessment approach (Hess, 2016).

2.3 Relevance of Critical Pedagogy in addressing the Hegemonic Structures in Nigerian Music Education

When it comes to challenging the hegemonic structures present in Nigerian music education, critical pedagogy is highly relevant. These systems, which are shaped by prevailing ideologies, power relationships, and cultural prejudices, have the potential to uphold inequality and restrict the acceptance of a range of musical styles and viewpoints. Teachers can confront and demolish these hegemonic systems by implementing the concepts of critical pedagogy, resulting in a more egalitarian and empowered learning environment (Pedro, 2018). The focus that critical pedagogy places on inclusivity and cultural relevance is one of its main features. Nigerian music is firmly ingrained in a variety of cultural traditions, thus it is important to acknowledge and appreciate the wide range of musical manifestations found there. Teachers can actively connect with the cultural

backgrounds of their students by incorporating varied musical practices and perspectives into the curriculum through the integration of critical pedagogy in music education. By upending the hegemonic systems that favour some genres or traditions over others, this method allows students to discover and value the diversity of Nigerian music as a whole (Quin, 2022). Critical pedagogy also promotes critical thinking and introspection, giving students the tools they need to confront and question prevailing viewpoints and power structures. This entails scrutinising and evaluating the prevalent conventions and potential biases in evaluation procedures as they relate to Nigerian music education. Teachers can help students develop a greater grasp of the hegemonic structures and how they affect music evaluation by involving them in critical discourse and reflection. Through active participation, students can actively shape their own educational experiences, fostering a sense of agency and empowerment (Hayati, 2015). The dedication of critical pedagogy to social justice and equity is another important feature. Similar to many other educational systems, societal disparities like gender, ethnicity, and socioeconomic status can have an impact on music education in Nigeria. Through the promotion of a more inclusive and egalitarian approach to music evaluation, critical pedagogy fights these disparities. Teachers can foster an environment where students' many opinions and viewpoints are respected and heard by implementing participatory assessment techniques. This methodology not only fosters a more equitable evaluation procedure but also facilitates the growth of students' self-worth and self-assurance (Lawal, 2020).

3. Hegemonic Structures in Nigerian Music Education

3.1 Definition and Characteristics of Hegemony in the Nigerian Context

In the context of Nigerian music education, hegemony refers to the predominance of particular ideas, power relationships, and cultural prejudices that mould and have an impact on the procedures and frameworks used in the sector. These hegemonic institutions have the power to impede the inclusion of other musical traditions, viewpoints, and practices as well as to maintain inequality (Igwebuike, 2017). The hegemonic institutions in music education in Nigeria, a nation renowned for its cultural diversity, frequently give preference to particular musical genres, traditions, or styles over others. These prevailing attitudes may marginalise native or indigenous musical traditions while reflecting prejudices against Western classical music or popular music genres.

Consequently, the diverse range of Nigerian music, which includes afrobeat, juju, highlife, and traditional folk music, might be underappreciated or missed in the educational system (Igbi, 2016). Hegemonic structures in Nigerian music education can also be seen in power relations that give preference to some people or groups over others. Factors including gender, race, and socioeconomic background could have an impact on this. For example, students who come from wealthy families or who fit in with specific social norms might have greater access to resources and opportunities, while students from underprivileged neighbourhoods can find it difficult to get a good education in music (Maybin, 2019).

3.2 Examination of Hegemonic Structures in Music Education in Nigeria

A thorough investigation of the hegemonic systems in Nigerian music education reveals several important elements that demand consideration and critical critique. The emphasis placed on Western classical music is one example of a pervasive hegemonic framework in Nigerian music education. Due to this domination, indigenous musical traditions and culturally relevant pedagogy are frequently neglected. The excessive focus on Western music has the potential to marginalise pupils from cultural backgrounds with a diversity of musical manifestations (Bolaji, 2022). The underrepresentation of a variety of musical genres in Nigerian music education is another feature of hegemonic frameworks. Certain popular music genres might be acknowledged and given spotlights, whereas traditional folk music or lesser-known genres might be ignored or left out of the curriculum. This restriction limits pupils' exposure to the depth of their own musical tradition and maintains a limited understanding of Nigerian music (Klein, 2020). Evaluation procedures used in Nigerian music education are another way that hegemonic systems can be shown if not properly handled. Conventional evaluation techniques could give more weight to technical skill on particular instruments or musical genres while ignoring other musical expressions. Students who succeed in non-traditional musical genres or who have special musical abilities that do not fit into the laid-down evaluation standards may be marginalised (Choi et al., 2014). Hegemonic structures in Nigerian music education can be attributed, in part, to socioeconomic inequities. Richer families may provide their students with easier access to private music instruction, top-notch equipment, and opportunities for specialised training. Due to this advantage, gifted children from disadvantaged families may find it difficult to get the resources they

need for their musical growth, creating an unfair playing field (Pike, 2016).

3.3 Implications of Hegemonic Structures on Music Assessment in Nigeria

Hegemonic structures have a big impact on music evaluation in Nigeria because they can impede the growth of an inclusive and diverse music education system, limit student chances, and perpetuate inequality. To comprehend the difficulties that students and teachers are likely to encounter in this situation, it is imperative that we look at these ramifications. Hegemonic structures in the appraisal of music might result in biased evaluation criteria and a restricted representation of various musical genres. Assessment techniques that give preference to popular music or Western classical music may ignore or underappreciate traditional folk music or lesser-known genres. Bias like this prevents certain pupils from exhibiting their abilities and limits the range of musical expression that may be honoured (Klein, 2020). Hegemonic mechanisms in music evaluation have the power to maintain marginalisation and exclusion of certain cultures. Students from a variety of cultural origins may feel marginalised or cut off from their own musical history when evaluation criteria are limited to prevailing musical traditions. The examination and appreciation of Nigeria's rich and varied musical tapestry are restricted by this restriction, which may result in a loss of cultural identity (Ojukwu et al., 2016).

In music evaluation, hegemonic structures have the power to perpetuate social injustices. Pupils from wealthy families may have an advantage over their less fortunate counterparts if they can afford private instruction, top-notch instruments, or specialised training programmes. This advantage restricts prospects for gifted students who do not have access to resources and assistance, therefore perpetuating gaps in musical development (Maybin, 2019).

Hegemonic frameworks have the potential to restrict the scope of what constitutes great music by prioritising technical skill with particular instruments or genres. This restricted focus hinders innovation and research of various genres and styles while ignoring other forms of musical expression. Pupils who perform well in non-dominant genres could feel excluded or underappreciated, which would affect their motivation and sense of worth during the educational process (Klein, 2020). The agency and empowerment of students might be restricted by hegemonic frameworks in music assessment. Prioritising standardised tests or outside assessments

above other forms of assessment might weaken students' sense of agency and control over their own musical development. Instead of feeling like active participants in their learning process, students could feel like passive recipients of knowledge (Broom, 2015).

A transformative strategy is needed to address how hegemonic institutions affect evaluation of music in Nigeria. It entails appreciating and respecting other musical traditions, expanding the scope of the assessment criteria to include a greater variety of genres and styles, and giving students from all backgrounds equal chances. Participatory assessment techniques and culturally sensitive instruction can empower students by giving them the opportunity to bring their special talents and viewpoints to the classroom.

3.4 Critique of Existing Music Assessment Practices in Nigeria

In Nigeria, traditional techniques of music assessment have long been used to gauge pupils' musical knowledge and abilities. These approaches usually include performance reviews, practical exams, and standardised testing. Even though these procedures have been used for a long time, it is crucial to review their shortcomings and prejudices in order to guarantee a more thorough and inclusive method of evaluating music (Navon, 2019). In Nigerian music education, standardised examinations have been a popular method of evaluation. These examinations frequently concentrate on theoretical understanding of music, including notation, theory, and music history. Rather than evaluating students' deeper comprehension and application of musical principles, this method frequently places more emphasis on rote memorization and regurgitation of information. As a result, kids with strong memorising skills may perform well on these assessments, whereas students with practical skills or creative ability may not be given as much credit (Green, 2022).

Another approach that is frequently utilised in music assessment is the practical examination. It is mandatory for students to perform works on the instrument or voice of their choice, frequently in front of a judging panel or an examiner. Practical examinations can give important information about a student's technical proficiency and performance ability, but they also frequently emphasise strict adherence to performance standards and mandated repertoire. This devotion could prevent students from expressing themselves freely or from exploring different musical genres or styles (Chen, 2020).

In music assessment, performance evaluations—which are usually carried out through solo or group performances—are also common. The purpose of these assessments is to evaluate students' stage presence, musical interpretation, and expressiveness. However, because performance evaluations are subjective, there is a chance that biased opinions will be expressed because of the evaluators' personal tastes or preconceived ideas about what defines great music. Subjectivity has the potential to compromise the impartiality and fairness of the evaluation process, which could disadvantage pupils whose musical preferences or interpretations diverge from the assessors' (Pöder, 2015).

The establishment of a thorough and inclusive assessment system is hampered by the numerous flaws and biases in Nigeria's current music assessment procedures. Nigeria's rich musical legacy is frequently overlooked in favour of Western musical traditions in current evaluation procedures. This prejudice ignores traditional folk music and lesser-known genres that are essential to Nigerian cultural identity, maintaining the dominance of Western classical music and popular music genres (Kodela, 2016). The significance of considering students' cultural origins and musical traditions is overlooked by the scant attention paid to cultural relevance in music assessments. This disdain may cause a gap between the evaluation criteria and the students' own experiences, which could undermine their motivation and sense of inclusion in the educational process (Maybin, 2019). Current assessment practices tend to favour standardized and prescriptive approaches, leaving little room for flexibility and adaptability to individual students' strengths and needs. This rigidity may stifle creativity, hinder exploration of alternative musical styles, and limit opportunities for students to showcase their unique talents and abilities (Zireva, 2017). Due to their subjective character, performance evaluations run the risk of introducing prejudices based on cultural preconceptions, musical tastes, or personal preferences. Due to this subjectivity, students whose musical expressions deviate from the assessors' expectations or preferences may receive unjust treatment and their ratings may become inconsistent. Current evaluation procedures frequently ignore other crucial facets of musical development in favour of placing an excessive amount of focus on technical proficiency and performance ability. This restricted focus could overlook the knowledge of composition, improvisation, music theory, and critical listening abilities that students need for a comprehensive musical education (Hayati, 2015).

Nigerian music assessment procedures need to be reformed and expanded upon in order to overcome these constraints and prejudices. A broader variety of musical genres and forms should be incorporated, culturally sensitive pedagogy should be embraced, creativity and self-expression should be encouraged, and students should have opportunity to participate in holistic musical growth. Teachers may create a learning environment that honours and promotes Nigeria's unique musical traditions and skills while fostering each student's potential for musical growth by implementing a more inclusive and thorough approach to music evaluation (Bolaji, 2020).

In Nigeria, the evaluation process's ability to maintain hegemonic structures is a serious issue that needs further investigation. Examining how the educational system uses assessments makes it clear how these frameworks uphold preexisting power relations and cultural prejudices, which ultimately restricts the assessment process's inclusivity and diversity. The predominance of some evaluation criteria that favour Western musical traditions over indigenous musical forms is one way that hegemonic frameworks are maintained. This prejudice is evident in the emphasis on technical skill in popular music genres and Western classical music, whereas traditional folk music and lesser-known genres that are essential to Nigeria's cultural legacy are marginalised. Prioritising Western musical standards could cause the evaluation process to inadvertently overlook or minimise the depth and variety of Nigerian music (Kruse, 2014).

Moreover, the restricted representation of many musical genres in evaluations is indicative of the persistence of dominant institutions. While traditional or indigenous musical forms are marginalised or left out of the evaluation criteria, other popular music genres might garner greater attention and respect. This restriction limits pupils' exposure to the depth of their own musical tradition and maintains a limited understanding of Nigerian music. The evaluation procedure unintentionally perpetuates the dominance of a few chosen genres by undervaluing the significance of varied musical genres, thereby marginalising others (Klein, 2020). The existence of biases in assessment procedures is another way that hegemonic structures are maintained. These prejudices can take many different forms, such as giving preference to students from wealthy families or those who follow social norms. Richer students might have easier access to private music instruction, better instruments, or opportunities for specialised training, which could provide them an edge during the evaluation process. This socioeconomic status-based advantage produces a gap that exacerbates already-

existing inequities in the music education system (Maybin, 2019, Alordiah & Agbajor, 2014). Furthermore, biases could exist in the assessment of pupils' musical aptitude and skills. Prioritising instruments, styles, or performance techniques in assessment procedures can result in the marginalisation of students who demonstrate proficiency in alternative musical genres or who exhibit distinctive musical abilities that do not conform to the prevalent evaluation criteria. Because of this exclusion, fewer different musical expressions can be acknowledged and celebrated, which serves to perpetuate the idea that some musical genres are better or more significant than others (Lei et al., 2021). The creation of a more inclusive and equitable music education system in Nigeria is significantly impacted by the maintenance of hegemonic structures through evaluation. Teachers and legislators can start to question and demolish these systems and prejudices by critically identifying them. This can be accomplished by implementing culturally relevant pedagogy, offering equal chances to students from all backgrounds, and implementing evaluation processes that recognise and welcome varied musical traditions. By doing this, the evaluation procedure might serve as a spark for recognising and promoting the artistic abilities and expressions found in Nigeria's diverse musical terrain (Aluede, 2023).

4. Elements of a Critical Pedagogy of Music Assessment in Nigeria

4.1 Redefining Assessment Goals and Objectives in the Nigerian Context

Redefining assessment aims and objectives to better reflect Nigeria's distinct cultural context is an essential component of a critical pedagogy of music assessment. Assessment should take into consideration a wider definition of musical quality that encompasses a variety of Nigerian musical practices and expressions, rather than concentrating just on technical proficiency or conformance to Western musical conventions. This change calls for a mentality change that values the various musical genres and traditions and emphasises the significance of students' musical connections to their cultural heritage (Bolaji, 2022). Goals for assessment should also cover a comprehensive view of musical development in addition to performing skills. Developing pupils' knowledge of composition, improvisation, music theory, critical listening, and cultural awareness is part of this. Teachers can establish a more complete framework that represents the multidimensional nature of music that will enable students to develop a well-

rounded musical skill set by expanding the goals and objectives of assessments (Biasutti, 2017).

4.2 Incorporating diverse Nigerian musical practices and perspectives in assessment

A wide range of musical practices and viewpoints should be incorporated into assessment procedures in order to foster inclusivity and appreciate the diversity of Nigerian music. This means that in addition to Western classical music and popular music styles, one must acknowledge and value traditional folk music, indigenous musical forms, and lesser-known genres. Students from various cultural origins are given equal opportunities to demonstrate their abilities and contributions to Nigeria's unique musical tapestry by including several musical genres in examinations (Yoo, 2017). In addition, it is imperative to modify assessment criteria and evaluation methodologies to account for the distinct attributes and subtleties of the varied musical practices observed in Nigeria. This can entail integrating activities like group music-making, improvisation, and oral traditions into the evaluation procedure. In addition to developing a sense of pride and a connection to their musical traditions, this encourages kids to investigate and interact with their own cultural history (Igbi, 2020; Alordiah, 2015).

4.3 Empowering Nigerian students through participatory assessment approaches

Critical pedagogy of music assessment must include the essential component of involving Nigerian students in the assessment process. By actively including students in the assessment and feedback process, participatory assessment techniques can help achieve this. Students are given a voice and agency in directing their musical education when they participate as partners in their own assessment. Student-led assessment activities, peer assessment, and self-evaluation are examples of participatory assessment methodologies. With the use of these techniques, students are encouraged to evaluate their own development, make objectives, and provide their classmates helpful criticism. Students who actively participate in the evaluation process gain a better awareness of their areas of strength and growth, which instils in them a feeling of accountability and ownership for their musical development (Tomova, 2021). Participatory assessment techniques can foster teamwork, communication, and critical thinking abilities. Pupils gain the ability to explain and defend their musical decisions, have meaningful conversations with their classmates, and see music from a wider angle than just their personal tastes. This cooperative setting promotes a feeling of belonging

and mutual assistance, resulting in a constructive and welcoming educational atmosphere (Isabiry, 2021).

5. Strategies for Implementing a Critical Pedagogy of Music Assessment in Nigeria

5.1 Training and professional development for Nigerian music educators

It is imperative to provide Nigerian music educators with the requisite information, abilities, and resources to adopt this revolutionary methodology in order to execute a critical pedagogy of music evaluation. In order to give educators a thorough understanding of critical pedagogy ideas and practices that are especially suited to the Nigerian environment, training and professional development programmes should be designed. The goal of these initiatives should be to improve the cultural competency of educators by assisting them in identifying and appreciating the many musical customs and practices found throughout Nigeria. Through engaging with local artists and cultural specialists, educators can acquire a more nuanced and comprehensive understanding of Nigerian music by immersing themselves in a variety of musical styles. They can offer real-world experiences that are pertinent to the classroom thanks to this experiential learning (McBride, 2022). Moreover, it is imperative that professional development opportunities prioritise the incorporation of assessment methodologies and critical thinking into music instruction. Teachers must possess the abilities to create authentic, meaningful assessments that inspire students to consider, appraise, and analyse their own musical experiences. Teachers can encourage critical thinking in their pupils and enable them to take an active role in their musical education (Daly et al., 2014).

5.2 Collaboration and partnerships with local communities and cultural institutions

In Nigeria, partnership and collaboration with cultural institutions and local communities are essential to the implementation of a critical pedagogy of music assessment. Through active engagement with artists, community members, and cultural institutions, educators can acquire invaluable insights and resources that enhance the quality of music teaching. These partnerships can take many different forms, like bringing in local musicians to teach about their craft, planning community events or workshops, or giving students the chance to visit and interact with museums and collections. Students learn more about their cultural background and feel prouder of and in control of their musical traditions when the community is

involved in the educational process. Partnerships with cultural organisations can also give access to materials that help teach and evaluate a variety of Nigerian musical practices, including as instruments, recordings, and archives. These partnerships strengthen the genuineness of the music education process while also fostering a feeling of community among students, teachers, and other stakeholders (Emielu, 2016).

5.3 Integration of critical reflection and self-assessment in Nigerian music education

In Nigeria, a critical pedagogy of music assessment must include both critical reflection and self-evaluation. Teachers ought to support their students' reflective practices by challenging them to consider critically about their own musical development, experiences, and talents.

Regular self-assessment opportunities help students build metacognitive abilities and take an active role in their education. They gain the ability to set objectives, track their advancement, and assess their own musical growth. Through this method, students are empowered to take charge of their education and develop a sense of accountability for their musical development. Students can also investigate the social and cultural ramifications of various musical genres and practices through critical evaluation. Students are urged to confront prejudices, query prevailing narratives, and critically examine the power dynamics at play in music evaluation. Students get a deeper comprehension of the social, cultural, and historical contexts of Nigerian music by participating in these reflective techniques (Concina, 2019).

6. How Critical Pedagogy in Music Assessment can be Implemented in Nigeria

Nigeria's distinct cultural environment necessitates a deliberate and methodical approach when implementing a critical pedagogy of music assessment. Here, we will lay out a detailed implementation roadmap for this innovative methodology.

Start by outlining a precise plan of action for Nigerian music education. The objectives of diversity, cultural relevance, and student empowerment via critical thinking and self-evaluation should all be included in this vision. Clearly state the goals and effects of putting into practice a critical pedagogy of music assessment.

Developing the requisite knowledge and abilities in music educators is essential to putting this strategy into practice. Provide chances for professional development and training with an emphasis on cultural competency, critical pedagogy, and assessment techniques that are appropriate for Nigeria. In order to enhance their knowledge and appreciation of Nigerian music, educators should be encouraged to interact with a variety of musical genres and cultural specialists.

To better reflect a more comprehensive definition of musical quality, reevaluate the aims and purposes of music assessment. Go beyond skill and enjoy the variety of Nigerian musical expressions and customs. Give consideration to how kids might use music to connect with their cultural background. Include improvisation, composition, critical listening, music theory, and cultural awareness in your all-encompassing approach to musical development. Make sure a variety of musical genres and traditions are included in the assessment procedures. Acknowledge and cherish not only Western classical music and popular music styles, but also indigenous musical forms, lesser-known genres, and traditional folk music. Modify evaluation criteria and procedures to take into cognizance the special traits and subtleties of various Nigerian musical traditions, including oral histories, group music-making, and improvisation. Use participatory methods to actively involve students in the assessment process. Encourage students to reflect on their own development, create objectives, and give helpful feedback to their peers by using self-, peer-, and student-led assessment activities. Encourage students to work together in a collaborative setting that fosters critical thinking, communication, and a feeling of belonging.

To improve the quality of music education, work together with musicians, cultural organisations, and the local community. Provide opportunities for kids to visit cultural institutions, plan community concerts or workshops, and ask local musicians to contribute their skills in the classroom. These partnerships offer real-world encounters and materials to enhance the instruction and evaluation of many musical traditions in Nigeria.

As essential components of their musical development, encourage students to participate in critical reflection and self-evaluation. Give pupils the chance to consider their own musical development, experiences, and skills. Encourage students to set objectives, track their progress, and assess their own musical development in order to promote metacognitive skills. Examine the social and cultural ramifications of various musical genres and practices.

Encourage students to challenge prevailing narratives and evaluate power structures in the context of music evaluation.

7. Challenges and Considerations in Nigeria

In Nigeria, putting into practice a critical pedagogy of music assessment may encounter opposition and cultural constraints that require attention. To effectively traverse these issues, it is imperative to recognise and comprehend them. The reluctance to stray from conventional teaching and assessment techniques is one difficulty. Because they are accustomed to more traditional methods, some instructors could be reluctant to embrace a critical pedagogy approach. It is essential to offer thorough training and professional development opportunities that not only highlight the advantages of critical pedagogy but also address any worries or misunderstandings in order to overcome this resistance. Overcoming resistance and fostering an environment of transparency and cooperation can be accomplished by having conversations and exchanging success stories of other educators who have adopted critical pedagogy (Floyd, 2022). Barriers based on culture could also be problematic. Given the diversity of cultural practices and traditions found in Nigerian society, it is crucial to make sure that critical pedagogy used in music assessment is inclusive of and sensitive to these cultural quirks. Teachers must to be cognizant of regional traditions and customs and make sure that evaluation procedures do not unintentionally minimise or ignore certain cultural manifestations. It is possible to make sure that the assessment process is authentic and culturally appropriate, and that different viewpoints are acknowledged and taken into account, by working in conjunction with local communities and cultural specialists.

In order to effectively apply critical pedagogy in music evaluation in Nigeria, one must have a thorough awareness of any potential restrictions and limits unique to the Nigerian environment. A few of these restrictions include a lack of resources, such as technology and musical instruments, crammed classrooms, and restricted access to high-quality music instruction. It's critical to look for innovative ideas and make use of existing resources in order to overcome these constraints. Access to musical instruments, records, and knowledge can be gained through partnerships with regional communities and cultural organisations, which can improve the quality of music education. Moreover, establishing collaborations with public, non-profit, and private entities might aid in obtaining funds and assets to surmount monetary limitations (Cremata, 2015).

Teachers might use tactics that promote small-group interactions and collaborative learning in light of the packed classrooms. Creating music ensembles or implementing rotating group activities are two ways to enable students take an active role in their musical education. Utilising technology, such as mobile apps or internet platforms, can also help get around space constraints and give students access to more learning options.

Critical pedagogy needs to be sustainable and scalable in order to be successful in the long run and have an influence on music evaluation in Nigeria. In order to accomplish this, certain considerations must be made. First, by introducing critical pedagogy concepts into the current curriculum and educational policy, this technique can become deeply embedded in the educational system. Critical pedagogy is an essential component of music education and must be considered in music evaluation; this requires collaboration between educators, policymakers, and other relevant parties. For sustainability to exist, a practicing community must be established. An inventive and constantly developing culture can be supported by setting up networks and forums where music instructors can communicate, share best practices, and learn from one another. Conferences, workshops, online forums, and mentorship programmes that promote professional growth and support can all help achieve this. Furthermore, research and evaluations should be conducted to ascertain the impact and effectiveness of critical pedagogy in Nigerian music assessment. Building evidence of its positive impacts and impact on student engagement and learning can help to support its ongoing use and scalability.

8. Conclusion

In conclusion, Nigeria's adoption of critical pedagogy in music evaluation has a big impact on the nation's music education system. Nigerian music educators have been able to give pupils access to a more inclusive and empowered learning environment by using a thorough and culturally sensitive approach. A sense of cultural pride and identity among students is fostered by the recognition and celebration of varied Nigerian musical practices, which is one of the key findings from the application of critical pedagogy in music evaluation. Students have gained a deeper understanding of Nigerian music while connecting with their own cultural heritage through the inclusion of a diverse range of musical genres and customs in the assessment criteria. The implementation of participatory assessment methodologies, such as peer and self-evaluation, has enabled students to assume

responsibility for their own musical growth. Students are now more motivated, engaged, and possess stronger critical thinking abilities as a result of this. Students now take an active role in their education, establishing objectives, keeping track of their advancement, and giving their classmates helpful criticism. A more inclusive and varied music curriculum has resulted from the use of critical pedagogy in music evaluation. Teachers are now more adept at navigating cultural differences and appreciate the variety of musical traditions found in Nigeria. This has improved the quality of music instruction while fostering cultural awareness and safeguarding Nigeria's musical legacy.

Even though critical pedagogy implementation in music assessment has advanced significantly in Nigeria, further investigation and study are still required in this field.

First and foremost, future studies ought to concentrate on determining how critical pedagogy in music evaluation affects students' learning results over the long run. This involves assessing how well this method works to help students improve their musical aptitude, critical thinking skills, and understanding of culture. Studies using a longitudinal design can offer significant insights into the long-term advantages of applying critical pedagogy to music assessment.

Furthermore, more research is required to comprehend the opportunities and difficulties that come with applying this strategy in various educational contexts across Nigeria. The use of critical pedagogy in music evaluation may be impacted by differences in infrastructure, resources, and cultural contexts. Identifying best practices and techniques that can be adapted to various Nigerian contexts can be facilitated by conducting case studies and comparative assessments. Additionally, studies should look into how critical pedagogy in music assessment could affect students' social and emotional growth and how it relates to more general educational objectives. A strong argument for critical pedagogy's inclusion in the broader educational system can be made by demonstrating how it can support students' entire development.

In conclusion, even if the use of critical pedagogy in music assessment in Nigeria has demonstrated a number of positive effects on music education, further investigation and study are required to expand on our knowledge and improve our methods. We can further improve Nigerian students' music education experiences and help to develop and preserve the

nation's rich musical legacy by researching and learning more about this topic.

9. Recommendations

The following suggestions for the application of critical pedagogy in music evaluation in Nigeria might be made in light of the findings and implications discussed:

Promote opportunities for music educators to get continual training and professional development to improve their knowledge of and proficiency in critical pedagogy. Workshops, seminars, and conferences on the concepts of critical pedagogy, cultural competency, and assessment techniques may fall under this category.

At every educational level, include the concepts of critical pedagogy into the music curricula. This should entail updating current assessment protocols and curriculum frameworks to conform to the aims and purposes of critical pedagogy. Stress the importance of incorporating various musical customs and practices from Nigeria.

Encourage relationships and collaborations between musicians, cultural institutions, local communities, and music instructors. This can enrich the music teaching process with invaluable resources, knowledge, and cultural authenticity. Promote frequent engagements, events, and seminars to promote cultural understanding and interchange.

To determine the influence and efficacy of critical pedagogy in music assessment, carry out additional investigation and analysis. This entails evaluating the learning objectives, engagement levels, and growth of the critical thinking and cultural appreciation abilities of the students. Studies with a longitudinal design can shed light on the long-term advantages and viability of this strategy.

Encourage national and regional educational policies and frameworks to incorporate critical pedagogy into music evaluation. Work together with stakeholders, educational institutions, and legislators to make that critical pedagogy is acknowledged as a beneficial method for teaching and evaluating music.

To overcome the obstacles and restrictions encountered while putting critical pedagogy into practice, look for tools and assistance. This can entail finding money for technology, musical instruments, and other essential supplies. Furthermore, tackle the problem of packed classrooms by looking for creative

solutions and making the most of the available area and technology.

Include families, the community at large, and parents in the support and advancement of critical pedagogy in music evaluation. Educate the public on the advantages and significance of this strategy and promote community involvement in musical activities, concerts, and celebrations.

References

- Alordiah, C. (2015). Comparison of index of Differential Item functioning under the methods of Item Response theory and classical test theory in Mathematics. *An unpublished Ph. D thesis of Delta State University, Abraka, Delta State, Nigeria.*
- Alordiah, C. O., & Agbajor, H. T. (2014). Bias in test items and implication for national development. *Journal of Education and Practice*, 5(9), 10-13.
- Aluede, C. O., Ogisi, A. A., & Okakah, F. I. (2023). An Assessment of Indigenous Knowledge of Music Therapy in Nigeria. *Voices*, 23(1). <https://doi.org/10.15845/voices.v23i1.3073>
- Biasutti, M. (2017). Teaching Improvisation through Processes. Applications in Music Education and Implications for General Education. *Frontiers in Psychology*, 8. <https://doi.org/10.3389/fpsyg.2017.00911>
- Bolaji, D. (2022). The Musical Art Creativity and Contributions of Isaac Idamoyibo to Okpe Discourse. *African Musicology On-Line*, 11(1), 69–84. <https://doi.org/10.58721/amo.v11i1.115>
- Broom, C. (2015). Empowering students: Pedagogy that benefits educators and learners. *Citizenship, Social and Economics Education*, 14(2), 79–86. <https://doi.org/10.1177/2047173415597142>
- Chen, J. C. W., & O'Neill, S. (2020). Computer-mediated composition pedagogy: Students' engagement and learning in popular music and classical music. *Music Education Research*, 22(2), 185–200. <https://doi.org/10.1080/14613808.2020.1737924>
- Concina, E. (2019). The Role of Metacognitive Skills in Music Learning and Performing: Theoretical Features and Educational Implications. *Frontiers in Psychology*, 10. <https://doi.org/10.3389/fpsyg.2019.01583>
- Cremata, R., & Powell, B. (2015). Online music collaboration project: Digitally mediated, deterritorialized music

- education. *International Journal of Music Education*, 35(2), 302–315. <https://doi.org/10.1177/0255761415620225>
- Daly, S. R., Mosyjowski, E. A., & Seifert, C. M. (2014). Teaching Creativity in Engineering Courses. *Journal of Engineering Education*, 103(3), 417–449. <https://doi.org/10.1002/jee.20048>
- Emielu, A. (2016). The forgotten (anti-Apartheid) “freedom fighters”: Nigerian reggae music and cultural memory in a post-Apartheid era. *Journal of the African Literature Association*, 10(1), 80–100. <https://doi.org/10.1080/21674736.2016.1199363>
- Floyd, J. (2022). A critical pedagogy approach for teaching adult English language learners. *New Directions for Adult and Continuing Education*, 2022(175–176), 9–18. <https://doi.org/10.1002/ace.20464>
- Green, R. (2022). Korean university students’ perceptions of rote memorization as a form of meaningful learning. *Eoneo Gwahak Yeongu/Eon’eo Gwahag Yeon’gu*, 103, 283–299. <https://doi.org/10.21296/jls.2022.12.103.283>
- Grissom-Broughton, P. A. (2019). A matter of race and gender: An examination of an undergraduate music program through the lens of feminist pedagogy and Black feminist pedagogy. *Research Studies in Music Education*, 42(2), 160–176. <https://doi.org/10.1177/1321103x19863250>
- Hayati, N. (2015). Empowering Non-Native English Speaking Teachers through Critical Pedagogy. *Teflin Journal*, 21(1), 78–78. <https://doi.org/10.15639/teflinjournal.v21i1/78-89>
- Hess, J. (2017). Critiquing the Critical: The Casualties and Paradoxes of Critical Pedagogy in Music Education. *Philosophy of Music Education Review*, 25(2), 171–171. <https://doi.org/10.2979/philmusieducrevi.25.2.05>
- Igbi, O., & Ogbeide, R. U. (2020). Traditional Music and an Organological Study of Some Musical Instruments of Plateau State, Nigeria. *UNIZIK Journal of Arts and Humanities*, 20(2), 114–129. <https://doi.org/10.4314/ujah.v20i2.6>
- Igwebuike, E. E. (2017). Metaphor, Identity and Ideologies in Igbo Folk Music. *Muziki*, 14(1), 62–77. <https://doi.org/10.1080/18125980.2017.1322471>
- Isabirye, J. (2021). Can indigenous music learning processes inform contemporary schooling? *International Journal of Music Education*, 39(2), 151–166. <https://doi.org/10.1177/0255761421996373>
- Klein, D. L. (2020). Allow Peace to Reign: Musical Genres of *Fùjì* and *Islamic* Allegorise Nigerian Unity in the Era of Boko Haram. *Yearbook for Traditional Music/Yearbook for Traditional Music*, 52, 1–22. <https://doi.org/10.1017/ytm.2020.5>
- Kodela, S., & Nikolić, I. (2016). Interaction of Traditional and Contemporary Music Pedagogy in the Case of Musical Heritage of niš and leskovac Region. *Facta Universitatis. Series: Visual Arts and Music*, 75–75. <https://doi.org/10.22190/fuvam1602075k>
- Kruse, A. J. (2014). Toward hip-hop pedagogies for music education. *International Journal of Music Education*, 34(2), 247–260. <https://doi.org/10.1177/0255761414550535>
- Lawal, A. M., Alhassan, E., Mogaji, H. O., Odoh, I. M., & Essien, E. A. (2020). Differential effect of gender, marital status, religion, ethnicity, education and employment status on mental health during COVID-19 lockdown in Nigeria. *Psychology, Health & Medicine*, 27(1), 1–12. <https://doi.org/10.1080/13548506.2020.1865548>
- Lebler, D., & Weston, D. (2015). Staying in Sync: Keeping Popular Music Pedagogy Relevant to an Evolving Music Industry. *IASPM@journal*, 5(1), 124–138. [https://doi.org/10.5429/2079-3871\(2015\)v5i1.8en](https://doi.org/10.5429/2079-3871(2015)v5i1.8en)
- Lei, S. Y., Chiu, D. K. W., Lung, M. M.-W., & Chan, C. T. (2021). Exploring the aids of social media for musical instrument education. *International Journal of Music Education*, 39(2), 187–201. <https://doi.org/10.1177/0255761420986217>
- Maybin, C. B. (2019). Disrupting the status quo: Educating pre-service music teachers through culturally relevant pedagogy. *Journal of Popular Music Education*, 3(3), 469–485. https://doi.org/10.1386/jpme_00007_1
- McBride, N. R., & Nicholson, G. (2022). Finding “Otherness” in Music and Pedagogy: A Critical Ontological Analysis of an Immersive International Music Education Exchange Program. *Journal of Music Teacher Education*, 32(2), 42–56. <https://doi.org/10.1177/10570837221120771>
- Navon, J. (2020). Pedagogies of Performance. *The Journal of Musicology/Journal of Musicology*, 37(1), 63–93. <https://doi.org/10.1525/jm.2020.37.1.63>
- Ojukwu, E. V., Obielozie, E., & Esimone, C. C. (2016). Nigerian values and contemporary popular

- music: A new look. *Ogirisi*, 12(1), 114–114.
<https://doi.org/10.4314/og.v12is1.7>
- Pedro, T. S. (2018). Abby as Ally: An Argument for Culturally Disruptive Pedagogy. *American Educational Research Journal*, 55(6), 1193–1232.
<https://doi.org/10.3102/0002831218773488>
- Pike, P. D. (2016). Improving music teaching and learning through online service: A case study of a synchronous online teaching internship. *International Journal of Music Education*, 35(1), 107–117.
<https://doi.org/10.1177/0255761415613534>
- Pöder, K., & Kiilu, K. (2015). The Formation of Musical Identity. *The European Journal of Social & Behavioural Sciences*, 12(1), 60–68. <https://doi.org/10.15405/ejsbs.153>
- Rivers, S. (2020). Expression of the Oppressed: Using Critical Pedagogy in Arts Education to disrupt systems of oppression. *International Journal of Creativity and Innovation in Humanities and Education*, 3(2), 1–8.
<https://doi.org/10.21608/ijcihe.2020.182890>
- Sunday-Kanu, R. A. (2016). Exploring pop music in Nigeria for sustainable youth empowerment and development: Uniport R'tune Music Show in perspective. *AFRREV IJAH*, 5(2), 136–154.
<https://doi.org/10.4314/ijah.v5i2.12>
- Tomova, E. (2021). Development of Social and Intercultural Competence in Students through Peer Assessment. *Obrazovanie i Samorazvitie*, 16(3), 213–229.
<https://doi.org/10.26907/esd.16.3.18>
- Quin, R. (2022). How popular music pedagogy is integrated in the diverse environment of international school education in China: A case study in Shanghai. *International Journal of Music Education*, 40(4), 502–513.
<https://doi.org/10.1177/02557614211073809>
- Yoo, H. (2017). Multicultural Choral Music Pedagogy Based on the Facets Model. *Music Educators Journal*, 104(1), 34–39.
<https://doi.org/10.1177/0027432117708602>
- Zireva, D. (2017). Cul-de-sac from diehard traditions: The demise of action research in teacher education. *Educational Research and Reviews*, 12(15), 725–731.
<https://doi.org/10.5897/err2016.3113>



Exploring the Role of Women in Court Music Traditions of the Olubadan and Alaafin of Oyo's Palaces

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Abstract. This study explores the role of women in the court music traditions of two prominent Yoruba royal institutions: the palace of the Olubadan of Ibadan and that of the Alaafin of Oyo. It examines the historical development, performance practices, and sociocultural significance of female engagement in these traditional musical settings. Drawing on oral interviews, participant observation, and existing literature, the research reveals that women have long played vital roles as praise singers, drummers, dancers, ritual performers, and cultural transmitters within these courts. Their musical contributions not only enhance the aesthetic and ceremonial functions of court life but also reinforce royal identity, preserve oral history, and facilitate the transmission of indigenous knowledge across generations. The study further highlights how women's participation in court music serves as a platform for gender expression, social mobility, and cultural resilience. In conclusion, by foregrounding the experiences and contributions of female court musicians, the research underscores their indispensable role in sustaining and evolving Yoruba royal musical heritage in contemporary times.

Keywords: Women, Court, Music, Olubadan, Alaafin.

1. Introduction

Court music holds a significant place in the socio-cultural and political life of traditional African societies, serving as a vital medium of expression, communication, and preservation of cultural heritage. In Yoruba royal settings, such as the palaces of the Olubadan of Ibadan and the Alaafin of Oyo, music transcends mere entertainment—it is a vehicle for royal authority, historical narration, and ritual observance. While much scholarly attention has been given to the musical forms, instruments, and performers associated with court music, the specific

contributions and roles of women within these traditions remain underexplored.

According to Ajewole (2006:100), women have long been active participants in the cultural life of Yoruba courts, functioning as praise singers, drummers, dancers, and custodians of oral history. In the palaces of the Olubadan and the Alaafin, women contribute not only to the aesthetic value of performances but also to the continuity and identity of the court's musical traditions. Their roles often reflect a complex interplay of gender, status, and cultural expectations, which have evolved over time in response to both internal dynamics and external influences.

This study seeks to explore the multifaceted roles of women in the court music traditions of these two prominent Yoruba palaces. It examines the historical development, performance practices, and sociocultural significance of female musical engagement in these royal contexts. By doing so, the research aims to illuminate the often-overlooked narratives of female musicians and their enduring impact on the preservation and transformation of Yoruba court music heritage.

This study, in its objectives, is set up on the three well-aligned research objectives:

- Trace the historical development of women's participation in court music within the palaces of the Olubadan and the Alaafin of Oyo.
- Analyze the performance practices and musical roles undertaken by women in the court music traditions of these Yoruba royal settings.
- Examine the sociocultural significance of female musical engagement and its impact on

the preservation and transmission of court music in both palaces.

2. Methodology

This study adopts a qualitative ethnographic approach to investigate the roles, practices, and significance of women in the court music traditions of the Olubadan and the Alaafin of Oyo's palaces. The methodology is designed to capture the lived experiences, cultural meanings, and historical dynamics that shape female musical participation in these royal settings. A descriptive ethnographic design was employed to provide an in-depth exploration of the musical roles of women within their natural socio-cultural contexts. This approach allows for the integration of both historical and contemporary perspectives, enabling the researcher to trace continuity and change in women's engagement with court music over time.

Fieldwork was conducted in Ibadan (Oyo State) and Oyo Town, the seats of the Olubadan and the Alaafin, respectively. These two palaces represent distinct yet interrelated centers of Yoruba royal musical tradition and serve as ideal case studies for comparative cultural analysis.

Semi-structured interviews were conducted with a variety of stakeholders including:

- Female court musicians (singers, drummers, dancers)
- Palace chiefs and cultural custodians
- Music historians and traditional worshippers
- Elderly women with lived experiences of court performances

These interviews were conducted in Yoruba and English, recorded with consent, and later transcribed and translated for analysis.

The researcher attended various palace events and festivals such as:

Odun Oba and *Itunu Awe* in Ibadan
Oranyan Festival, *Sango Festival*, and coronation ceremonies in Oyo

Observations focused on women's roles during musical performances, including their dress, instruments, vocal styles, positioning, and interactions within the ensemble. Field notes, video recordings, and photographs were taken to support analysis. Historical records, palace documents, previous ethnomusicological studies, and oral historical accounts were consulted to trace the evolution of women's roles in Yoruba court music. Local libraries,

museums, and university archives in Ibadan and Oyo provided valuable secondary data.

Data were analyzed using thematic content analysis. Interview transcripts, observation notes, and archival materials were coded to identify recurring themes such as:

- Gender and performance roles
- Ritual and symbolic functions
- Musical transmission and training
- Historical continuity and change

NVivo software was used for coding and organizing data to ensure rigor and consistency in theme development. Ethical approval was obtained from the relevant institutional review board. All participants provided informed consent and were assured of anonymity and confidentiality where requested. Cultural protocols and palace customs were respected throughout the research process. This methodological framework allows for a holistic and culturally sensitive exploration of the roles of women in Yoruba court music traditions. By combining oral narratives, direct observation, and historical documentation, the study provides a rich and grounded account of women's musical contributions to the palaces of the Olubadan and the Alaafin of Oyo.

3. Theoretical Framework

This study is anchored on two complementary theoretical perspectives: Feminist Theory and Ethnomusicology's Sociocultural Theory. These frameworks provide a multidimensional lens through which the roles, experiences, and cultural significance of women in Yoruba royal court music traditions can be critically examined and interpreted.

3.1 Feminist Theory (African Feminist Perspective)

Feminist theory, particularly within the context of African feminism, provides the primary lens for understanding gender dynamics in Yoruba court music traditions. Unlike Western feminist paradigms that often emphasize oppositional gender binaries, African feminism emphasizes complementarity, cultural rootedness, and social harmony.

This framework enables an analysis of:

- The agency of women within male-dominated cultural institutions like the palace.
- How women negotiate visibility and power through music, rituals, and performance.
- The symbolic and functional significance of female presence in courtly traditions, not as

passive participants, but as active cultural producers and transmitters.

According to Nettle (2015:16), the work of scholars such as Oyeronke Oyewumi and Molar Ogunjide supports this perspective by highlighting how Yoruba society traditionally recognizes role-based rather than gender-based hierarchies, allowing space for women to perform influential roles in public life, including within the royal court.

3.2 Ethnomusicology's Sociocultural Theory

The second theoretical anchor is drawn from ethnomusicological theories that view music as a social and cultural phenomenon. This perspective considers music not only as an artistic expression but also as a medium of identity, history, power, and community life.

Key concepts include:

- **Music as a cultural text:** Court music can be read as a reflection of the social order, cosmology, and values of Yoruba society.
- **Performance as social interaction:** Music-making in the palace is not merely performative but also communicative, ritualistic, and pedagogical.
- **Transmission and preservation:** Women's involvement in teaching, mentoring, and ritual participation is understood as a form of intergenerational knowledge transfer that sustains cultural continuity.

This theoretical lens is supported by the works of Bruno Nettl, John Blacking, and Akin Euba, whose studies affirm that music, especially in African contexts, is deeply embedded in the ritual, social, and political fabric of the community.

Together, feminist theory and ethnomusicological sociocultural theory enable a robust analysis of women's roles in Yoruba court music. While feminist theory addresses issues of identity, empowerment, and social roles, ethnomusicological theory provides tools to explore the meanings, functions, and cultural embeddedness of music within royal contexts.

This integrated approach allows the study to:

- Contextualize the historical and contemporary significance of female performers.
- Analyze the gendered nuances of performance practices.

- Understand how music becomes a vehicle for cultural preservation, negotiation of power, and affirmation of royal traditions.

By employing both African feminist and ethnomusicological theoretical frameworks, this study illuminates the complex interplay of gender, culture, and music within the palaces of the Olubadan and the Alaafin of Oyo. These perspectives help to reposition women not as peripheral contributors but as central figures in the shaping, sustaining, and transmitting of Yoruba court music heritage.

4. Discussion and Analysis of the Data

The discussion of the findings in this study is in line with the stated objectives of this study, as summarized below:

Objective 1: To trace the historical development of women's participation in court music within the palaces of the Olubadan and the Alaafin of Oyo

The participation of women in court music traditions in Yoruba royal palaces, particularly those of the Olubadan of Ibadan and the Alaafin of Oyo, has deep historical roots that reflect broader patterns in Yoruba society regarding gender roles, cultural expression, and artistic heritage. While Yoruba traditional music is widely recognized for its rich ensemble of instruments, vocal styles, and ceremonial functions, the role of women, though historically less documented, has been both dynamic and essential in shaping court music practices.

According to Omojola (2009:10), in precolonial Yoruba society, women were vital custodians of oral traditions, often serving as *iyèrè*, *oriki* (praise poetry) chanters, and ritual performers. In the palace of the Alaafin of Oyo, elite women known as *iyálóde* and *ayaba* (royal wives) were known to lead songs during festivals and spiritual ceremonies. Some women were members of specialized guilds and groups such as the eulogists (*akigbe* or *oriki* chanters), whose roles were central in affirming royal prestige and ancestral connections through music.

Similarly, in the palace of the Olubadan, women engaged in musical performances during coronation rites, traditional festivals like *Odun Olubadan*, and community celebrations. Their roles included call-and-response singing, drumming, and dancing, which complemented the roles of male court musicians.

Oyeniya (2021:8) notes that the advent of colonialism brought significant shifts in Yoruba social and political structures, including royal institutions. During this

period, the visibility of women in palace music slightly declined due to Western gender norms and the introduction of Christian values, which often marginalized indigenous female-led cultural expressions. However, Yoruba women adapted by embedding their roles within women's societies (*egbe obinrin*) that preserved traditional music in social and ceremonial life outside formal court settings.

Soyinka (2016:12) remarks that in the post-independence era, there was a gradual reassertion of traditional values, including the reintegration of women into palace functions. Notable women singers and drummers gained recognition for their contributions to cultural preservation and were sometimes formally appointed to palace roles. In the Alaafin's court, for instance, women like the *Ìyá Àmílúùdún* (Mother of Celebration) played symbolic and functional roles in orchestrating musical and cultural events.

According to Oyewumi (1997:16), in modern times, both the Olubadan and the Alaafin palaces have embraced more institutionalized forms of cultural performance, in which women's participation has become more visible and celebrated. Cultural revival efforts, tourism, and scholarly interest have led to renewed documentation and appreciation of women's roles in court music. Female musicians are now recognized as part of the palace's artistic team, sometimes appearing in public events, royal outings, and media performances.

Women now perform alongside men in both traditional and contemporary forms of palace music, including genres like *sekere*, *apala*, and *wákà*. Their presence underscores a historical continuity that blends respect for tradition with adaptation to evolving cultural landscapes.

Objective 2: To analyze the performance practices and musical roles undertaken by women in the court music traditions of these Yoruba royal settings

The performance practices and musical roles undertaken by women in Yoruba royal courts reflect a complex integration of cultural expectations, spiritual duties, and artistic skills. Within the palaces of the Olubadan of Ibadan and the Alaafin of Oyo, women's musical expressions are deeply embedded in both ceremonial and communal functions. These roles, though sometimes complementary to those of men, also reveal unique contributions that highlight women as indispensable agents in the preservation and propagation of court music traditions.

Ogunmola (1997:5) remarks that one of the most prominent musical roles of women in both royal courts is in vocal performance, especially through the chanting of *oriki* (praise poetry). Female praise singers, known as *àgbẹ oriki* or *akígbà*, often memorize and recite elaborate genealogies, achievements, and spiritual attributes of the kings and their ancestors. These performances are usually delivered during royal ceremonies such as installation rites, festivals, and the reception of dignitaries. In the Alaafin's palace, for instance, women vocalists accompany the monarch during the Oranyan Festival or Bibo Orisha, singing to evoke ancestral blessings. Their role goes beyond entertainment—they reaffirm the spiritual authority of the king and preserve collective memory through poetic forms.

According to Euba (2019:26), while men traditionally dominate the playing of many Yoruba percussion instruments, women have carved a niche for themselves, especially with the *sekere* (beaded gourd rattle), which is a common feature in palace performances. Female *sekere* players are known for their dexterity in rhythm-making and their ability to animate musical ensembles with expressive body movements and call-and-response. In recent decades, women have also taken part in *dundun* (talking drum) performance, though this was historically the preserve of men. Some contemporary royal courts now feature all-female drumming troupes who perform during cultural festivals and official palace functions. This shift illustrates a progressive expansion of women's musical roles within court traditions.

Ajayi (2018:15) remarks that dance is a critical component of Yoruba court music, and women often play leading roles in this domain. In both the Olubadan and Alaafin's courts, female dancers interpret drum rhythms through elaborate steps, hand gestures, and costuming. These dances are not only artistic but symbolic, often enacting historical events, mythological narratives, or spiritual allegories. Dance troupes of women are central to *Odun Oba* (King's Festival) in Ibadan, where they perform in honor of the Olubadan. Similarly, in Oyo, women dancers participate in the *Egungun* and *Sango* festivals, underscoring their role in ritual performances tied to deities and royal ancestors.

Adeogun (2015:20) notes that beyond performance for entertainment, women engage in ritual music, particularly for sacred and transitional events. In the Alaafin's palace, women such as the *Ìyálóde* or *Ayaba* lead songs during ancestral veneration rites, where music serves to connect the physical and spiritual realms. These songs are deeply encoded with religious

meanings and are performed in specific tonal registers to ensure spiritual efficacy. Women also perform laments and songs of passage during funerals of notable chiefs or royal figures, reinforcing their role as cultural interpreters and spiritual intermediaries. Women serve as mentors and cultural transmitters, passing down songs, rhythms, and performance protocols to younger generations. Within palace settings, they often supervise female apprentices or daughters of the palace in the learning of court etiquette, music repertoire, and performance ethics. This role is crucial in sustaining the continuity of musical tradition across generations.

Objectives 3: To examine the sociocultural significance of female musical engagement and its impact on the preservation and transmission of court music in both palaces

The participation of women in court music traditions within the palaces of the Olubadan of Ibadan and the Alaafin of Oyo extends beyond artistic performance—it embodies deep sociocultural meanings that influence the identity, continuity, and transformation of Yoruba royal heritage. Through their musical engagements, women function as cultural custodians, spiritual agents, and intergenerational educators. Their contributions are critical to understanding how court music is sustained as both a living tradition and a reflection of evolving Yoruba society.

Johnson (1960:189) remarks that women's engagement in court music contributes significantly to the construction and reinforcement of royal identity and communal values. Their performances often serve as symbolic affirmations of gender balance in cultural expression, reflecting the Yoruba worldview of complementary male and female roles in society. For instance, female *oriki* chanters and praise singers personalize royal narratives through poetic performance, reinforcing the king's ancestral lineage and achievements. This practice not only upholds the monarch's divine legitimacy but also instills a collective sense of pride and historical consciousness among subjects.

In the Alaafin's palace, the presence of women in rituals such as the Oranyan Festival or Sango rites enhances the cultural authenticity and spiritual gravity of the ceremonies, while in the Olubadan's court, women musicians actively participate in events like *Odun Itunu Awe* (Festival of Renewal), showcasing the symbolic role of women in cultural revitalization.

Ajewole (2008:14) notes that female involvement in court music has sociopolitical implications,

particularly in terms of status elevation and empowerment. Women who excel in musical roles often earn recognition and respect within palace hierarchies and the broader community. Titles such as *Ìyá Amúlúdùn* (Mother of Celebration), *Ìyá Àkún* (Head Vocalist), or *Ìyá Sekere* (Lead Sekere Player) not only acknowledge musical skill but confer influence and visibility upon the performers.

These roles offer women a public platform to exercise leadership and agency, challenging conventional gender limitations. By occupying prominent musical positions in royal courts, women assert their importance in both cultural and political spheres, serving as role models for younger generations of female artists.

Lawal (2020:4) notes that female musicians play a pivotal role in the preservation of oral traditions, which are central to Yoruba court music. Their deep knowledge of folksongs, proverbs, praise poetry, chants, and ritual incantations makes them essential to the continuity of intangible heritage. Within the Olubadan and Alaafin palaces, many of these women are trained from childhood and inherit musical repertoires passed down through generations. Their ability to memorize, interpret, and contextualize these oral materials ensures that historical and spiritual knowledge is not lost to time. Furthermore, during key festivals and royal events, women's performances often incorporate historical references, moral teachings, and communal narratives, thus embedding education within entertainment and ritual.

Ogundipe-Leslie (2007:11) notes that female court musicians are instrumental in transmitting musical knowledge to younger women through formal and informal mentorship. In palace settings, elder women often train daughters, nieces, and apprentices in the art of singing, drumming, dancing, and performance etiquette. This pedagogical relationship fosters a continuity of tradition and provides a cultural framework for identity formation. As the younger generation learns from their elders, they also innovate and adapt, blending traditional forms with contemporary influences—a process that keeps court music both rooted and relevant. In many cases, these transmission practices are embedded in ritual cycles, such as rites of passage or female initiation ceremonies, where music plays a didactic and spiritual role.

Today, the participation of women in palace music has also assumed a diplomatic function. Female ensembles often represent the palace in public events, national festivals, and cultural exchanges, showcasing Yoruba heritage to wider audiences. Their visibility helps

foster cultural pride and project the significance of royal traditions beyond palace walls. In this regard, women become ambassadors of Yoruba culture, preserving its legacy through performance while adapting to the aesthetics of contemporary society. Media coverage, tourism, and academic research have further elevated the profile of these women, solidifying their roles as tradition bearers.

5. Conclusion

The performance practices and musical roles of women in the palaces of the Olubadan and the Alaafin of Oyo demonstrate a rich and dynamic engagement with court music traditions. Whether through vocal expression, instrumental performance, dance, or ritual, women play multifaceted roles that are both culturally significant and artistically profound. Their participation is not only a reflection of gender inclusion but also a testament to their resilience and creative agency in the continuity of Yoruba royal heritage.

The sociocultural significance of female musical engagement in the palaces of the Olubadan and the Alaafin of Oyo lies in its multifaceted impact, spanning identity construction, cultural preservation, gender empowerment, and intergenerational continuity. Through their roles as performers, educators, and cultural custodians, women ensure that court music remains a vibrant, living tradition that reflects the values, beliefs, and creativity of the Yoruba people. Their contributions not only sustain the past but actively shape the present and future of Yoruba royal musical heritage.

References

- Adeogun, A. O. (2015). *Music and culture in Nigeria: A study of musical traditions of the Yoruba people*. Ibadan: University Press PLC.
- Ajayi, B. (2018). Women in Yoruba traditional music: Agents of cultural sustainability. *Journal of African Cultural Studies*, 30(1), 67–79. <https://doi.org/10.1080/13696815.2018.1436507>
- Ajewole, J. O. (2006). *Social organization and music style in the court of Alaafin of Oyo* (Unpublished Ph.D. thesis). Department of Music, Obafemi Awolowo University, Ile-Ife.
- _____. (2008). The Waka music of Alhaja Asnat Ejire Omo Aje. *Nigerian Music Review*, 4. Department of Music, Obafemi Awolowo University, Ile-Ife.
- Euba, A. (2019). *Yoruba drumming: The dūn-dūn tradition*. Bayreuth: Bayreuth African Studies Series.
- Johnson, S. O. (1960). *The history of the Yoruba*. Lagos: Church Missionary.
- Lawal, B. (2020). Royal aesthetics and performance: Symbolism and music in the court of the Alaafin of Oyo. *African Music*, 11(2), 45–60.
- Nettl, B. (2015). *The study of ethnomusicology: Thirty-three discussions* (3rd ed.). Urbana: University of Illinois Press.
- Ogundipe-Leslie, M. (2007). *Re-creating ourselves: African women and critical transformations*. Trenton, NJ: Africa World Press.
- Ogunmola. (1997). *A New Perspective to Oyo Empire history 1530–1944*.
- Omojola, B. (2009). Songs of the King's Wives: Women, power and performance in the Yoruba public sphere. *Africa Development*, XXXIV (2), 47–57.
- Oyewumi, O. (1997). *The invention of women: Making an African sense of Western gender discourses*. Minneapolis: University of Minnesota Press.
- Oyeniya, B. A. (2021). *Culture and customs of the Yoruba*. Santa Barbara, CA: ABC-CLIO.
- Soyinka, K. (2016). Gender, power, and the drum: Female drummers in the traditional courts of southwestern Nigeria. *Ethnomusicology Forum*, 25(3), 290–308. <https://doi.org/10.1080/17411912.2016.1219351>



The Influence of Traditional Religious Beliefs on Public Attitudes Toward Environmental Conservation in Rivers State, Nigeria

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Abstract. This study investigates how traditional religious beliefs shape public attitudes toward environmental conservation in Rivers State, Nigeria. Grounded in environmental sociology and cultural ecology theories, the research explores the association between indigenous belief systems and community engagement in environmental practices. Using a structured questionnaire administered to 400 respondents across three senatorial zones, data were analyzed using descriptive statistics and inferential tests (mean scores and independent t-tests). Findings revealed that traditional beliefs significantly influence environmental perceptions and behaviors, with variations across religious adherence and demographic categories. The study concludes that integrating cultural values into conservation strategies can enhance public engagement and sustainability efforts.

Keywords: Traditional Beliefs, Environmental Conservation, Public Attitudes, Indigenous Knowledge, Rivers State, Nigeria

1. Introduction

Environmental degradation in Nigeria manifested through deforestation, oil spills, biodiversity loss, and climate-related disruptions poses significant threats to ecological sustainability and public health. In response, state and federal agencies have implemented regulatory frameworks and community-based conservation programs. However, these interventions often overlook indigenous knowledge systems and cultural worldviews that influence how local populations perceive and engage with the environment (Onwuka & Ebeku, 2017). Among the most culturally embedded influences are traditional religious beliefs, which in many African societies, including those in Rivers State, define nature as sacred and spiritually governed (Okonkwo & Ijeoma, 2021). Traditional religious beliefs often dictate taboos, rituals, and norms that function as environmental protection mechanisms. For instance, sacred forests, spiritual

water bodies, and seasonal restrictions on land use have historically served as indigenous conservation tools (Guzmán et al., 2020). These practices are not only symbolic but also regulate access and exploitation of natural resources, thus promoting biodiversity preservation and ecosystem balance (Ayantunde et al., 2018). In the Niger Delta, where environmental damage is most acute due to industrial activities, understanding the intersection between spiritual beliefs and ecological practices is crucial for designing culturally resonant conservation strategies.

While studies have explored the role of Christianity and Islam in shaping environmental ethics in Nigeria (Adesina & Egunjobi, 2020), few have examined the influence of indigenous religious systems that predate colonial-era religions. Given that many rural communities in Rivers State still adhere to traditional belief systems, either wholly or syncretically, their attitudes toward environmental conservation are likely framed by ancestral cosmologies and spiritual practices. As such, this study seeks to empirically assess how traditional religious beliefs shape public perceptions and conservation behaviors. By integrating local spirituality into environmental discourse, the findings aim to enrich culturally grounded conservation policies in Nigeria's unique ecological and sociocultural landscape.

1.1 Problem Statement

Despite increasing awareness of environmental degradation in Rivers State, public participation in conservation efforts remains limited. Previous interventions have largely excluded indigenous knowledge and spiritual systems, undermining their relevance in environmental discourse. There is a need to empirically examine how traditional religious beliefs influence attitudes and behaviors toward environmental preservation. This study addresses this gap by investigating the cultural-religious underpinnings of environmental attitudes

in a context where spirituality and ecological consciousness often intersect.

1.2 Aim and Objectives

- To examine the extent to which traditional religious beliefs influence public perception of environmental conservation.
- To assess the relationship between the strength of traditional religious adherence and participation in environmental conservation practices.

1.3 Research Questions

- How do traditional religious beliefs shape perceptions about environmental conservation among residents of Rivers State?
- What is the relationship between individuals' adherence to traditional religious beliefs and their involvement in conservation activities?

2. Literature Review

2.1 Traditional Religious Beliefs and Environmental Stewardship

In many African societies, traditional religious beliefs are not peripheral to environmental discourse; rather, they constitute a central framework through which people perceive, interpret, and interact with the natural world. Unlike the mechanistic worldview often associated with Western environmental paradigms, indigenous African cosmologies perceive nature as a living, sacred entity that exists in a dynamic relationship with humans. Rivers, forests, mountains, and animals are not merely ecological resources but are imbued with spiritual essence frequently regarded as the abodes of deities, ancestors, and nature spirits who must be appeased or honored through ritual observance (Mbiti, 1991; Okonkwo & Ijeoma, 2021). This cosmological orientation fosters a sense of reverence, responsibility, and moral obligation toward the environment, creating a spiritual ecology in which environmental ethics are deeply entrenched in religious practice.

Within this framework, traditional ecological taboos and rituals serve as regulatory mechanisms for environmental stewardship. Practices such as restricting access to sacred groves, forbidding the hunting of certain totemic animals, and performing seasonal rituals before engaging in farming or fishing are more than cultural artifacts they are enforceable norms that promote sustainability. Sacred groves, in particular, represent biocultural refuges where human activity is limited by spiritual

decree; the prohibition against cutting trees or hunting within these areas reflects not only the community's desire to honor spiritual forces but also a practical strategy for conserving biodiversity and maintaining ecosystem integrity (Ayantunde et al., 2018).

Empirical evidence across various African contexts supports the view that these spiritual practices are not merely symbolic but carry tangible ecological benefits. In a study conducted in southwestern Nigeria, Adebayo and Ojo (2019) observed that communities with stronger adherence to indigenous belief systems exhibited significantly higher levels of compliance with conservation-oriented taboos, suggesting that traditional religion functions as a viable institutional framework for ecological governance. Similarly, Asare (2018) documented that sacred natural sites in Ghana serve as informal but highly effective conservation areas, where ecological balance is maintained not through state regulation but through cultural sanctions rooted in spiritual authority. Such findings reinforce the idea that traditional ecological knowledge when mediated through spiritual belief systems constitutes an important, albeit often underrecognized, component of community-based environmental conservation.

2.2 Environmental Attitudes and Behavioral Outcomes

Public attitudes toward environmental conservation are shaped by a confluence of interrelated factors, including but not limited to level of education, socioeconomic status, religious affiliation, and prevailing cultural norms (Kollmuss & Agyeman, 2002). These variables influence how individuals perceive environmental risks, assign responsibility, and engage in conservation behaviors. While environmental psychology has traditionally focused on cognitive and affective predictors such as environmental awareness, perceived control, and emotional connectedness to nature scholars are increasingly recognizing the pivotal role of deeply embedded cultural and religious worldviews (Stern, 2000). In particular, belief systems rooted in spiritual traditions provide normative frameworks that define what constitutes moral or immoral environmental behavior.

In the context of the Niger Delta, where environmental degradation resulting from oil exploration has led to severe ecological and health consequences, public perceptions of environmental responsibility are notably complex and multifaceted. Many communities have developed nuanced understandings of conservation that blend practical survival concerns with religious interpretations of stewardship and divine accountability (Onwuka &

Ebeku, 2017). Within this milieu, traditional African religions play a unique role in shaping ecological consciousness. For instance, belief in ancestral punishment or spiritual retribution for violating natural laws serves as a moral deterrent, guiding individuals to respect and protect their natural surroundings (Okonkwo & Ijeoma, 2021). Such beliefs act as internalized enforcement mechanisms, akin to legal or policy sanctions in formal governance systems.

However, this culturally rooted environmental ethic is increasingly threatened by modernization, rapid urbanization, and the expansion of global religions that often delegitimize indigenous belief systems. As Christianity and Islam continue to supplant traditional African religions, especially among younger populations and in urban settings, there is a noticeable erosion of spiritual taboos and practices that once regulated environmental conduct (Adesina & Egunjobi, 2020). This shift underscores the urgency of integrating cultural perspectives into environmental policy and education to preserve the positive ecological functions of traditional beliefs while fostering inclusive sustainability models.

2.3 Religious Syncretism and Conservation Practices

In many Nigerian communities, religious syncretism the blending and coexistence of traditional African spirituality with the doctrinal frameworks of Christianity or Islam creates a complex but potentially valuable context for environmental conservation. This intersection of belief systems results in a religious landscape where individuals often simultaneously draw upon indigenous cosmologies and Abrahamic teachings to interpret their relationship with nature. Such hybridity presents both analytical challenges and strategic opportunities in environmental discourse. On one hand, many mainstream religious leaders particularly those in evangelical and reformist circles have historically dismissed indigenous environmental practices as idolatrous or superstitious, thereby contributing to the erosion of traditional ecological ethics (Ukpong, 2021). This delegitimization weakens the spiritual authority of environmental taboos and rituals that once served as powerful tools for regulating resource use and protecting biodiversity.

On the other hand, a growing body of religious leaders and faith-based organizations has begun to adopt an inclusive theological stance that recognizes the ecological wisdom embedded in indigenous traditions. These actors are increasingly integrating environmental stewardship into sermons, doctrines, and community outreach programs, drawing conceptual parallels between biblical or Qur'anic

teachings and African spiritual principles that emphasize harmony with the earth (Ukpong, 2021). In this emerging syncretic model, religious teachings function not only as moral imperatives but also as pragmatic instruments for conservation awareness and action. Moreover, this dual-faith identity offers a hybrid cultural framework through which environmental advocacy can be both culturally resonant and theologically justified. By framing environmental responsibility as both a divine commandment and an ancestral obligation, syncretic religious expressions can potentially broaden the constituency for ecological initiatives. Thus, while syncretism complicates traditional categorizations of environmental behavior, it also creates fertile ground for innovative conservation messaging that bridges spiritual legacies and contemporary ecological concerns.

3. Theoretical Framework

This study is anchored in a dual-theoretical framework that draws from Cultural Ecology Theory and the Value-Belief-Norm (VBN) Theory, offering a multidisciplinary lens through which the influence of traditional religious beliefs on environmental attitudes can be critically examined. The Cultural Ecology framework, first conceptualized by Julian Steward in the mid-20th century, emphasizes the dynamic relationship between human societies and their environments, mediated through cultural practices, belief systems, and adaptive strategies (Steward, 1955). It posits that cultural institutions including religious rituals, taboos, and cosmologies emerge, in part, as functional responses to ecological constraints and opportunities. Within this framework, traditional religious beliefs are not merely symbolic expressions of worldview but serve as regulatory instruments for managing natural resources, preserving ecological balance, and ensuring intergenerational sustainability. Sacred groves, seasonal restrictions, and ritualized land-use practices in many African societies are thus interpreted as culturally embedded mechanisms of environmental management.

Complementing this anthropological perspective is the Value-Belief-Norm Theory, developed by Paul Stern and colleagues within environmental psychology. The VBN model theorizes that environmentally significant behavior is influenced by a chain of psychological variables: foundational personal values shape ecological worldviews, which in turn inform beliefs about environmental consequences and activate personal norms internalized moral obligations that guide pro-environmental action (Stern, 2000). Within the context of this study, individuals who uphold traditional cultural values are more likely to

maintain biospheric value orientations, viewing the natural world as intrinsically valuable and spiritually animated. This worldview strengthens personal norms such as the belief that harming nature constitutes a moral transgression, thereby motivating behavior that aligns with conservation principles.

The integration of Cultural Ecology and VBN Theory allows for a holistic interpretation of the research problem. While Cultural Ecology situates traditional beliefs within their sociocultural and environmental contexts, VBN Theory elucidates the psychological processes by which these beliefs translate into conservation-relevant attitudes and behaviors. Applied to Rivers State, this dual framework enables a nuanced exploration of how deeply rooted indigenous spiritual systems inform not only how people conceptualize their environment but also how they act to protect it. It also highlights the potential of culturally sensitive conservation policies that recognize and build upon existing belief structures rather than displacing them.

5. Results

Table 1: Influence of Traditional Beliefs on Perception of Environmental Conservation (N = 400)

Statement	Mean	SD	Interpretation
Nature is sacred and should not be abused	4.35	0.81	Strongly agreed
Trees and rivers are inhabited by spirits	4.12	0.93	Agree
Traditional taboos help protect the environment	4.08	0.87	Agree
Environmental destruction angers ancestral spirits	4.20	0.84	Strong agree
Community rituals support environmental harmony	3.95	0.92	Agree

Interpretation: Respondents strongly believe in the spiritual essence of the environment, indicating that traditional beliefs play a significant role in shaping perceptions of conservation.

Table 2: Correlation Between Religious Adherence and Conservation Practices

Variable	r	p-value
Traditional religious adherence vs. conservation behavior	0.42	<0.01

Interpretation: A moderate positive correlation was observed, suggesting that individuals with stronger traditional religious adherence are more likely to participate in environmental conservation practices.

6. Discussion

The findings from this study offer robust support for the underlying hypothesis that traditional religious belief systems function not merely as symbolic or ceremonial constructs, but as practical, community-embedded instruments of environmental governance. The empirical evidence points to the continued relevance of sacred groves, ritual taboos, and spiritual sanctions as longstanding indigenous mechanisms for regulating human interactions with the natural world. These culturally enforced systems historically controlled access to ecologically sensitive areas, prohibited the overexploitation of specific species, and imposed spiritual consequences on those who violated communal environmental norms. Such practices effectively maintained

4. Methodology

Study Design: This was a cross-sectional empirical study using quantitative methods.

Study Area: Rivers State, Nigeria, comprising diverse ethnic communities and religious traditions.

Population and Sample Size: A multistage sampling technique was used to select 400 participants (133 from each senatorial zone). Participants were adults aged 18 years and above who identified with or were knowledgeable about traditional religious practices.

Instrumentation: A 25-item structured questionnaire was designed based on the research questions, covering beliefs, practices, perceptions, and demographic variables. Items were measured on a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree).

Data Analysis: Responses were analyzed using SPSS. Mean scores and standard deviations addressed descriptive questions, while Pearson correlation and independent t-tests tested associations between beliefs and practices.

ecological balance in the absence of formal environmental legislation, highlighting the deep interdependence between cultural traditions and natural resource management.

The statistically moderate but meaningful correlation observed in this study between adherence to traditional religious beliefs and pro-environmental behaviors implies that reviving or sustaining these indigenous practices could provide a culturally congruent pathway toward environmental sustainability. In contexts where state-enforced regulations are weak, inconsistent, or poorly enforced as is often the case in many parts of Nigeria traditional belief systems can serve as alternative or complementary conservation frameworks that are both locally legitimate and

socially internalized. These findings therefore underscore the potential of culturally grounded environmental strategies that do not merely tolerate indigenous spirituality but actively integrate it into the design of conservation policies and programs. Moreover, the present results align with a growing body of comparative research across sub-Saharan Africa. In Ghana, Asare (2018) documented that sacred groves and spiritually protected landscapes play a critical role in preserving biodiversity by restricting access and fostering communal accountability. Similarly, in Kenya and Uganda, Mwinzi and Karanja (2020) found that indigenous knowledge systems often mediated through religious belief have been instrumental in forest conservation and the protection of endangered species. These cross-national parallels reinforce the conclusion that indigenous religious practices are not relics of a pre-modern past but living cultural institutions with demonstrable ecological value.

7. Conclusion

Traditional religious beliefs significantly influence public attitudes and behaviors toward environmental conservation in Rivers State. These beliefs provide a moral and spiritual framework that encourages responsible stewardship of natural resources. Ignoring this dimension risks alienating key community stakeholders and missing culturally relevant opportunities for environmental engagement.

8. Recommendations

- Environmental policymakers should incorporate indigenous spiritual leaders into environmental education campaigns.
- Community-based conservation programs should respect and integrate traditional beliefs and taboos.
- Further research should explore how hybrid belief systems (traditional and modern) co-evolve in shaping environmental behavior.

References

- Adebayo, O., & Ojo, E. (2019). Traditional ecological knowledge and biodiversity conservation in rural Nigeria. *African Journal of Environmental Management*, 13(1), 33–45.
- Adesina, A. A., & Egunjobi, O. (2020). Religion and the environment: A study of Christian and Islamic perspectives on sustainable development in Nigeria. *Journal of Sustainable Development in Africa*, 22(3), 93–107.
- Asare, B. (2018). Indigenous knowledge and forest conservation in Ghana: The role of sacred groves. *African Journal of Environmental Studies*, 13(2), 105–121.
- Ayantunde, A. A., Issa, S., & de Leeuw, J. (2018). Indigenous knowledge and environmental conservation in West Africa. *Pastoralism*, 8(1), 1–13. <https://doi.org/10.1186/s13570-018-0111-x>
- Guzmán, M. G., García-López, G. A., & Fernández-Manjarrés, J. F. (2020). Sacred natural sites as biocultural refugia: A case from the Sierra Nevada de Santa Marta, Colombia. *Ecology and Society*, 25(3), 19. <https://doi.org/10.5751/ES-11784-250319>
- Kollmuss, A., & Agyeman, J. (2002). Mind the gap: Why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental Education Research*, 8(3), 239–260. <https://doi.org/10.1080/13504620220145401>
- Mbiti, J. S. (1991). *Introduction to African Religion* (2nd ed.). Heinemann.
- Okonkwo, A. I., & Ijeoma, M. A. (2021). Cultural beliefs and environmental sustainability among indigenous communities in Southern Nigeria. *African Journal of Environmental and Cultural Studies*, 14(1), 45–58.
- Onwuka, S. U., & Ebeku, K. S. A. (2017). Environmental challenges in the Niger Delta and the need for sustainable practices. *Nigerian Journal of Environmental Law*, 7(2), 122–137.
- Stern, P. C. (2000). Toward a coherent theory of environmentally significant behavior. *Journal of Social Issues*, 56(3), 407–424. <https://doi.org/10.1111/0022-4537.00175>
- Steward, J. H. (1955). *Theory of culture change: The methodology of multilineal evolution*. University of Illinois Press.
- Ukpong, D. P. (2021). Religious syncretism and sustainable development in Nigeria: A theological reflection. *Journal of African Cultural Studies*, 20(4), 211–225. <https://doi.org/10.1080/13696815.2021.1898387>



Assessing the Impact of Digital Transformation on Human Resource Management in Nigerian Tertiary Institutions: A Measurement Model (Digital HRM Impact Assessment Framework (DHIAF)) Proposal

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Abstract. The digital transformation of Human Resource Management (HRM) practices has become imperative for enhancing administrative efficiency, service delivery, and institutional competitiveness within Nigerian tertiary institutions. This study introduces the Digital HRM Impact Assessment Framework (DHIAF), an integrative model that combines the Technology Acceptance Model (TAM), Diffusion of Innovation Theory, Resource-Based View (RBV), and Socio-Technical Systems Theory to holistically assess the impact of digital HRM initiatives. The framework delineates five core dimensions: Recruitment and Selection, Training and Development, Performance Management, Employee Engagement and Communication, and HR Administrative Efficiency. Each dimension encompasses specific sub-dimensions and indicators designed to capture the multifaceted effects of digitalization on HRM processes. The study also proposes a theoretical validation approach, including pilot testing and factor analyses, to ensure the reliability and validity of the measurement model. The discussion highlights anticipated benefits such as improved efficiency and service delivery, while acknowledging potential challenges like technological infrastructure deficits and resistance from non-tech-savvy staff. Policy implications underscore the need for national mandates on digital HRM adoption, capacity-building programs, and strategic partnerships with technology providers. The study concludes by emphasizing the necessity of strategic planning, leadership commitment, and sustained investment to successfully navigate the digital transformation of HRM in Nigerian universities.

Keywords: Digital HRM; Nigerian tertiary institutions; Human Resource Management; Digital transformation; Technology Acceptance Model; Measurement model.

1. Introduction

Human Resource Management (HRM) has undergone remarkable evolution over the past century, both globally and within the Nigerian context. Initially conceived as a set of administrative functions concerned primarily with personnel management, record-keeping, and compliance with labour laws, HRM has progressively transformed into a strategic cornerstone vital to organisational growth, innovation, and sustainability (Amalia, 2024). Globally, the trajectory of HRM reflects the broader socio-economic transitions: from the industrial age, through the knowledge economy, to the present digital era characterised by pervasive technological advancements (Wahdaniah et al., 2023).

In Nigeria, although the maturation of HRM followed a somewhat different pace, shaped by colonial legacies, post-independence development challenges, and more recent globalisation pressures, tertiary institutions have emerged as crucial spaces where HRM practices mirror and adapt to broader national and global trends (Ismail Al-Alawi et al., 2023).

The dawn of Industry 4.0 and the integration of Artificial Intelligence (AI), big data analytics, cloud computing, and other digital technologies have significantly redefined the nature of work and organisational management (Alordiah, 2023a; Zhang, 2023). These digital disruptions are not merely augmenting existing HR processes but are fundamentally reshaping them—introducing predictive analytics in recruitment, automating routine administrative tasks, enabling remote work arrangements, and redefining performance appraisal systems (Adiazmil et al., 2024). Within this global digitalisation movement, tertiary institutions occupy a dual role: they are simultaneously the creators of knowledge, driving innovation through research and teaching, and complex organisational entities requiring efficient, forward-thinking HRM systems

to manage their workforce. In navigating this landscape, effective HRM practices in universities are essential for attracting, developing, and retaining academic and non-academic staff who are instrumental to institutional success (Fu, 2021).

Despite the accelerating global integration of digital technologies in HRM, Nigerian tertiary institutions often find themselves lagging behind in both adoption and effective implementation (Kırılmaz, 2020). The hesitancy or delay in integrating digital tools into HRM processes can be attributed to a multiplicity of factors, including infrastructural deficiencies, limited financial resources, inadequate technological expertise, and resistance to organisational change (Gadzali et al., 2023). Consequently, HRM practices in many Nigerian universities continue to be characterised by bureaucratic inefficiencies, paper-based transactions, and a reactive rather than strategic approach to workforce management (Khatib, 2022).

Compounding this challenge is the absence of structured, context-specific models that systematically assess the impact of digital transformation on HRM processes in Nigerian tertiary institutions. Without such frameworks, efforts to understand, measure, and optimise digital integration in HRM remain fragmented and anecdotal.

This paper seeks to conceptually explore the impact of digital transformation on human resource management processes in Nigerian tertiary institutions. Specifically, it aims to illuminate how emerging digital technologies are influencing key HRM domains such as recruitment, onboarding, training and development, performance management, and employee engagement within the university setting. Furthermore, the paper proposes to develop a theoretical measurement model comprising key indicators that can be utilised to assess the depth, effectiveness, and outcomes of digital transformation initiatives in HRM practices across Nigerian universities.

The significance of this discussion is both practical and theoretical. Practically, the findings and propositions advanced herein offer valuable insights for university management teams, policymakers, and HR professionals seeking to navigate and harness the potentials of digital technologies for improved workforce management and institutional performance. Theoretically, the paper contributes to the broader body of literature on HRM and digital transformation by offering an African perspective, addressing the contextual particularities that shape technology adoption and integration within Nigerian tertiary institutions. It aspires to enrich academic discourse and stimulate further research into

localised frameworks for understanding and measuring digital impacts on HRM in the global South.

2. Conceptual Clarifications

2.1 Understanding Digital Transformation

Digital transformation represents a comprehensive reconfiguration of organisational operations, culture, and stakeholder engagement through the strategic integration of digital technologies. This paradigm shift transcends the mere adoption of new tools, encompassing a fundamental reimagining of processes and value creation mechanisms (Benavides et al., 2020). Core elements integral to digital transformation include cloud computing, artificial intelligence (AI), big data analytics, and automation. Cloud computing facilitates scalable and flexible access to computing resources, enabling organisations to store and process vast amounts of data efficiently. AI introduces capabilities such as machine learning and natural language processing, allowing for intelligent decision-making and predictive analytics (Alordiah, 2023b; Gkrimpizi et al., 2023). Big data analytics empowers organisations to extract actionable insights from large, complex datasets, enhancing strategic planning and operational efficiency. Automation streamlines routine tasks, reducing human error and freeing up human resources for more strategic functions (Fernández et al., 2023).

The progression toward digital transformation can be delineated into three distinct stages: digitisation, digitalisation, and digital transformation. Digitisation refers to the conversion of analogue information into digital formats, laying the groundwork for subsequent technological advancements (Farias-Gaytan et al., 2023). Digitalisation involves the optimisation of existing processes through digital means, enhancing efficiency and accuracy. Digital transformation, the most advanced stage, entails a holistic overhaul of organisational structures and strategies, leveraging digital technologies to create new business models and value propositions (Alenezi, 2021). This evolution reflects a shift from technology as a supporting function to a central driver of innovation and competitiveness.

2.2 Defining Human Resource Management in Tertiary Institutions

Human Resource Management (HRM) within tertiary institutions encompasses a spectrum of functions aimed at attracting, developing, and retaining a competent workforce to fulfil the institution's academic and administrative objectives (Osegbue et al., 2025a; Giang et al., 2021). Core

HRM functions include recruitment and selection, onboarding, training and development, performance appraisal, employee retention, and exit management. Recruitment and selection processes are critical in sourcing qualified academic and non-academic staff, ensuring alignment with institutional goals. Onboarding facilitates the integration of new employees into the organisational culture and operational framework. Training and development initiatives are essential for enhancing staff competencies, adapting to pedagogical advancements, and fostering career progression. Performance appraisal systems provide mechanisms for evaluating employee contributions and informing decisions on promotions, rewards, and professional development. Retention strategies aim to maintain a stable and motivated workforce, while exit management ensures smooth transitions and knowledge transfer (Filho et al., 2023).

Tertiary institutions face unique HRM challenges due to their dual structure comprising academic and administrative staff, each with distinct roles, expectations, and career trajectories. Managing this diverse workforce requires tailored HR policies that accommodate varying job functions, performance metrics, and professional development needs (Osegbue et al., 2025b; Teixeira et al., 2021). Additionally, the decentralised nature of many universities, with faculties and departments operating semi-autonomously, complicates the standardisation and coordination of HR practices. This complexity necessitates robust HRM frameworks capable of balancing institutional coherence with departmental flexibility (Rof et al., 2020).

2.3 Nexus Between Digital Transformation and HRM

The intersection of digital transformation and HRM signifies a transformative shift in how human resources are managed, with technology serving as both an enabler and a catalyst for change. The integration of digital tools into HRM processes redefines traditional practices, fostering efficiency, transparency, and strategic alignment. For instance, e-recruitment platforms expand the reach and speed of hiring processes, while Learning Management Systems (LMS) facilitate continuous professional development through accessible, personalised training modules. Performance management systems leveraging big data analytics enable real-time feedback and objective evaluations, enhancing employee engagement and accountability (Bisri et al., 2023).

The benefits of digital transformation in HRM are multifaceted. Efficiency gains are realised through the automation of routine tasks, reducing

administrative burdens and operational costs. Transparency is enhanced as digital systems provide clear, accessible records of HR processes and decisions, fostering trust and accountability. Employee satisfaction may increase due to streamlined services and opportunities for self-directed learning and career development. Strategically, digital HRM allows institutions to align human capital management with broader organisational goals, utilising data-driven insights to inform workforce planning and policy formulation (Shenkoya, 2023).

However, the transition to digital HRM is not without challenges. The digital divide poses a significant barrier, with disparities in access to technology and digital literacy among staff potentially exacerbating inequalities. Data privacy and security concerns arise as sensitive employee information is stored and processed electronically, necessitating stringent safeguards and compliance with regulatory standards. Technostress, the stress experienced due to the use of technology, can impact employee well-being and productivity, particularly if adequate support and training are lacking. Resistance to change is another critical factor, as staff may be hesitant to adopt new systems due to fear of obsolescence or disruption of established routines (Diaz-Garcia et al., 2022).

In the context of Nigerian tertiary institutions, these challenges are compounded by infrastructural limitations, budgetary constraints, and varying levels of institutional readiness. Addressing these issues requires a comprehensive approach that includes investment in digital infrastructure, capacity building for staff, and the development of policies that promote inclusive and ethical digital transformation. By navigating these complexities thoughtfully, tertiary institutions can harness the potential of digital HRM to enhance organisational effectiveness and fulfil their educational missions.

3. Review of Related Literature

3.1 Global Perspectives

The integration of digital technologies into Human Resource Management (HRM) practices has become a global phenomenon, with universities worldwide leveraging technological advancements to enhance administrative efficiency, employee engagement, and strategic decision-making. In developed countries, institutions have adopted comprehensive digital HRM systems that encompass various functions such as recruitment, performance appraisal, training, and employee self-service portals.

For instance, universities in the United States and the United Kingdom have implemented cloud-based

HR platforms that facilitate real-time data access, streamline administrative processes, and support data-driven decision-making. These systems enable institutions to manage large volumes of employee data efficiently, ensure compliance with regulatory requirements, and enhance transparency in HR operations. In Asia, universities have embraced artificial intelligence (AI) and big data analytics to predict workforce trends, identify skill gaps, and tailor professional development programmes accordingly (Núñez-Valdés, 2021).

A significant example is the deployment of Workday's AI-driven student engagement platform by many Australian colleges. This platform, created with contributions from 40 international universities, seeks to enhance student retention and experience while minimising expenses linked to obsolete, paper-based methods. The adoption of these technologies has enabled institutions to transition administrative attention from manual operations to strategic tasks, hence improving overall organisational efficiency (Gkrimpizi et al., 2024).

These international case studies emphasise the transformative capacity of digital technologies in Human Resource Management, showcasing the advantages of efficiency, transparency, and strategic alignment. Nevertheless, the effective execution of such systems necessitates substantial investment in infrastructure, ongoing personnel training, and a culture that fosters technological adaptation.

3.2 The Nigerian Context

Nigerian tertiary institutions encounter significant obstacles in implementing digital technologies for human resource management, unlike the worldwide trend. Although acknowledging the significance of digital transformation, several universities encounter infrastructure deficiencies, constrained financial resources, and insufficient digital competencies within HR staff (Khalid et al., 2017). Inadequate infrastructure, such as unreliable internet connectivity and frequent power outages, hampers the effective deployment of digital HR systems. Many institutions lack the necessary hardware and software resources, making it difficult to implement and sustain digital initiatives. Furthermore, limited financial resources constrain the ability of universities to invest in modern HR technologies and provide ongoing maintenance and support (Quý et al., 2023).

Inconsistencies in policy and a deficiency in strategic planning exacerbate the situation. The lack of explicit guidelines and frameworks for digital transformation in Human Resource Management results in disjointed efforts and subpar outcomes.

Furthermore, there exists a considerable digital skills gap among HR personnel, many of whom lack the requisite competencies to effectively employ digital tools. This gap is intensified by inadequate training opportunities and insufficient institutional support (Farias-Gaytan et al., 2021). Notwithstanding these challenges, certain Nigerian universities have progressed in incorporating technology into their administrative functions. For instance, Ahmadu Bello University established an online registration system, thereby diminishing administrative burdens and enhancing precision. Likewise, the University of Lagos launched a digital library, granting students convenient access to an extensive array of resources. These instances exemplify the potential for digital transformation in Nigerian higher education institutions, contingent upon the availability of requisite infrastructure, funding, and training (Katsamakas et al., 2024).

3.3 Existing Measurement Models for Digital Impact on HRM

Numerous frameworks have been established worldwide to evaluate the effects of digital transformation on human resource management. These models generally assess variables including technological preparedness, process efficacy, employee involvement, and organisational effectiveness. The Digital Maturity Model evaluates an organisation's digital competencies across multiple areas, such as strategy, culture, and technological infrastructure (Akour, 2022).

Nonetheless, these models are frequently tailored for corporate settings and may inadequately reflect the distinct attributes and challenges of human resource management in higher education institutions, especially within the Nigerian context. The distinct requirements of academic and administrative personnel, the decentralised structure of university operations, and the resource limitations encountered by Nigerian institutions demand a customised approach to assessment (Qasem et al., 2018).

At present, there is a deficiency of localised, institution-specific frameworks for evaluating the effects of digital transformation on human resource management in Nigeria. This gap obstructs universities' capacity to assess the efficacy of digital efforts, pinpoint areas for enhancement, and make informed decisions on future technological investments. It is imperative to develop a theoretical assessment model that accounts for the unique environment of Nigerian tertiary institutions to effectively guide digital transformation initiatives and improve HRM practices.

3.4 Theoretical Framework

Comprehending the complex effects of the digital revolution on human resource management (HRM) in Nigerian tertiary institutions requires an extensive theoretical framework. Numerous recognised theories provide significant insights into the adoption, dissemination, strategic usefulness, and socio-technical integration of digital technologies in human resource management.

Technology Acceptance Model (TAM): Developed by Davis (1989), the Technology Acceptance Model states that two key factors—perceived usefulness and perceived ease of use—determine an individual's desire to adopt a new technology. In the realm of HRM, TAM can clarify the preparedness and inclination of HR professionals at Nigerian institutions to embrace digital tools. Factors including the apparent improvement in job performance and the effort needed to utilise new systems affect acceptance levels. Understanding these attitudes is critical for devising interventions that support technology adoption among HR people (Qasem et al., 2018).

Diffusion of Innovation Theory: Proposed by Rogers (1962), this theory analyses the mechanisms, motivations, and velocity of the dissemination of novel ideas and technologies within a social system. It classifies adopters into five categories: innovators, early adopters, early majority, late majority, and laggards. Utilising this framework in Nigerian tertiary institutions can elucidate the stages and patterns of digital HRM practice adoption. Furthermore, it underscores the significance of communication channels (Zavyalova et al., 2022).

Resource-Based View (RBV): The Resource-Based View (RBV), proposed by Barney (1991), underscores the significance of an organisation's internal resources and competencies in attaining lasting competitive advantage. This approach in HRM highlights the strategic significance of human capital and HR systems. Digital HR solutions, when aligned with the VRIN criteria—valuable, rare, inimitable, and non-substitutable—can function as strategic assets that improve institutional performance. Nigerian institutions can distinguish themselves in the competitive educational scene by investing in distinctive and well-integrated digital HR systems (Khatib, 2022).

Socio-Technical Systems Theory: This theory, derived from the research of Trist and Bamforth (1951), promotes the simultaneous optimisation of social and technical systems in organisations. It asserts that effective technology implementation necessitates attention to both technical functionalities and social dynamics. This idea

emphasises the necessity of integrating digital tools with organisational structures, workflows, and employee requirements within the HRM environment. Nigerian tertiary institutions should take a socio-technical strategy to ensure that digital transformation programmes are both technologically robust and socially acceptable, as well as sustainable (Kırılmaz, 2020).

3.5 Proposed Integrative Framework

To comprehensively grasp the effects of digital transformation on HRM in Nigerian tertiary institutions, it is essential to amalgamate the previously discussed ideas into a unified framework. This integrative approach facilitates a multi-faceted examination that encompasses individual, organisational, strategic, and socio-technical elements.

The Technology Acceptance Model offers insights into HR practitioners' attitudes and intentions about the adoption of digital tools at the individual level. By evaluating perceived utility and user-friendliness, institutions can discern obstacles to acceptance and formulate specialised training and support initiatives.

The Diffusion of Innovation Theory provides a framework for analysing the dissemination of digital HRM practices throughout departments and faculties at the organisational level. Comprehending the adoption curve and the traits of various adopter categories allows institutions to customise communication methods and utilise opinion leaders to enhance dispersion.

The resource-based view underscores the necessity of cultivating and utilising distinctive digital HR competencies that correspond with organisational objectives. By investing in digital tools that satisfy the VRIN standards, Nigerian universities can improve their competitiveness and adaptability in a swiftly changing educational landscape.

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4. Proposed Measurement Model – Digital HRM Impact Assessment Framework (DHIAF)

4.1 Conceptualizing the Digital HRM Impact Assessment Framework (DHIAF)

The shift from abstract notions to quantifiable entities is essential for systematic analysis in academic research. To thoroughly investigate the influence of digital transformation on Human Resource Management (HRM) operations in Nigerian tertiary institutions, it is essential to define "impact" using organised and empirically verifiable indicators. In the absence of a unified framework comprising dimensions, sub-dimensions, and indicators, efforts to evaluate digital transformation are likely to be anecdotal or too descriptive.

Thus, the suggested measuring model is conceptualised as a multidimensional construct including major HRM functional areas. Each dimension reflects a basic HR function that is theoretically and practically influenced by digital transformation. Within these dimensions, sub-dimensions capture specific processes or systems influenced by digital technology, and for each, a variety of operational indicators are given. This framework facilitates a thorough assessment of digital influence and establishes a foundation for future empirical validation and institutional comparison.

4.2 Core Dimensions of Impact

The measuring approach is structured on five fundamental characteristics that encompass essential HRM functions inside higher education institutions. These dimensions are systematically drawn from the existing literature and the contextual reality of Nigerian universities.

Recruitment and Selection: The incorporation of digital platforms into recruitment processes represents a significant transformation in human resource management techniques. E-recruitment systems enable wider accessibility, improved transparency, and increased efficiency (Al-Alawi et al., 2023).

This dimension will evaluate the degree to which universities utilise online application portals, automated applicant tracking systems, and digital interview platforms.

Training and Development: Digital Learning Management Systems (LMS) have transformed the methods of capacity-building delivery. This dimension emphasises the implementation of online

training programmes, virtual workshops, and e-certification systems designed to improve staff competencies in a more digitalised setting (Gadzali et al., 2023).

Performance Management: The transition from conventional paper-based evaluations to digital performance rating systems signifies a significant area of transformation. This dimension analyses the use of technology to establish targets, track progress, do evaluations, and deliver feedback, so enhancing the objectivity and promptness of performance assessments.

Employee Engagement and Communication: Effective internal communication platforms are essential for promoting organisational commitment and unity. This component evaluates the use of digital instruments—such as intranets, employee portals, and workplace social networks—to communicate information, collect feedback, and engage personnel (Zhang, 2023).

HR Administrative Efficiency: Administrative functions such as payroll management, leave tracking, and record keeping have seen significant improvements through digitization. This dimension evaluates the extent to which HR administrative processes are automated, resulting in efficiency gains and error reductions.

4.3 Sample Indicators

In line with the outlined dimensions, several specific indicators are proposed to facilitate measurable assessment:

Percentage of HR Activities Performed Digitally: This indicator quantifies the proportion of core HR tasks executed through digital platforms relative to manual processes, offering a snapshot of overall digital maturity.

Staff Digital Literacy Levels: This indicator evaluates the percentage of HR personnel adept in using digital tools, ascertained through certifications, training completion rates, or competence evaluations, acknowledging that the success of digital transformation hinges on user proficiency.

Efficiency and Clarity of Recruitment Procedures Following Digital Transformation: This indicator evaluates the duration from the vacancy announcement to the appointment decision, as well as qualitative assessments of process transparency as viewed by applicants and hiring committees.

Employee Satisfaction with Digital HR Services: Survey-based measures capturing staff satisfaction with digital HR systems—such as ease of access, reliability, and responsiveness—provide critical insights into the user experience.

Data Security Incidents Related to HR Systems: This indicator monitors the frequency and severity of data breaches or cyber incidents related to HR platforms, demonstrating the effectiveness of institutional risk management due to the sensitivity of HR data.

Each indicator is theoretically justified based on its relevance to assessing the effectiveness, efficiency, and sustainability of digital transformation in HRM practices.

4.4 Model Validation Approach (Proposed in Theory)

This paper is conceptual; however, it is essential to delineate a feasible trajectory for future empirical validation of the proposed model. A systematic multi-stage validation procedure is advised:

Pilot Testing: The initial implementation of the indicators in a select number of institutions would

yield preliminary data to enhance the items and confirm contextual relevance.

Exploratory Factor Analysis (EFA): Exploratory Factor Analysis (EFA) will be performed to ascertain the underlying factor structures and to verify that the indicators are appropriately grouped around the intended dimensions.

Confirmatory Factor Analysis (CFA): Subsequently, CFA will be utilised to assess the goodness-of-fit of the proposed model, determining if the data corroborates the theoretical framework.

Reliability and Validity Considerations: Assessments of internal consistency (e.g., Cronbach’s alpha), concept validity, convergent validity, and discriminant validity are crucial to confirm the psychometric robustness of the model. The suggested measurement model can transition from conceptual formulation to an empirically verified instrument, providing significant utility for academics, policymakers, and institutional managers in the Nigerian tertiary education system, contingent upon the implementation of these methodological stages (see Table 1).

Table 1: Digital HRM Impact Assessment Framework (DHIAF)

Dimension	Sub-Dimension	Sample Indicators
1. Recruitment and Selection	- E-recruitment platforms - Digital applicant tracking systems	- Percentage of recruitment processes conducted digitally - Average time-to-hire before and after digital implementation - Applicant satisfaction scores regarding the digital recruitment experience
2. Training and Development	- Learning Management Systems (LMS) - E-learning modules	- Number of training programs delivered via digital platforms - Percentage of staff completing digital training modules - Improvement in post-training assessment scores
3. Performance Management	- Digital performance appraisal tools - Real-time feedback systems	- Percentage of staff evaluations conducted through digital platforms - Frequency of performance feedback provided digitally - Employee perceptions of fairness and transparency in digital appraisals
4. Employee Engagement and Communication	- Internal communication platforms - Employee self-service portals	- Frequency of internal communications disseminated via digital channels - Employee engagement survey scores - Usage rates of self-service HR portals
5. HR Administrative Efficiency	- Digital payroll systems - Electronic leave management	- Percentage of payroll processes automated - Average processing time for leave applications - Reduction in administrative errors post-digitization

5. Critical Discussion

5.1 Anticipated Benefits of Digital HRM in Nigerian Tertiary Institutions

The incorporation of digital technologies into Human Resource Management (HRM) procedures in Nigerian tertiary institutions presents substantial potential for improving administrative efficiency. By automating routine functions like payroll processing, leave management, and personnel

record maintenance, organisations may minimise manual errors and accelerate HR processes. This optimisation not only preserves time and resources but also enables HR professionals to concentrate on strategic initiatives that foster institutional growth (Alqarni et al., 2023).

Improved service delivery to both academic and administrative staff is another anticipated benefit. Digital platforms facilitate timely communication, enable self-service portals for employees to access

personal information, and support online training modules. Such tools empower staff members, foster transparency, and enhance overall job satisfaction (Strohmeier et al., 2021).

Furthermore, the adoption of digital HRM practices can strengthen the institutional reputation and competitiveness of Nigerian universities. In an increasingly globalized educational landscape, institutions that leverage technology effectively are better positioned to attract and retain top talent, secure research funding, and establish international collaborations. Digital HRM systems can also provide data analytics capabilities that inform decision-making and strategic planning, thereby aligning human capital management with institutional objectives globalised (Khatib, 2022).

5.2 Potential Challenges and Barriers

Despite the potential advantages, several challenges may impede the successful implementation of digital HRM in Nigerian tertiary institutions. Foremost among these is the deficit in technological infrastructure. Many institutions grapple with inadequate internet connectivity, outdated hardware, and insufficient IT support, which can hinder the deployment and maintenance of digital HR systems (Aravamudhan, 2021).

Cybersecurity risks also pose a significant concern. The digitisation of sensitive employee data necessitates robust security protocols to prevent unauthorised access, data breaches, and other cyber threats. Institutions must invest in cybersecurity measures and ensure compliance with data protection regulations to safeguard information integrity (Barišić et al., 2022).

Resistance from non-tech-savvy staff represents another barrier. Employees accustomed to traditional HR processes may exhibit reluctance to adopt new technologies, stemming from apprehension about change or lack of digital literacy. Addressing this resistance requires comprehensive training programmes and change management strategies that emphasise the benefits and ease of use of digital HRM systems (Theres, 2023).

Financial constraints for technology acquisition and maintenance further complicate the transition to digital HRM. Budgetary limitations may restrict the ability of institutions to procure necessary software, hardware, and training resources. Securing funding and demonstrating the long-term cost-effectiveness of digital HRM solutions are critical steps in overcoming this hurdle (Chapano et al., 2023).

5.3 Policy and Practical Implications

To facilitate the successful adoption of digital HRM, there is a pressing need for national policies that mandate and support the digitalization of HR processes in tertiary institutions. Such policies should provide clear guidelines, set implementation timelines, and allocate resources to ensure uniform progress across institutions.

Capacity-building programs for HR staff are essential to equip personnel with the necessary skills to operate digital systems effectively. Continuous professional development initiatives, including workshops and certification courses, can enhance digital literacy and foster a culture of innovation within HR departments.

Partnerships with technology companies can also play a pivotal role in supporting digital infrastructure. Collaborations can provide access to cutting-edge HRM solutions, technical support, and customized training, thereby easing the transition and ensuring sustainability. Such alliances can also facilitate knowledge transfer and the adaptation of global best practices to the local context.

5.4 Future Directions for Research and Practice

Future research should focus on empirical studies that validate and refine the proposed measurement model for assessing the impact of digital HRM in Nigerian tertiary institutions. Longitudinal studies can provide insights into the effectiveness of digital HRM practices over time, while comparative analyses can identify best practices and areas for improvement.

Exploring the role of leadership in successful digital HR transformation is another critical area for investigation. Leadership commitment, vision, and support are often determinants of the success of technological initiatives. Understanding how leadership influences the adoption and integration of digital HRM can inform strategies to foster organizational readiness and resilience.

In practice, institutions should establish monitoring and evaluation frameworks to assess the performance of digital HRM systems continuously. Feedback mechanisms, performance metrics, and regular audits can help identify challenges early and guide iterative improvements. Engaging stakeholders at all levels in the evaluation process ensures that the systems meet the needs of users and align with institutional goals.

While the transition to digital HRM in Nigerian tertiary institutions presents challenges, the anticipated benefits in administrative efficiency,

service delivery, and institutional competitiveness are substantial. Addressing infrastructural deficits, cybersecurity concerns, staff resistance, and financial constraints through comprehensive policies, capacity building, and strategic partnerships is imperative. Ongoing research and proactive leadership will further support the successful integration of digital HRM practices, ultimately enhancing the effectiveness and sustainability of human resource management in the higher education sector.

6. Conclusion

The digital transformation of Human Resource Management (HRM) practices has emerged as an indispensable strategy for modernizing Nigerian universities. As institutions strive to enhance administrative efficiency, service delivery, and global competitiveness, the integration of digital technologies into HR functions becomes paramount. This transformation is not merely a technological upgrade but a fundamental shift in managing human capital, aligning HR practices with contemporary organizational needs and expectations.

A critical aspect of this transformation is the development of contextualized measurement models that accurately assess the impact of digital HRM initiatives. Given the unique challenges and opportunities within the Nigerian higher education landscape, generic models may not sufficiently capture the nuances of local institutions. Therefore, there is an urgent need for tailored frameworks that consider specific institutional contexts, resource availability, and cultural factors influencing technology adoption and utilization.

In response to this need, the proposed Digital HRM Impact Assessment Framework (DHIAF) offers a comprehensive starting point for both theoretical exploration and practical application. By encompassing core dimensions such as recruitment and selection, training and development, performance management, employee engagement and communication, and administrative efficiency, the DHIAF provides a structured approach to evaluating digital HRM's multifaceted effects. This framework not only facilitates systematic assessment but also guides institutions in identifying areas for improvement and strategic investment.

While the prospects of digital transformation in HRM are promising, its successful adoption in Nigerian tertiary institutions hinges on several critical factors. Strategic planning is essential to align digital initiatives with institutional goals, ensuring that technology integration supports broader educational objectives. This involves conducting thorough needs assessments, setting

clear implementation timelines, and establishing metrics for success.

Staff development is equally crucial, as the effectiveness of digital HRM systems depends on the users' proficiency and adaptability. Comprehensive training programs should be instituted to enhance digital literacy among HR personnel and other stakeholders. Such initiatives not only facilitate smoother transitions but also empower staff to leverage new technologies effectively, fostering a culture of continuous learning and innovation.

Leadership commitment plays a pivotal role in driving digital transformation. Institutional leaders must champion the adoption of digital HRM, demonstrating support through resource allocation, policy development, and active participation in change management processes. Their engagement signals the importance of the initiative, motivating staff and ensuring accountability throughout the implementation phases.

Sustained investment is necessary to maintain and upgrade digital HRM systems, addressing issues such as software updates, cybersecurity, and user support. Financial planning should account for both initial setup costs and ongoing operational expenses, recognizing digital HRM as a long-term commitment rather than a one-time project. Exploring partnerships with technology providers and seeking funding opportunities can alleviate financial burdens and enhance system capabilities.

Failure to proactively embrace digital transformation poses significant risks for Nigerian tertiary institutions. In an increasingly digital global education ecosystem, institutions that lag in adopting modern HRM practices may struggle with inefficiencies, reduced staff satisfaction, and diminished competitiveness. Moreover, the inability to attract and retain talent, coupled with suboptimal administrative processes, can impede academic excellence and institutional growth.

Finally, digital transformation in HRM is not a discretionary endeavour but a strategic imperative for Nigerian universities. By developing contextualised measurement models like the DHIAF, investing in staff development, securing leadership commitment, and ensuring sustained financial support, institutions can navigate the complexities of digital integration. Such efforts will position Nigerian tertiary institutions to thrive in the digital age, delivering enhanced value to stakeholders and contributing meaningfully to national development.

7. Recommendations

- The Federal Government of Nigeria, through the Ministry of Education and relevant agencies, should formulate comprehensive policies that mandate and guide the digital transformation of Human Resource Management practices across all tertiary institutions.
- University management must prioritise sustained investment in robust digital infrastructure, including cloud-based HR systems, cybersecurity protections, and data management platforms, to support efficient and secure HR operations.
- Targeted training programmes should be designed and implemented to enhance the digital literacy and technological competencies of HR personnel, academic staff, and administrative employees to ensure effective utilisation of digital HRM tools.
- University leadership must demonstrate unwavering commitment to digital innovation by championing HR digitalization initiatives, allocating resources appropriately, and establishing accountability mechanisms to monitor progress.
- Tertiary institutions should seek collaborations with reputable technology firms, consultancies, and development partners to support the acquisition, customisation, and maintenance of digital HR solutions.
- Institutions should adopt a phased approach to digital HRM implementation, beginning with pilot programmes in select units, followed by gradual scaling based on lessons learnt and system refinements.
- As HRM processes become increasingly digitised, universities must enforce stringent data protection policies and invest in cybersecurity solutions to safeguard sensitive employee information and institutional records.
- A structured monitoring and evaluation framework, grounded in the proposed Digital HRM Impact Assessment Framework (DHIAF), should be institutionalised to regularly assess the effectiveness, efficiency, and impact of digital HRM interventions.
- Universities should design and implement comprehensive change management programmes that address resistance from staff, communicate the benefits of digital HRM transformation, and foster a culture of innovation and adaptability.
- Academic researchers and university management should encourage empirical studies, seminars, and publications that document experiences, challenges, and best practices in digital HRM transformation in the Nigerian and broader African context.
- Universities should allocate a dedicated budget line for digital HRM projects, ensuring that financial constraints do not hinder the continuity and scalability of technology-driven HRM improvements.
- Specialised leadership development programmes should be initiated to cultivate digital champions within HR departments—individuals who can drive, sustain, and institutionalise digital innovations across human resource processes.

References

- Aan Adiazmil, S., Hidayat, M., & Basuil, D. A. (2024). Strategic Human Resource Planning in the Era of Digital Transformation. *Unknown Journal*, 1(1), 130–137. <https://doi.org/10.62207/q7158p72>
- Al-Alawi, A. I., Messaadia, M., Mehrotra, A. A., Sanosi, S. K., Elias, H., & Althawadi, A. H. (2023). Digital transformation adoption in Human Resources Management during COVID-19. *Arab Gulf Journal of Scientific Research*, 41(4), 446–461. <https://doi.org/10.1108/agjsr-05-2022-0069>
- Alordiah, C. O. (2023a). Proliferation of Artificial Intelligence Tools: Adaptation Strategies in the Higher Education Sector. (2023). *Propellers Journal of Education*, 2(1), 53–65. <https://ijvocter.com/pjed/article/view/68>
- Alordiah, C. O. (2023b). Appreciating the AI revolution: Empowering educational researchers through AI tools for writing research articles. *Zamfara International Journal of Humanities (ZAMFARA IJOH)*, 2(1), 178–191. <https://doi.org/zamijoh.2023.v02i01.013>
- Akour, M., & Alenezi, M. (2022). Higher Education Future in the Era of Digital Transformation. *Education Sciences*, 12(11), 784–784. <https://doi.org/10.3390/educsci12110784>
- Alenezi, M. (2021). Deep Dive into Digital Transformation in Higher Education Institutions. *Education Sciences*, 11(12), 770–770. <https://doi.org/10.3390/educsci11120770>
- Alenezi, M. (2023). Digital Learning and Digital Institution in Higher Education. *Education Sciences*, 13(1), 88–88. <https://doi.org/10.3390/educsci13010088>

- Amalia, M. R. (2024). The Impact of Digital Era 4.0 Transformation on Human Resources Management. *Unknown Journal*, 1(1), 89–98. <https://doi.org/10.62207/9btfqx28>
- Barišić, A. F., Barišić, J. R., & Miloloža, I. (2021). Digital Transformation: Challenges for Human Resources Management. Proceedings of the ENTRENOVA - Enterprise Research Innovation Conference, 7(1), 365–375. <https://doi.org/10.54820/gtfn9743>
- Benavides, L. M. C., Arias, J. A. T., Serna, M. A., Branch, J. W., & Burgos, D. (2020). Digital Transformation in Higher Education Institutions: A Systematic Literature Review. *Sensors*, 20(11), 3291–3291. <https://doi.org/10.3390/s20113291>
- Bisri, A., Putri, A., & Rosmansyah, Y. (2023). A Systematic Literature Review on Digital Transformation in Higher Education: Revealing Key Success Factors. *International Journal of Emerging Technologies in Learning (iJET)*, 18(14), 164–187. <https://doi.org/10.3991/ijet.v18i14.40201>
- Chapano, M., Mey, M. R., & Werner, A. (2023). Perceived challenges: Unfounded reasons for not forging ahead with digital human resource management practices. *SA Journal of Human Resource Management*, 21. <https://doi.org/10.4102/sajhrm.v21i0.2085>
- Díaz-García, V., Montero, A., Rodríguez-Sánchez, J.-L., & Losada, R. G. (2022). Digitalization and digital transformation in higher education: A bibliometric analysis. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.1081595>
- Farias-Gaytan, S., Aguaded, I., & Soledad, M. (2021). Transformation and digital literacy: Systematic literature mapping. *Education and Information Technologies*, 27(2), 1417–1437. <https://doi.org/10.1007/s10639-021-10624-x>
- Farias-Gaytan, S., Aguaded, I., & Soledad, M. (2023). Digital transformation and digital literacy in the context of complexity within higher education institutions: A systematic literature review. *Humanities and Social Sciences Communications*, 10(1). <https://doi.org/10.1057/s41599-023-01875-9>
- Fernández, A., Gómez, B., Binjaku, K., & Meçe, E. K. (2023). Digital transformation initiatives in higher education institutions: A multivocal literature review. *Education and Information Technologies*, 28(10), 12351–12382. <https://doi.org/10.1007/s10639-022-11544-0>
- Filho, W. L., Sálvia, A. L., Beynaghi, A., Fritzen, B., Azeiteiro, U. M., Ávila, L. V., Shulla, K., Vasconcelos, C. R. P., Moggi, S., Mifsud, M., Anholon, R., Rampasso, I. S., Kozlova, V., Iliško, D., Skouloudis, A., & Nikolaou, I. E. (2023). Digital transformation and sustainable development in higher education in a post-pandemic world. *International Journal of Sustainable Development & World Ecology*, 31(1), 108–123. <https://doi.org/10.1080/13504509.2023.2237933>
- Fu, F. (2022). Digital Transformation: A Reflection from HRM Perspective. *Mental Health & Human Resilience International Journal*, 6(1). <https://doi.org/10.23880/mhrij-16000167>
- Gadzali, S. S., Gazalin, J., Sutrisno, S., Prasetya, Y. B., & Ausat, A. M. A. (2023). Human Resource Management Strategy in Organisational Digital Transformation. *Jurnal Minfo Polgan*, 12(1), 760–770. <https://doi.org/10.33395/jmp.v12i1.12508>
- Giang, N. T. H., Hai, P. T. T., Tu, N. T. T., & Tan, P. X. (2021). Exploring the Readiness for Digital Transformation in a Higher Education Institution towards Industrial Revolution 4.0. *International Journal of Engineering Pedagogy (iJEP)*, 11(2), 4–4. <https://doi.org/10.3991/ijep.v11i2.17515>
- Gkrimpizi, T., Peristeras, V., & Magnisalis, I. (2023). Classification of Barriers to Digital Transformation in Higher Education Institutions: Systematic Literature Review. *Education Sciences*, 13(7), 746–746. <https://doi.org/10.3390/educsci13070746>
- Gkrimpizi, T., Peristeras, V., & Magnisalis, I. (2024). Defining the Meaning and Scope of Digital Transformation in Higher Education Institutions. *Administrative Sciences*, 14(3), 48–48. <https://doi.org/10.3390/admsci14030048>
- Katsamakos, E., Pavlov, O. V., & Saklad, R. (2024). Artificial Intelligence and the Transformation of Higher Education Institutions: A Systems Approach. *Sustainability*, 16(14), 6118–6118. <https://doi.org/10.3390/su16146118>
- Khalid, J., Ram, B. R., Soliman, M., Ali, A. J., Khaleel, M., & Islam, M. S. (2018). Promising digital university: A pivotal need for higher education transformation. *International Journal of Management in Education*, 12(3), 264–264. <https://doi.org/10.1504/ijmie.2018.092868>
- Khatib, O., & Al-Shawabkeh, K. M. (2022). Digital Transformation and Its Impact on Strategic Supremacy Mediating Role of Digital

- HRM: An Evidence From Palestine. *WSEAS TRANSACTIONS ON BUSINESS AND ECONOMICS*, 19, 197–221. <https://doi.org/10.37394/23207.2022.19.20>
- Kırılmaz, S. K. (2020). Digital transformation in Human Resources Management: Investigation of digital HRM practices of businesses. *Pressacademia*, 7(3), 188–200. <https://doi.org/10.17261/pressacademia.2020.1282>
- Núñez-Valdés, K., Alpera, S. Q. y, & Suárez, L. M. C. (2021). An Institutional Perspective for Evaluating Digital Transformation in Higher Education: Insights from the Chilean Case. *Sustainability*, 13(17), 9850–9850. <https://doi.org/10.3390/su13179850>
- Osegbue, G., Ohamobi, I., Ekwe, N., & Alordiah, C. (2025a). AI-Enhanced crisis management in schools. *Nigerian Journal of Social Psychology*, 8(1). Retrieved from <https://www.nigerianjps.com/index.php/NJSP/article/view/198>
- Osegbue, G. C., Ohamobi, I. N., & Alordiah, C. O. (2025b). Enhancing School Safety and Security: Developing and Implementing Effective Protocols for a Secured Learning Environment. *African Journal of Social and Behavioural Sciences*, 15(2).
- Rof, A., Bikfalvi, A., & Marquès, P. (2020). Digital Transformation for Business Model Innovation in Higher Education: Overcoming the Tensions. *Sustainability*, 12(12), 4980–4980. <https://doi.org/10.3390/su12124980>
- Shenkoya, T., & Kim, E. (2023). Sustainability in Higher Education: Digital Transformation of the Fourth Industrial Revolution and Its Impact on Open Knowledge. *Sustainability*, 15(3), 2473–2473. <https://doi.org/10.3390/su15032473>
- Strohmeier, S. (2020). Digital Human Resource Management: A conceptual clarification. *German Journal of Human Resource Management Zeitschrift Für Personalforschung*, 34(3), 345–365. <https://doi.org/10.1177/2397002220921131>
- Theres, C., & Strohmeier, S. (2023). Met the expectations? A meta-analysis of the performance consequences of digital HRM. *The International Journal of Human Resource Management*, 34(20), 3857–3892. <https://doi.org/10.1080/09585192.2022.2161324>
- Teixeira, A. F., Gonçalves, M. J., & de Lourdes Machado Taylor, M. (2021). How Higher Education Institutions Are Driving to Digital Transformation: A Case Study. *Education Sciences*, 11(10), 636–636. <https://doi.org/10.3390/educsci11100636>
- Wahdaniah, Sucianti, R., Ambalele, E., & Tellu, A. H. (2023). Human Resource Management Transformation in the Digital Age: Recent Trends and Implications. *International Journal of Applied Research and Sustainable Sciences*, 1(3), 239–258. <https://doi.org/10.59890/ijarss.v1i3.902>
- Qasem, Y. A. M., Abdullah, R., Jusoh, Y. Y., Atan, R., & Asadi, S. (2019). Cloud Computing Adoption in Higher Education Institutions: A Systematic Review. *IEEE Access*, 7, 63722–63744. <https://doi.org/10.1109/access.2019.2916234>
- Quý, V. K., Thành, B. T., Chehri, A., Linh, D. M., & Tuan, D. A. (2023). AI and Digital Transformation in Higher Education: Vision and Approach of a Specific University in Vietnam. *Sustainability*, 15(14), 11093–11093. <https://doi.org/10.3390/su151411093>
- Zhang, J., & Chen, Z. (2023). Exploring Human Resource Management Digital Transformation in the Digital Age. *Journal of the Knowledge Economy*, 15(1), 1482–1498. <https://doi.org/10.1007/s13132-023-01214-y>



Petroleum Industry Act of Nigeria: Looking at Challenges from a Sociological Theoretical Perspective

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Abstract. This paper reviews the Petroleum Industry Act 2021 with a view to highlighting the inherent challenges that may ultimately constrain the effective implementation. It x-rays the problems using the frame work of a sociological theoretical perspective. The paper viewed these envisaged latent inhibitions of the implementation basically in terms of internal and external factors. The issues of Dependency status in a world system and corruption of the local political elites were particularly focused. Suggestions were also provided as a way out in this direction.

Keywords: Petroleum, Industry act, Corruption, Dependency status

1. Background /Introduction

This paper looks at the potential and inherent challenges laid before the Petroleum Industry Act (PIA) of Nigeria. The Act which was recently passed by the former President Muhammadu Buhari's administration, to many, has a lot of prospects and to others faced with potential detrimental constraints and barriers. The success of any national policy and project is often of concern to stake holders and citizens, hence, focus is necessarily given to it by this work.

2. Profiling the Oil Industry in Nigeria

Throwing us back to some important dates in inception in the exploration of oil in Nigeria is of significance. The commercial exploration of oil in Nigeria did not take off till after Shell D' Archy (a forerunner of Shell Petroleum Development Company) was licensed in 1938 (Igbinovia 2014). Shell D' Archy by 1956 had discovered the maiden oil field at Oloibiri in present day Bayelsa state of Nigeria. This culminated in the first oil export that same year. It is also important to note that the first oil shipment was carried out by Shell D'Archy on the 17th of February 1958 (ibid;29). It was not until October 1965 Nigeria could commission its first Oil

Refinery in Port Harcourt. This was with the support and efforts by Shell BP. Ever since, crude oil exploration and exportation has been on the increase with Nigeria currently about the sixth largest oil exporter in the world. Not only that, oil has pleasantly arguably come to the rescue of the Nigerian nation over the years spanning more than five decades. The common knowledge is that oil revenue accounts for a critical share of public revenue in Nigeria and that impacts accruing from oil revenue appears to have a significant ramification on national planning, public sector budgets, public sector interventions in the markets and most importantly in the country's socio-economic performance (Taiwo, 2013). Coming to specifics, oil revenue has continued to be the main stay and backbone of the Nigeria economy contributing on the average about 20% of the country's GDP and 65% of the country's budgetary revenue (CIA, 2007). In fact, oil revenue donates about 95% of the country's export earnings and about 90% of the its foreign exchange earnings. Even with the upheavals and fluctuations experienced in recent years within and without the oil industry in Nigeria, oil still remains the major source of revenue for financing most of the Federal government's programmes, projects and sundry activities. This naturally partially informs the rational for the crafting/drafting of a much-desired Petroleum Industry Bill by the government of Nigeria and was eventually signed into an Act just towards the twilight of the former President Muhammadu Buhari's administration. As hinted earlier, this paper presentation is primarily meant to deal with the issues regarding the new Petroleum Industry Act specifically focusing on the challenges that are envisaged in the course of its implementation and in terms of practice.

3. Petroleum Industry Act of Nigeria and its Attendant Challenges

The Petroleum Industry Act of Nigeria which was recently assented to by former President Buhari in

2021 no doubt holds far reaching prospects for the country. It is seen by industry experts as a bill that will help turn around the Nigeria oil industry for good especially as the sector is more than ever before expected to perform better to fund the ever growing expenditure of the Federal government of Nigeria.

The Act which replaces the existing Petroleum Act of Nigeria, aims basically to provide legal governance, regulatory and fiscal framework for Nigerian Petroleum Industry. Key areas of the PIA includes – General overview and Implication; Energy transition and the future of energy; Upstream operations; Marginal field operations and local content development; Midstream operations (liquid oil/refining); Downstream and services; Implications for the gas sector; Host community relations, sustainability and the environment; Investment and competitiveness; Deals mergers and acquisition; Monetary and fiscal implications; Banking, finance and Insurance; Financial reporting, valuations and Audit; Transfer pricing; Transition and implementation; and Dispute resolution (Official Gazette of the PIA, 2021). It is projected to reform the industry while helping to boost the latent fortune accruable from the oil deposit in the country in the bid to surpass its current capacity. In fact, it is the expectation of government and other state actors that if properly executed the PIA will help facilitate the Nigeria's economic development more than before by attracting and creating investment opportunities for local and international investors.

Nice and good as this seems, but the question need to be asked, how possible will it be for the PIA to achieve its set and projected aims seamlessly? There is the need for stakeholders and critical thinkers to look deep and excavate entrenched challenges that have the potentials of constraining the good ideals of the Act in a contemporary world system. It will do us a lot of good to quickly point out and agree that the PIA Act faces a lot of challenges so that stake holders should do well to be circumspect and be aware of what awaits all. In this work, the challenges envisaged have been sectionalised into three categories. These are (1) internal, (2) external and (3) other factors. As a quick one, we should be hinted that all of these categories of challenge that will be reviewed here are seen from the dependency perspective. In other words, most potential problems which bedevil the success or other wise of national policies and development efforts in most third world countries including Nigeria could be argued to be fall outs fundamentally of underdevelopment dependency status of such countries.

4. Looking Specifically at the Internal Issues/Challenges

The internal issues that may hinder the effective implementation of the PIA 2021 could be in the following areas (i) corruption of the political class and bureaucrats (ii) lack of political will on the part of the political class.

4.1 Corruption of the Political Class and Bureaucrats

The expectations of the Act which are great and positive may likely be cut short by the action and inaction of the country's political actors who will always put their personal interest above that of the collectivity of the entire country. The political class which is often argued to be corrupt may once again frustrate the Act as they appear to have done with the previous acts and other important national policies, when this is to be operationalized. Politicians are often seen to rather preoccupy themselves with looting public funds and assets rather than commit to altruist and selfless service for the interest of the nation whenever they found themselves in public offices. Having an unfettered access to the oil money is argued to be the main target of many of them when they aspire to political offices. And many have demonstrated this with the way and manner they have helped mismanage the oil revenue with billions of dollars accruing from oil often diverted into private pockets. The narrative of the trajectory of the oil industry in Nigeria is replete with lack of accountability with regards to the huge revenue that has accrued over the years.

Politicians in Nigeria are in the practice of allocating or appropriating oil wells to themselves even when they do not have the requisite technical and commercial capacity to drill the crude thereby shortchanging the country. The process of this allocation is also often argued to be shrouded in malpractices and dishonesty. As usual, corrupt politicians are ready to sacrifice the ideals of the PIA on the altar of greed, self-aggrandizement, and perpetual hold on their political office. This is easy for them to do because though they are responsible for initiating the bill/act, they also possess the powers to manipulate it to serve their self-interest as the policy makers and implementers. Therefore, it will be very easy for the political elite to rubbish and make a mess of the good intentions of the Act. One key area of the PIA is that which borders on community relations as noted above. But experience has shown that the political class which seems not to have changed in their attitude have burgled efforts to create a peaceful environment for oil investors and their activities to thrive in the past. We are still very much fresh with the memory of how the country's politicians hijacked the amnesty programme initiated by government (the same politicians) for the purpose of making the local people fill the

impact of benefits from the crude oil drilled from their local environment. The original intention was to create a peaceful and conducive atmosphere within the industry. It appears that because the politicians who were not supposed to benefit directly from the programme did not fully have their way, they have to abandon the successful implementation of the project there by rubbing the inherent ideals of the programme as thought from the outset when it was proposed. The implication of this is that cases of youth restiveness and unfriendly community disposition leading to oil pipeline vandalism and bunkering remain a common place especially in the Niger Delta region where most of the drilling activities are done (see, Igbinoia, 2014). This unfortunate incidence no doubt has largely affected the oil revenue expected by the Federal government of Nigeria, oil companies, oil bearing communities and other stake holders within and outside of Nigeria as we are all aware. About 10% of oil yearly exported from Nigeria and about 200,000 barrels of crude oil daily are lost to bunkering, theft and disruptions in the country (Onuoha, 2008 and Igbinoia, 2014). There is no guaranty that the same politicians will do things differently with this aspect of the PIA 2021.

Recently, the media informed us regarding how certain unknown persons (of course within the corridors of power in collaboration with civil servants) concealed from the Nigeria National Petroleum Corporation (NNPC) of certain link oil pipe lines which delivered crude to an undisclosed location outside the country for years without public and government knowledge (as we were made to understand) until it was uncovered towards the end of the former President Buhari's government. Are we saying corrupt practices like this will not be the order of the day under the new PIA? If that is what we feel the PIA 2021 is assuring us, I stand to disagree as nothing seems to have changed in the body language and disposition of Nigerian politician and bureaucrats who are expected to supervise the implementation of the PIA 2021. At least more than ever before, the entire political class and civil service in Nigeria is now neck deep in corrupt practices, dishonesty, malfeasance, criminal manipulations and malpractices.

Bureaucrats are also believed to be equally as corrupt as their political class counterparts in Nigeria. It is in the public domain that politicians who are usually the political heads of the ministries normally work in collaboration with civil servants who are the bureaucrats to mismanage government projects and programmes for their personal interests. Nigeria ministries and departments, corporations and commissions are argued to be cesspit of corruption and all manners of malpractices. For instance, the permanent secretary and directors who

are the technical heads of the government ministries and departments are believed to often recruit the ministers and chairmen of boards/commissions into the existing corrupt tradition within once they are appointed and shown the way to short change the system. A line of argument is that the civil servants especially the senior ones are more corrupt than the politicians, while others say the reverse is the case. But there seems to be an agreement at some point that both often complement each other in perfecting the act of defrauding the state. The truth is that the activities of the civil servants or bureaucrat may likely impact more on the outcome of national policies or projects whether good or bad as they are the technical partners involved directly in the implementation process.

The Corporations and departments charged with manning and regulating the Nigeria oil industry are true replica of what is seen of the typical civil service ministries and public departments. The huge level of corruption that has been recorded within the Nigeria oil industry, was perfected even in the face of an existing Petroleum Act and all the national laws and regulations that were ideally supposed to check the excesses of officials and ensure accountability. In other words, despite the ideal and well-intended nature of PIA (which also has a key area that deals with accountability), there will be the challenge of human factor in an environment where there is a normalization of corruption and greed amongst industry handlers.

Situating this within underdevelopment theories particularly the dependency theory, researchers argue that corrupt practices within the national system in Nigeria is a colonial legacy (see, Onuoha, 2013; Igbinomwanhia, 2021). Again, the tradition of corrupt practices that bedevils Nigeria today is argued not only bequeathed to the country at independence, but sustained by foreign external influence embedded in the nature of diplomatic and international trade relations that it maintains with most countries of the first world. Some development scholars have debated that most first world countries support in a subtle form, activities that will help constrain envisaged progress in developing countries so that they can sustain their dependency status. Many politicians and local handlers of the oil industry in Nigeria have also be compromised by international investors in the country who collaborate with them to undermine and by-pass existing regulatory enactments. The PIA, as far as am concerned is at the mercy of such powerful forces and collaborations who I believe arguably work with the cooperation of some first world countries where such major investors come from.

4.2 Lack of Political Will to Implement the PIA

The key areas of the PIA are critical aspects of the petroleum industry within and without Nigeria that require strong political will from among the state actors as led by the federal government/presidency to be able to carry through. The inability for government in the past especially with successful implementation of the previous Nigerian petroleum Act is suggestive of the fact that this PIA 2021 may suffer the same fate. Nigeria's political leaders characteristically are lacking in the will to often translate well crafted and well-intended policies into concrete reality.

The shabby implementation and eventual abandonment of the amnesty programme which was initiated by the late President Umaru Musa Yadau's administration by successive government is one clear demonstration of the lack of political will to start a programme/project and carry it through to logical conclusion in Nigeria. Many poverty alleviation projects initiated in Niger Delta region to support local oil-bearing communities initiated by successive administrations have suffered neglects due to the lack of political will to complete them (Dokpesi and Igbinomwanhia, 2008). The case of abandonment and neglect of the existing refineries in the country is another indication of the lack of political will by the political authorities to execute and implement to the later national projects and policies that were originally well-thought to achieve desirable success. The Nigeria oil industry suffers great set back in the downstream sector with the inability of authorities to make the country's refinery work. How the PIA intends to accommodate such national state own refinery and make them relevant in the projected determination of using the Act to turn around the oil industry in the country is what is not yet too clear. Are we expecting a phasing out of the huge monuments or going to give them a revamping in such a way that the country will benefit considerably?

4.3 External Factors

For the external factors, the PIA Act 2021 and its tenets will suffer fundamental set-back as it will be frustrated by the vibrations and emissions from the unbalanced unequal existing global relationship which makes it difficult for countries of the third world to succeed with most of their national policies as enshrined by the underdevelopment theories. Nigeria for example has some very well enacted policies but suffer a great deal of implementation problem orchestrated by external forces of the West which makes them to fail. The dependency theory opines that countries that are dependent on other countries can only make economic progress within the permission of the parent countries. In essence, the definitions of dependency indicates that the relations between dominant and dependent states are

dynamic because the interactions between the two sets of states tends to not only reinforce but also intensify the unequal patterns. Simply put, Dependency Theory attempts to explain the present underdeveloped state of many nations in the world by examining the patterns of interactions among nations and by arguing that inequality among Nations is an intrinsic part of those interactions. As hinted earlier, the argument put forward in this respect is:

...those who apply dependency in the analysis of underdevelopment of Third World countries emphasise foreign and political influences which affect local development and reinforce ruling elites at the expense of marginal classes. In essence, developing countries will hardly develop as far as they continue to be dependent on the first world countries (Namkoong, 1999)

These concepts are basically equivalent to Wallerstein's (1974) concept of core and periphery. The flow of economic surplus in the world economy is from the satellite (or periphery) to the metropolis (or core), and the world-economy is organized to make this happen. The underdeveloped nations therefore have become and remain underdeveloped because they are economically dominated by developed capitalist nations that have continually been extracting wealth from them. Nigeria being a third world country that is dependent on foreign countries of the developed region in a world system framework, the petroleum industry Act 2021 will face a lot of constraints from external interferences and rejections especially when the interests of the first world are undermined by the tenets of the Act. The overall structure supported by the dependency arrangement in a world system is to serve the interest of the metropolis (rich western countries) first then before that of the satellites (third world countries) The pattern often seen is that these developed countries like the UK, the US, France and Germany will appear that they support best practices regarding e.g environmental sustainability (which is a key area in the PIA 2021), but when the chips are down they end up encouraging activities that will undermine its successful implementation. This is especially when it is for their national interest or the interest of investors from their country.

4.4 Other Issues

There is also the challenge of transition from bio energy to the electric energy with great preference for environmental friendly green energy. The world is shifting from the reliance on hydro carbon in view of its deadly emissions. Most countries of the world have set dates for the phasing out of the petro energy to power automobiles and heavy industrial machines which makes the petroleum for example less in demand gradually. The question I may ask here is

that, how ready are we? When Petro is phased out, what happens to our oil revenue? Again, how do we cope with our local energy demands? It is easy for the developed first world to say boldly that they are transiting from the use of petroleum to electric energy to power their auto mobile and heavy-duty machineries because they are home to the required technological know-how to accomplish this. But we cannot say same of third world countries like Nigeria. They are self-sufficient for example in the area of electricity power supply and the production of automobile batteries that will be needed for this purpose. The transition process will be a major challenge to the local economy because Nigeria is heavily dependent on the same first world to acquire the technology. This will mean another opportunity for the first world to further determine the fate of the country especially as it relates to its foreign exchange and international relations.

Moreover, sourcing and securing the technology from the developed nations will not be a guaranty of a successful transition. The antics and malfeasance within the local system as mentioned before with respect to public officials will also pose a stumbling block. More than sixty years after independence Nigeria does not have a stable supply of electricity for basic domestic use let alone for other purposes. Even if we have to turn to the use of the less carbon filled liquefied natural gas (which we have in abundance), the country will still need a huge sum to be able to effect the transition. So, the key area of the PIA that relates to the issue of energy transition is another area that potentially faces constraints and implementation challenges.

Far and above what we have debated, the PIA 2021 itself ordinarily, appear to have created more problem than it hopes to solve. There is the argument that the fact that it provided for double taxation it may discourage further investment from genuine foreign investors. There is now the hydrocarbon tax and the company income tax. This can further shrink revenue source rather than expand it as argued by state actors, who asserted that the Act will help turn around the industry and instigate improved economic gains from the sector. Secondly, since the Act supports the deregulation of the downstream sector allowing market forces to determine petroleum pump price there will be increased prices of PMS and other petroleum product (as it has already been done) against the interest of low income earners. The implication of this is that the already poor low income earners will become poorer with their earnings unable to cover their bills. This is made worse as prices of petroleum especially automobile fuel, diesel and gas often determine prices of basic needs like food stuff, housing rent, transportation and other daily needs of the citizenry. The recent jacking up of fuel (PMS, kerosene, diesel

and domestic gas) prices has bequeathed tougher economic hardship to the people. Foodstuffs' prices have correspondingly also gone up, ditto other goods with many now out of the reach of the common man.

Other contended provisions of the Act also appear to portend grievous backlashes that may hinder progress and likely throw the country into deeper crises. The allocation of 3% to host/oil bearing communities (against the 10% that was requested by the people of the area) and 30% to frontal basin states of northern Nigeria is a reflection of what many called the enduring cheating against host communities. The argument put forward in this respect is that this may further escalate the already brewing tendencies towards youth restiveness and agitation for secession especially in the southern states of the country. This paper is of the corresponding opinion that this singular provision of the Act is counterproductive and that it represents a recipe for further disunity and animosity among the people of the country. Of course, the consequence is that development and progress which the Act is argued to ensure may then become elusive.

The Act seems to have indirectly discouraged the federal government from looking at possibility for diversification of the Nigerian economy. Laying major and further emphasis on oil revenue as the major source of funding the country's expenditure will not promote prospecting into other areas. This could be argued to be a negative side of the Act that may sadly affect the country's GDP in the future rather than ensure accelerated economic development especially with the world shifting gradually from hydro carbon as note earlier in this paper. In the same vain the act may be faulted as not futuristic by not focusing much on alternative source of energy in its huge and copious provisions.

5. Dependency Perspective as Theoretical Framework for this Paper

For the purpose of this paper, I choose to consider the envisaged challenges majorly from a sociological theoretical perspective. The reason for this is that most national problems that African and many third world countries suffer are rather sociological than economic as erroneously claimed. Though this is debatable, but classical sociological thinkers of the grand theories like Herbert Spencer, Emily Durkheim, Max Weber, Karl Marx and others demonstrated in early post-industrial era that their sociological perspectives and ideas regarding the emerging problems of society like the ones we have today were effective in proffering enduring solutions and understandings. I will however quickly mention too that post modernism theorists fairly disagree with the claims of the modernists regarding whether or not their ideas about society were perfect and

conclusive enough in solving emerging social problems (see Obaro, 2019). But in all, there is a meeting point amongst both dominant theoretical sub-divide that sociological understandings and perspectives should be more basic in approaching most challenges that cause disquiet in society.

The dependency theory is majorly applied here in x-raying the issues at stake regarding the inherent problems anticipated. In this, we look at the problem that will emerge especially in the area of implementation, accomplishment and practice of the PIA 2021. Using this theory which is a strand of under development theories, the challenges identified were classified into three main types, that is, (i) internal (ii) external (iii) and other issues as discussed above. In this we were informed that the foundation for most internal problems in third world countries like Nigeria as viewed by the perspective taken in this paper are triggered by external factors and antecedents as held by underdevelopment theories. This gives an insight why the internal factors reviewed here are considered to also fall under issues captured by most underdevelopment theories.

The main exponent of this theory is Andre Frank Gulder. He did much of his work in South America, a once rich region of the world but had its economy frustrated by political manipulations and socio-economic dominance of the developed world as particularly led by the United States of America. Dependency theory suggests that resources flow from a periphery of poor and underdeveloped states to a core of wealthy states of the globe (Gunder Frank 1967) (see, Kay, 1975; Thompson, 2015; Webster, 1990). Gunder Frank (1967) argues existing global socio-economic relations entails a global system of capitalism in which core nations and continents like the USA, the United Kingdom, and Europe exploit what he calls the peripheral nations in Africa, South Asia, Latin America and others (see, Bergesen 2015). Regarding this theory Leys (1996) stressed global market domination and division of labour favouring the developed north against the interest of developing nations. This sustains the dependency status of poor nations in the global economic relations (Bergesen, 2015).

Dos Santos's (1970) review suggests the dependency concept was presented as reflecting a situation in which the economy of certain countries is conditioned by the development and expansion of another economy to which the former is subjected (see, Igbinomwanhia, 2021). That, the relation of inter-dependency between two or more economies, and between these and world trade, assumes the form of dependency when some countries (the dominant ones) can expand and can be self-sustaining, while other countries (the dependent

ones) can do this only as a reflection of that expansion. Contemporary perspectives of dependency global relationship expose the post-colonial forms of dominance of the states (Namkoong, 1999). The theory argued that developing countries will hardly develop as far as they continue to be dependent on the first world countries many of which they still maintain master-servant relationship with, after years of independence. It summarises that the nature of global arrangement and relationship is such that weaker nations of the third world are systematically positioned in a world system frame work to be reliant on the rich countries of the world. This is believed by its exponents as posing great limitations to national attempt to grow economically by such developing countries. In essence there is that tendency for most internal national policies like the PIA to fail from the outset especially with the frustrating influence and activities of external forces notably in the West. Quickly, what translation this has for the subject matter under discussion is that the PIA which is one of the most important Acts in Nigeria today with strategic implications for the country's national growth and development, stands to succeed only to the extent which the Western dominant forces would want it to succeeded.

6. Conclusion / Suggestions

In conclusion, the Petroleum Industry Act of Nigeria (PIA) 2021, is an Act established with far reaching positive implications for the oil industry and by extension the growth of the country's economy. It in a nutshell it has the potentials to turn around the fortunes of the oil industry in the country more than ever before for the overall interest of the federal government of Nigeria, oil companies, oil bearing communities and other stake others. But the inherent challenges and pit falls foreseeable are quite enormous to the extent that everyone needs to be cautious and circumspect in handling the implementation. As mentioned before, the critical issues of the global dependency status of the Nigeria nation; the local corrupt political elites and bureaucrats and; short comings inherent in the nature and structure of the Act are visible challenges in view.

As a form of suggestion, the country needs to look inward in terms of being self-sufficient rather than continuous dependence on external support from foreign countries especially those in the developed West. This will minimise expectations and interferences from such exploitative external relationship with countries who always want more in return for every assistance they render to third world countries like Nigeria. Secondly, there is basically the need for a national rebirth in Nigeria. Nigerians both the followers and leaders need to

change their attitude towards national life. Deliberate efforts are seriously needed towards condemning corruption at all levels. Strict measures must have to be taken as a way of discouraging wide spread corrupt practices. Politicians and Bureaucrats should be checked and made to serve serious jail terms when caught getting involved in corrupt practices to serve as deterrence to others. Effective administrative mechanisms must also be evolved and entrenched in our policies and practice within existing institutions to make corrupt practices extremely difficult. Finally, there may be the need to do a quick repeal of the Act in order to correct some of the short comings embedded in the provisions of the Act, especially those areas that may help escalate feud and secession tendencies in oil bearing regions of the country.

References

- Bergesen, A. (2015). "World-System Theory after Andre Gunder Frank." *Journal of World*.
- Dokpesi, A.O. and Igbinomwanhia, O.G. (2010). Niger Delta Development Commission and The Challenge of Infrastructure Development of The Oil-bearing Communities in South-south Nigeria. *International Journal of Communication*. No. 11. ISBN1597-4324. Pp77-93. University of Nigeria, Nsukka.
- Kay, G. (1975). *Development and Underdevelopment: A Marxist Analysis* (London: Mcmillan)
- Igbinomwanhia, O.G. (2021) *Human Trafficking and Poverty in South-south Nigeria*, University of Stirling, 2021, E-library
- Namkoong, Y. (1999). Dependency Theory: Concepts, Classifications, and Criticisms. *International Area Review* Vol. 2 No. 1, Spring. Graduate School of International Area Studies Hankuk University of Foreign Studies Seoul 130-791,
- Igbinovia, P.E. (2014). *Oil Theft and Pipeline Vabdakisation in Nigeria*, ISBN: 978-978-8431-38-1 Safari Books, Ibadan, Nigeria
- Obaro, O.A. (2019). *Sociological and Anthropological Theories*. Mac Perfect Printing Press. Benin
- Onuoha, F.C. (2008). Oil Pipeline Sabotage in Nigeria: Dimensions, Actors and Implications for National Security, *African Security Review*, 17(3)
- Taiwo, O. (2013), a forward on the book – *Oil Theft and Pipeline Vandalisation in Nigeria*, published by safari books in 2013
- Webster, A. (1990). *Introduction to the Sociology of Development*. Second Edition. Macmillan. London. Second Edition. pp66-68. ISBN 0-333-49507-1