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Editorial

This edition of NIU *Journal of Social Sciences* focuses on Development Administration, Educational Psychology as well as Social Philosophy.

The first part of the Journal addresses issues in Development Administration such as Global Peace, Waste Management Practices, Tourism, Intelectual Property Protection Rights, Petroleum Product Distribution and Logistics as well as Cashless Policy and the Financial Performance of Deposit Money Banks. It is established in one of the papers that many Nigerian tourist centres underutilise the digital marketing opportunities embedded in the social media sphere. It suggests therefore that social media utilisation can accelerate tourism promotion and development in Nigeria as long as tourist centres in the country pay attention to creating share-worthy experiences and cultivating vibrant engagements with tourists.

Papers in the second part are on Educational Psychology. It is revealed in one of the papers in this section that peer collaboration, teacher feedback, and Science, Technology, Engineering and Mathematics (STEM) career exposure play pivotal roles in shaping girls' attitudes towards STEM subjects. Hence, the study recommends that schools should provide regular teacher training programs to improve the effectiveness of feedback strategies and implement structured feedback mechanisms to provide timely and constructive support to foster girls' interest in STEM.

In the last section on Organizational Behaviour, one of the papers reveals that beliefs and attitudes were not statistically significant in shaping consumer buying decisions in either outlet type. Furthermore, psychological factors play a vital role in influencing consumer purchasing decisions in both retail formats. The paper therefore recommends that retailers develop a marketing tactics effective and suitable to motivate at the same time influence consumers' buying behavior, targeting the factors that determines their purchase decisions to include past experience, product awareness, social status, personal values, and emotional responses.

Readers are advised to make proper use of the ideas presented by the various authors in this issue of *NIU Journal of Social Sciences*. Some of these papers are empirical in nature while others have theoretical base. Each of them focuses on one specific social and management problem or the other; trying to proffer solutions to them.

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Part One
Development Administration

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Ukraine-Russia War: Implications for Global Peace, Security and Development

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Abstract. This study examines the implications of the Ukraine-Russia war for global security, with a particular focus on the role of international bodies in promoting peace. Using the Realist theory of international relations as its theoretical framework, this study argues that the Ukraine-Russia conflict is a classic example of a security dilemma, where one state's efforts to increase its own security led to a decrease in the security of another state. The study employs a qualitative research method, with a focus on analyzing the implications of the Ukraine-Russia conflict for global security amongst others. The findings of this study suggest that international bodies, such as the United Nations, the Organization for Security and Co-operation in Europe, and the European Union, play a crucial role in promoting a ceasefire and peacebuilding in Ukraine. The study recommends that international bodies should play a more active role in promoting a ceasefire and peacebuilding in Ukraine, and that the international community should provide more economic and humanitarian assistance to Ukraine to help stabilize the country. The study also highlights the importance of mediation and diplomacy in peaceful conflict in the international community. Finally, the paper further recommends that respect for a state's sovereignty as enshrined in international law and United Nation's charter should be a thing of national concern of both countries, that referendum should be considered especially with issues surrounding the status of Crimea.

Keywords: Global Security, International Bodies, Peacebuilding, Development and Conflict.

1. Introduction

The Ukraine-Russia conflict has been a longstanding and complex issue, with far-reaching implications for global security. The conflict has its roots in the early 1990s, following the dissolution of the Soviet Union, when Ukraine declared its independence (Kuzio, 2017). However, the conflict escalated significantly in 2014, when Russia annexed Crimea, a peninsula in Ukraine, and began supporting separatist rebels in eastern Ukraine (Mearsheimer, 2014). The conflict has resulted in thousands of deaths, millions of displaced people, and significant economic losses (United Nations, 2022). The genesis of the conflict can be traced back to the early 2000s, when Ukraine began to shift its foreign policy orientation towards the West, seeking closer ties with the European Union and NATO (Sherr, 2013). This shift was seen as a threat by Russia, which had long considered Ukraine to be within its sphere of influence (Trenin, 2014). In 2013, Ukraine's then-President Viktor Yanukovych suspended plans to sign an association agreement with the EU, sparking widespread protests in Kiev's Independence Square, known as the Maidan (Wilson, 2014).

Ukraine is a relatively young state which gained its independence in 1991 after centuries of being partitioned between Poland and Muscovy and then Soviet rule. It is divided based on ethnicity with Ukrainian majority and Russian minority, Russian and Ukrainian language, and religion. Ukraine is ethnically, religiously, and linguistically divided with some regions, e.g., the Donetsk and Luhansk provinces and the Crimean Peninsula, strongly identifying them as belonging to Russia (Kusa, 2022). Ukraine was the second-most powerful Soviet republic after Russia, and was crucial strategically, economically and culturally. Russian military intervention in Crimea in 2014 initiated the international war between the two states. The interests of the foreign international actors such as the European Union, the United States, and the United

Nations demonstrate the difficulty in resolving the conflict due to a firm neo-foreign policy conducted by Vladimir Putin the President of Russia. According to Lakomy (2016), the long lasting dichotomy, the Ukrainian sense of national identity is still developing, and intensifying the problem. Again, Ukraine as a region that has varying degrees of differences inherited from difficult historical processes, and partly developed during the post-Cold War era.

While almost the entire Ukraine was controlled by the Russian, there was an important entity that marked its influence on the existing conflict in the Luhansk and Donetsk regions (Lakomy, 2016). This gave the Russians the assertion that the historical region ought to be under their control. Furthermore, having a status of a Post-Soviet satellite state, even after official recognition of independence, further deepened the conflicting positions regarding whether Ukraine should align more towards the West or Russian federation in sum, it is obvious that both Russia and Ukraine have a long lasting political, economic and cultural relationship, this relationship tends to shape the war today making it have a unique nature and different phases, and dimensions. Russia-Ukraine war has been traditionally analyzed in three dimensions: The Crimean occupation by Russian forces; The military activity in Eastern Ukraine by massing military camps; maritime operations is another dimension of the war in Ukraine where by Russian military have engaged Ukraine over the years in show of power and military capacity (Kusa, 2022, Giekzak, 2020)

The annexation of Crimea, Donetsk, and Luhansk regions In February and March 2014, Russia invaded and subsequently annexed the Crimean Peninsula from Ukraine in what was the first time a European country annexed territory from another country since the World War. The occupation of Crimea has given Russia a maritime upper hand in the region which serves as another dimension of the war. The series of events that directly led to the annexation of Crimea were initiated on February 22th and 23th 2014, when pro-Russians seized important buildings in the Crimean capital, Simferopol; this event took place in the aftermath of the revolution of dignity, (Blidaru, 2018). Here, Ukraine and many other countries condemned the annexation and consider it to be a violation of international law and Russian agreements to safeguard the territorial integrity of Ukraine. On the other hand, Russia-backed separatists declared independence from Kyiv in 2014. Since then, Russian control over parts of the Donbas region has grown significantly. Donetsk and Luhansk are both unrecognized republics of Russia in the occupied parts of Eastern Ukraine's Donetsk Oblast and Luhansk which initially operated as breakaway states until their annexation by Russia which serves as an immediate cause of the war.

Ukraine's sense of national identity and the need to strengthen the sense of national identity were recognized among the Ukrainians as the interferences of the Russian government increases. At the same time, this sense of national identity is quite complicated as Ukraine is a multiethnic state with relatively large minorities, especially the Russians in the Eastern part of the country. This Eastern part of Ukraine has been a target of many spheres of influence (Lakomy, 2016 & Zwolski, 2018), suggested that one can only understand the formation of Ukrainian national identity through the complexity of its position vis-à-vis Russia, the European Union, and also the resistance posted by Ukraine over the years.

For decades, he served in the Soviet army before delving into politics. Putin is currently serving his fourth term in office as the president of Russia after his acting period as a president and a prime minister twice. For over thirty (30) years Putin has been governing Russia, as such Putin sees himself as a continuator of the USSR with expansionist ambitions. This pushed him to wants Crimea, Luhansk, and Donestsk to be recognized as Russian Territories and, perhaps, that he himself is recognized as the savior of the Russian minority oppressed on the Ukrainian territory (Osose, Jenet, 2020). i.e. Putin wants to maintain the status quo, the position of Russia of being a great power in the international arena, and his position as the great leader of the Russian citizenry; this is seen in the constitutional amendments in 2008 which introduces an extension of period for presidential term in office (Giekzak, 2020). On the other hand, President Zelensky lacks political and diplomatic experience before he ran for the office of the President. He was a comedian and a television celebrity in Ukraine. Nonetheless, he has shown his clear aspirations in cutting the oligarchic influence on the government and state institutions, Ukraine's membership in NATO and the EU gives hope and pulled support for him from majority of Ukraine's citizens, adding to this is observed in 2020 by Giekzak, that before the war Russia used to supply gas to Ukraine, beginning in 2015, Ukraine has significantly reduced its direct import of Russian natural gas and instead has received natural shipments from Europe.

The Ukraine-Russia conflict has resulted in significant humanitarian, economic, and geopolitical consequences, including thousands of deaths, millions of displaced people, and a major crisis in European security. Despite the severity of the conflict, there is a lack of understanding about the underlying causes and drivers of the conflict, as well as the most effective ways to manage and resolve it. The conflict has its roots in the early 1990s, following the dissolution of the Soviet Union, when Ukraine declared its independence. However, the conflict escalated significantly in 2014, when Russia annexed Crimea, a peninsula in Ukraine, and began supporting separatist rebels in eastern Ukraine. The conflict has had significant implications for European security, as it has challenged the post-Cold War order and raised concerns about the potential for a wider conflict in Europe. The conflict has also had significant economic implications, as it has disrupted trade and investment between Ukraine and Russia, and has had a major impact on the global energy market. Despite the severity of the conflict, there is a lack of understanding about the underlying causes and drivers of the conflict. Some analysts have argued that the conflict is driven by a desire for Ukrainian nationalism and independence, while others have argued that it is driven by a desire for Russian expansionism and imperialism.

Several studies such as Yuguda, (2019) argued that a diplomatic solution is the most effective way to resolve the conflict. Also, Osasere, (2024) argued that a military solution is necessary to protect Ukrainian sovereignty and territorial integrity. Most of the studies reviewed looked at ways of resolving the conflict between Ukraine-Russia, considering the complex and multifaceted issue that surrounds the crisis. To vary this common trend, this study comprehensively looked at the implication of the Ukraine-Russia war for development, peace and security of the international system, which most work reviewed did not effectively capture. It equally explained the role of international organization towards restoring world peace and stability, analyze the historical and contemporary factors that have contributed to the Ukraine-Russia conflict, examine the actions and policies of Russia, Ukraine, and the international community and their impact on the conflict amongst others.

1.1 Methodology

This study will use a qualitative research approach, combining historical analysis, case study research, and content analysis. The study will draw on a range of sources, including academic literature, policy documents, and primary sources such as interviews and speeches.

2. Literature Review and Theoretical Framework of Analysis

The Russian federation has a long imperial history over the states under the defunct Soviet-Union. Russia’s sense of superiority and the need to prove it impermeable nature has been its core national interest. In issues surrounding balance of power, ever since Ukraine split from the Soviet Union, Russia and the West have fought for greater influence in the country in order to keep the balance of power in the region in their favor. Umland (2019) emphasized the importance of Ukraine for Russia, US, and European Union, this has led to wide and yet nevertheless widespread common agreement within large parts of Russia’s population about the rightfulness, justice and legitimacy of Russia’s various territorial, political, cultural and economic claims towards Ukraine. This expression was seen during the Truth Justice Media forum where President Putin expresses his regrets over the collapse of the USSR in 2018, reflects the general mood of the Russian federation (TASS, 2018). The Russian government’s efforts to maintain spheres of influence in the Post-Soviet states therefore seem to be an attempt to reimburse this nostalgia by having control over these former members of the USSR. Nonetheless, it should be noted that the maintenance of these post-Soviet States, i.e. Estonia, Latvia, and Lithuania Armenia, Georgia, Moldova, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, Russia, and Ukraine by Russia is an effort to unite the nation-states. Moreover, it is a response to the eastward expansion of the Western European ideologies, with the recent democratization of Ukraine and show of interest in joining NATO (Okokhere, 2016).

Russia has constantly been interrupting Ukraine’s sovereignty since 1991 through continuous military operations either as patrol operations or exercises (Lakomy, 2016). The unique geography of the black sea region confers several geopolitical advantages to Russia; the black sea is bordered by Bulgaria, Georgia, Romania, Russia, Turkey and Ukraine and all these countries are NATO countries as such makes the black sea a region of strategic importance and maritime flash point. As it is an important crossroads and strategic intersection for the complete region and it is an important region for goods and energy generation. Again, the causes of the Orange revolution which took place in November of 2004- January of 2005 such as that of special press conference made by Vladimir Putin, the Russia’s President in 2004 known as the propaganda of the Russia-Ukraine merger and the underlying causes of Euromaidan revolution which took place in February 2014 which the Ukraine government see as an invasion of the Russian government to fight against the Ukraine government are just examples of the Russian interference in its satellite states which also led to the war between Ukraine and Russia. The procedural events that led to the orange and Euromaidan revolutions serve as remote causes of the war

In the views of Masuel, Kelvin, and Tacosky, (2022), War can be considered as a clash of two opposing ideologies represented by the West on one side (EU, the UN, NATO), and Russia on the other side. The European Union along with the NATO, the UN, many non-governmental organizations, as well as the United States represents the liberal democratic stance that is perceived by Russia as a threat to its existence. The European Union is interested in Polish attempt initiative and attempt to tie Ukraine closer to the Western Europe, or perhaps, to cut the Russo-Ukraine relationship by pushing for the adoption of Eastern partnership initiative (Giekzak, 2020). Similarly, Mearsheimer (2014), pointed out that the West's f inal technique for separating Kiev away from Moscow has been its efforts to spread Western values and promote democracy in Ukraine and other Post-Soviet states, a plan that often entails funding Pro-Western individuals, organizations and ideas. Similarly, Ukraine has called on North Atlantic Treaty Organization (NATO) to speed up the country's membership in the alliance this move made Russia to declare such a gesture as a threat.

Again, the EU and NATO are not necessarily interested in the accession of Ukraine to the Unions, but both recognize the strategic importance of Ukraine economically, politically and in aiding it in transmitting its liberal ideas. While on the other hand Russia, after succeeding in Crimea, knows that the international community currently lacks means of stopping it (, 2016). He argued that, the closeness of Ukraine to the EU's member states allows for the financial and technical support provided by EU to Ukraine which Russia finds unattractive and as a threat to its national security and threat to it impenetrable status.

2.1 Theoretical Framework

It is unethical in any academic study to explain relationship causal or normative without a theory, as theory explains reality; theory establishes relationship between the variables. It is on this background that this paper utilized the power politics theory by Niccolo Machiavelli 1527 and the realism theory by Morgenthau, 1948 to explain the nature and causes of Russia-Ukraine war as contained in (Orobor, 2019).

Power politics is a theory of power in international relations which contends that distribution of power and national interests, or changes to those distributions, are fundamental causes of war and of system stability. Power politics provides a way of understanding systems of international relations: in this view, states compete for the world's limited resources, and it is to an individual state's advantage to be manifestly able to harm others.

Assumptions of the Theory of Power Politics as propagated in the works of Niccolo Machiavelli (1469-1527) and Hans Morgenthau (1948) The theory contends that distributions of power and national interests, or changes to those distributions, are fundamental causes of war.

That states compete for the world's limited resources, and it is to an individual state's advantage to be manifestly able to harm others in order to secure these resources.

Power politics prioritizes national self-interest over the interests of other nations or the international community and thus may include threatening one another with military, economic, or political aggression to protect one nation's own national interest.

Deterrence and suppression theory: Here, a weaker state is being discouraged by the actions of the powerful state by military operations and show power by the strong. The massing of military units on a border, whether for stationing or for exercises this is also technique expounded by power politics.

Propaganda: Here, a state or its agencies or institution use adverse inaccurate information to weaken another's reputation and international imagine (Eaglento 2017).

Also, Morgenthau (1965), asserts that men and women are by nature political animals; they are born to pursue power and to enjoy the fruits of power'. Again, He speaks of "animus dominandi" i.e. the human 'lust' for power. The quest for 'power dictates a search not only for relative advantage, but also for a secure political space within to maintain oneself and exert considerable influence, free from the dictates of others. The human "animus dominandi" inevitably brings men and women into conflict with each other, that ultimately creates conditions of power politics.

Realism Theory

Realism is a theoretical framework in international relations that emphasizes the role of power and security in shaping state behavior. Realists argue that states are primarily motivated by self-interest and security concerns, and that they will use military power to protect their interests (Morgenthau, 1948). Realists argue that states use deterrence to prevent other states from attacking them, by maintaining a credible military threat. Realism has significant implications for global security, as it suggests that states are primarily motivated by self-interest and security concerns. This can lead to a number of security challenges, amongst others.

2.2 Key Assumptions and their Relevance and Linkage to Ukraine-Russia War:

- Realists assume that states are the primary actors in international relations, and that their behaviour is driven by a desire to protect their interests and security.
- Realists assume that states must rely on themselves for security, as they cannot trust other states to protect their interests.
- Realists assume that states are faced with a security dilemma, in which their efforts to increase their own security may lead to a decrease in the security of other states.
- Realists assume that international relations are characterized by a struggle for power and influence among states.
- Realists argue that states pursue their national interest, which is defined as the protection and promotion of their security, power, and influence.
- Realists argue that states seek to maintain a balance of power in the international system, in order to prevent any one state from becoming too powerful.

The Ukraine-Russia war can be understood through the lens of power politics and realism, as it reflects a struggle for power and influence between two states. Russia's actions in Ukraine can be seen as an attempt to protect its national interest and maintain a balance of power in the region. Russian national interest: Russia's actions in Ukraine can be seen as an attempt to protect its national interest, including its security, power, and influence in the region.

Balance of power: Russia's actions in Ukraine can also be seen as an attempt to maintain a balance of power in the region, by preventing Ukraine from joining NATO and the EU. Deterrence: Russia's use of military force in Ukraine can be seen as an attempt to deter other states from challenging its interests and security.

2.3 Causes of the Conflict

The paper identified that Ukraine-Russia conflict has a number of underlying causes, including:
Historical grievances: The conflict has its roots in historical grievances between Ukraine and Russia, dating back to the Soviet era.
Nationalism and identity: The conflict is driven in part by a desire for Ukrainian nationalism and independence, as well as a desire for Russian expansionism and imperialism.
Economic interests: The conflict is also driven by economic interests, including control over Ukraine's energy resources and trade routes.
Geopolitical rivalries: The conflict is influenced by geopolitical rivalries between Russia and the West, including the United States and the European Union amongst others.

2.4 The Effect of Ukrainian-Russia War on Global Security and Conflict Management

The Ukrainian-Russian war has far-reaching implications for global security, marking a significant shift in the international order. According to Anthony (2019), the conflict is a classic example of a security dilemma, where one state's efforts to increase its own security led to a decrease in the security of another state. In this case, Russia's actions in Ukraine have led to a significant increase in tensions with the West, and have raised concerns about the potential for a wider conflict in Europe. The war has also redrawn the lines of European security, with NATO playing a crucial role in deterring Russian aggression. As Walt (1996) notes, NATO's Article 5 guarantees serve as a deterrent to Russian expansion, and have helped to maintain stability in the region. However, the war has also raised concerns about the potential use of nuclear weapons, with Russia's nuclear blackmail posing a significant threat to global security (Kissinger, 1994). The conflict has had significant economic implications, disrupting global food and energy supplies, particularly in the Middle East and Africa.

According to Allison (2014), the war has accelerated the shift towards a more multipolar world, with countries like China, India, and Indonesia increasingly asserting their independence from Western influence. This shift has significant implications for global governance, and raises questions about the effectiveness of international institutions in preventing conflict and protecting human rights. The Ukrainian-Russian war has also highlighted the need for more effective deterrence mechanisms, including the use of sanctions and military force, to prevent aggression and protect global security. As Jervis (1976) notes, deterrence is a complex and multifaceted concept, and requires a nuanced understanding of the motivations and capabilities of potential aggressors. In the case of Russia, the use of sanctions and military force has been effective in deterring further aggression, but has also raised concerns about the potential for escalation and the need for more effective diplomatic efforts to resolve the conflict.

The conflict has had significant implications for global security, as it involves two nuclear-armed states and has the potential to draw in other major powers (Allison, 2014). The conflict has already had significant consequences for European security, with the European Union and NATO imposing sanctions on Russia and providing military aid to Ukraine (European Union, 2022). The conflict has also had significant implications for global energy markets, as Ukraine is a major transit country for Russian natural gas exports to Europe (International Energy Agency, 2022). Furthermore, the Ukraine-Russia conflict has raised concerns about the potential for a wider conflict in Europe, with some analysts warning of the possibility of a "new Cold War" (Lucas, 2014). The conflict has also highlighted the need for a more robust and effective international response to crises, with some analysts arguing that the international community has been too slow to respond to the conflict (Patrick, 2015).

The Ukraine-Russia conflict has resulted in significant humanitarian, economic, and geopolitical consequences, including thousands of deaths, millions of displaced people, and a major crisis in European security as reflected in the statistics provided in the table below.

Statistical data showing the degree of damage done to both countries as at January, 2025

CASUALTIES	RUSSIA	UKRAINE
Deaths	388,385	55,910
Injured	653,600	148,343
Infrastructure destroyed	10	152,300
Industries/factories destroyed	05	108
Schools/Universities destroyed	Nil	3,792
Health care facilities	Nil	1,940
Displaced persons	2	

Source: *OHCHR, 2025*

Despite the severity of the conflict, there is a lack of understanding about the underlying causes and drivers of the conflict, as well as the most effective ways to manage and resolve it. The conflict has its roots in the early 1990s, following the dissolution of the Soviet Union, when Ukraine declared its independence. However, the conflict escalated significantly in 2014, when Russia annexed Crimea, a peninsula in Ukraine, and began supporting separatist rebels in eastern Ukraine.

The conflict has had significant implications for European security, as it has challenged the post-Cold War order and raised concerns about the potential for a wider conflict in Europe. The conflict has also had significant economic implications, as it has disrupted trade and investment between Ukraine and Russia, and has had a major impact on the global energy market. Despite the severity of the conflict, there is a lack of understanding about the underlying causes and drivers of the conflict. Some analysts have argued that the conflict is driven by a desire for Ukrainian nationalism and independence, while others have argued that it is driven by a desire for Russian expansionism and imperialism.

There is also a lack of understanding about the most effective ways to manage and resolve the conflict. Some analysts have argued that a diplomatic solution is the most effective way to resolve the conflict, while others have argued that a military solution is necessary to protect Ukrainian sovereignty and territorial integrity. Overall, the Ukraine-Russia conflict is a complex and multifaceted issue that requires a comprehensive and nuanced understanding of its underlying causes and drivers, as well as the most effective ways to manage and resolve it. This study aims to provide such an understanding, and to contribute to the development of effective solutions to the conflict.

Ukrain-Russia War and Global Development

According to Dyner, Lorenz & Legucka (2023), the consequences of the war between Ukraine and Russia cannot be overemphasized as it is dimensional and also has diverse consequences on national economies, national security, inter-state relations, global finance, food, and humanitarian activities etc. Wars often cause immense economic damage. In war sites, the capital stock, which comprises economic assets such as machinery and buildings, is destroyed. Ukraine Ministry of Social policy stated that at the state level the issue seems even more pressing as the number of casualties recorded in the Donbas region of Ukraine hits 510,764 and that the registered number of internally displaced persons has reached 280,437 in Donestsk and Luhanks Provinces. This event has a negative effect on the economy of Ukraine as both provinces had a negative contribution to Ukraine's national growth with -18.1% and -45.5%, accordingly (Giekzak, 2020). On the other hand, Russia's economy is also faced with a lot of sanctions by different international actors such as U.S. and EU, its GDP fell from 2060 billion US dollars (USD) in 2014 to 1282.7 USD in 2016. Another economic consequence of this war is redistribution of energy markets, especially in Europe; the EU has already decided to cut Russia's share in gas and oil imports (United Nations 2021, Kusa, 2022).

Nduba, (2009), the implications of this is that other countries will take a more prominent position in energy exports to Europe and they may include for example the USA, Qatar, turkey, Egypt and Algeria, while to Ukraine it's the invasion accelerated the process of switching off Russia's energy grid system and integrating into the European energy network in March 2020. Also, Oil market globally got hit by the invasion of Ukraine by Russia which resulted to a rise in oil prices even before the war. He stressed that this reason also made countries to find ways to push Russia out of oil export chain to Europe; this is evident in decision taken by US, Britain and Canada to impose a full embargo on Russia oil imports. Although, debates on how to implement the policy with caution on its impact on national economies is the great concern to the actors, to some extent, it is evident that this reason pushed for the resumption of US-Iran nuclear talks in Vienna after they reached no agreement in January 2022 (Bleng, 2022). Notwithstanding, trading economic report shows that it increased since then to 1750 USD in 2019, UNIAN in 2019 states that Russia spends almost 4 billion USD for the cost of maintaining Crimea and the Donbas region. In April of 2022, Russian forces kept to destroy military and civilian infrastructure in Ukraine, particularly aimed at destroying strategic and crucial infrastructures such as thermal plants, power plants, railroad junctions, warehouses, petrol stations, oil depots, gas and water pipelines, airports, bridges that connect Western and Eastern Ukraine. This according to Aregbeshola (2021) also had a devastating effect and long-lasting effect on the humanitarian situation in the country.

On food substances, Wheat and Sunflower exports were also badly damaged by Russia's invasion as Ukraine and Russia are among the leading exporters of Wheat, which is a vital resource as both serve as food for dozens of countries and a life-saving product with regard to food security. Countries such as Tunisia, Egypt, Lebanon, Syria and Algeria import from 50% to more than 80% of their Wheat from Russia or Ukraine (Usunobun, 2022). With world food prices going up and the war in Ukraine delaying and blocking of export, this resulted in significant global consequences on food security and supply chain. Again, the paper found out that the long lasting sociopolitical and historical relationship shared by the two opposing countries has aided the stronger country Russia to deter the weaker one Ukraine, and that International organizations such as UN, EU, and NATO are not really interested in Ukraine's accession as a member state rather the importance Ukraine will and plays in helping them sell their liberal ideology and also breaking Russia's control and regulate the New world order.

In addition, the Ukraine-Russia conflict has had significant consequences, including:

Humanitarian crisis: The conflict has resulted in a major humanitarian crisis, with thousands of deaths and millions of displaced people.

Economic costs: The conflict has had significant economic costs, including damage to Ukraine's infrastructure and economy, as well as disruption to global energy markets.

Geopolitical implications: The conflict has had significant geopolitical implications, including a major crisis in European security and a challenge to the post-Cold War order.

2.5 The Role of International Organizations in Peace Building and Ceasefire Approach

The role of international bodies in achieving a ceasefire and promoting peacebuilding in the Ukraine-Russia conflict is crucial for maintaining world peace. The United Nations (UN) can play a key role in promoting a ceasefire and peacebuilding in Ukraine. The UN Security Council can pass resolutions calling for a ceasefire and condemning violence. The UN Secretary-General can also facilitate dialogue between the parties and provide mediation services. Additionally, the Organization for Security and Co-operation in Europe (OSCE) has been involved in monitoring the conflict in Ukraine and promoting a ceasefire. The OSCE can continue to play a key role in monitoring the conflict and facilitating dialogue between the parties.

The European Union (EU) has imposed sanctions on Russia in response to its actions in Ukraine. The EU can also provide economic and humanitarian assistance to Ukraine to help stabilize the country. The Council of Europe can play a role in promoting human rights and the rule of law in Ukraine. The Council of Europe can also provide technical assistance to

Ukraine to help it implement reforms. Furthermore, the International Committee of the Red Cross (ICRC) can play a humanitarian role in the conflict by providing assistance to civilians affected by the conflict.

NATO can also play a role in promoting stability and security in Ukraine by providing military assistance and training to the Ukrainian military. Mediation and diplomacy are also crucial in resolving the conflict peacefully. International bodies can facilitate mediation and diplomacy between the parties to help resolve the conflict peacefully. For instance, the Minsk Agreement 2015 was a ceasefire agreement brokered by France, Germany, Russia, and Ukraine. The Normandy Format 2014 is also a diplomatic format established by France, Germany, Russia, and Ukraine to facilitate dialogue and resolve the conflict.

The OSCE Special Monitoring Mission to Ukraine is another example of international efforts to achieve a ceasefire and promote peacebuilding in Ukraine. This monitoring mission was established by the OSCE to monitor the conflict and facilitate dialogue. In conclusion, international bodies play a crucial role in achieving a ceasefire and promoting peacebuilding in the Ukraine-Russia conflict. A coordinated and sustained effort by international bodies is necessary to promote a lasting peace in Ukraine and maintain world peace.

3. Conclusion

The conflict in Ukraine represents a critical turning point in European and global security. Not only has it fractured the existing global order, but it has also reignited the Cold War paradigm of distrust, thereby diminishing faith in the sustainability of a peaceful and cooperative global order. The dramatic increase in the influence of narrow national security concerns and the geopolitical goals of individual states has forcefully reminded us that these factors will always trump global peace and security, motivated by zero-sum classical realism and the concept of the emotionality of states. Applied history, strategic culture, and the rehashing of old grievances are only symptoms of such an anarchic and perennially competitive and conflictual international system. Such tensions and lack of trust will only be exacerbated by the increasing economic/financial warfare that is taking place between the two opposing blocs. International debt will also suffer as a result of the Ukrainian conflict, as will the ongoing energy and food crises, which will further contribute to dividing the existing global order into competing camps.

Dyner, Lorenz, & Legucka. (2023) emphasized the importance of international cooperation and diplomacy in resolving conflicts and promoting peace. As we move forward, it is essential that we prioritize these approaches and work together to promote a peaceful and stable world. Ultimately, the Ukraine-Russia conflict is a reminder of the importance of promoting peace and stability in our increasingly interconnected world. It highlights the need for diplomacy, mediation, and international cooperation in resolving conflicts and promoting peace. As we move forward, it is essential that we prioritize these approaches and work together to promote a peaceful and stable world. By doing so, we can create a brighter future for all people, and promote a world that is more just, peaceful, and secure. In final analysis, this study has demonstrated that the Ukraine-Russia conflict is a complex and multifaceted issue that requires a comprehensive and sustainable approach to conflict resolution. Its further highlighted the importance of diplomacy, mediation, and international cooperation in resolving conflicts and promoting peace. As we move forward, it is essential that we prioritize these approaches and work together to promote a peaceful and prosperous world.

4. Recommendations

The Russian-Ukraine war, as seen in the above discourse is complex with different interrelated issues and causes, both remote and immediate, long socio-cultural historical relations that ties and separates the two countries, idiosyncrasy of some leaders in both states, makes the conflict a very difficult one to solve but notwithstanding the investigation provides the following recommendations in resolving the conflict between Russia and Ukraine:

The international community should develop a comprehensive peacebuilding strategy for Ukraine, which includes supporting inclusive and participatory dialogue processes, promoting economic development and reconstruction, strengthening governance and institutions, and supporting disarmament, demobilization, and reintegration (DDR) processes.

The international community should enhance diplomatic efforts to resolve the conflict, including supporting the Normandy Format and other diplomatic initiatives, encouraging direct talks between Ukraine and Russia, providing mediation and facilitation support, and imposing targeted sanctions on individuals and entities obstructing the peace process.

The international community should strengthen international support for Ukraine's security and defense, including providing military assistance and training, supporting the development of Ukraine's defense capabilities, enhancing NATO-Ukraine cooperation, and encouraging other countries to provide security assistance to Ukraine.

The international community should promote accountability and justice for war crimes and human rights abuses committed during the conflict, including supporting the work of the International Criminal Court (ICC), encouraging national authorities to investigate and prosecute war crimes and human rights abuses, and providing support for victims and witnesses of war crimes and human rights abuses.

Ukraine as a former USSR state should respect that and maintain a cordial relationship with Russia as it has before the breakout of the war, because the security of your neighbours is also your security
The need for respect for a state's sovereignty as enshrined in international law and United Nation's charter should be a thing of national concern of both countries, that referendum should be considered especially with issues surrounding the status of Crimea.

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Household Solid Waste Management Practices in Low-Income Suburbs in Kaduna North and South Local Government Areas of Kaduna State, Nigeria

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Abstract. The recent surge in the volume of household solid waste generation especially in Sub-Saharan Africa has become a major public health concern as it poses severe health, safety and environmental consequences to the public. Given these concerns, this study investigated household solid waste disposal or management practices among residents of low-income suburbs in Kaduna metropolitan area. Questionnaire survey was used to elicit the required information from 450 household heads, selected from six (6) low-income suburbs in the study, using the systematic sampling technique. Descriptive statistics such as frequency distribution and percentages as well as chi-square test were employed for data analysis. The findings showed that food scrap is mentioned as the most generated waste by 65.1% of the respondents. This is followed by products packaging (63.8%) and rubber/plastic or polythene (55.3%). The study also showed that 47.2% of the respondents disclosed that they generate less than 1kg of waste daily and that household waste according to 59.5% and 26.0% are disposed mainly at open refuse dumps and by way of burning respectively. Additionally, 48.8% of the respondents stated that household heads/tenants are solely responsible for disposing their accumulated waste. This study recommends that practical skills on how food debris can be converted to manure or compost should be taught to residents and a system of waste collection which will utilize the services of private waste collectors and individuals should be put in place by the communities and other relevant stakeholders.

Keywords: Household, Low-income, Management, Neighbourhoods, Practices

1. Introduction

Household solid waste management is conceived in this study as all activities which involves the collection, transportation, processing, recycling and management of waste generated by human activities in residential settings which is eventually disposed in such a way that it does not become harmful on public health, conservation, aesthetics and other environmental consideration (Leblanc,2017; Fakere,2012). Recently, there has been a rapid increase in the volume of household waste generated globally (Tiseo,2023). The United Nation Environment Programme (UNEP) reported that an estimated 20 billion tonnes of solid trash were produced globally.

Similarly, a significant growth in solid waste generation has been reported in Sub-Saharan Africa countries in the last couple of decades. Adedara, Taiwo and Bork (2023) noted that the annual volume of waste produced in the African continent increased from 81 million tonnes to 174 tonnes per year between 2012 and 2016 and it is projected to reach 269 tonnes in 2030. In Nigeria, it is estimated that Nigeria generates 32 million metric tonnes of solid waste annually, with only 20-30 percent being collected, manage and correctly disposed (Babatunde, 2023; Udensi, Anyanwu, Opara, Duru, Onyema, & Okafor, (2023). Of this volume of waste generated in the country, about 85.8 percent is produced by households.

The surge in solid waste generation which is attributed to rapid population growth, urbanization, industrialization, poverty and economic development (Ezeah & Roberts, 2012 & Salisu, & Fashina, (2022) has created severe health, safety and environmental consequences especially in Sub-Saharan countries. The improper management of solid waste in many

African countries including Nigeria has provided breeding ground for the proliferation of disease vectors such as rats, flies and mosquitoes which spread diseases such cholera, malaria, typhoid fever, respiratory problems and cancers and also contributes to global climate change through methane, carbon dioxide generation (Wilson & Webster,2018).

To address these environmental and health challenges posed by indiscriminate waste disposal practices, the Federal government of Nigeria enacted and implemented series of legislations such as the national environmental (sanitation and waste control) regulations of 2009 and the national policy on solid waste management in 2020 in an attempt to address the increasing problem of waste management nationwide. However, Iheukwumere, Nkwocha, Nwabudike (2020) noted that the measures taken by government to regulate the indiscriminate disposal of waste has not yielded the desired objective as waste generation in Nigeria has consistently continue to expand both in volume and complexity despite the measures taken by government and its agencies. Solomon, (2009) attributed this failure to the huge land area that needs to be covered, large population of the cities, bureaucratic bottle necks associated with implementation of the policies as well as the capital-intensive nature of waste management.

Given the persistent health and environmental challenges associated with improper solid waste management in Nigeria, the need arises to understand how household solid wastes is generated, managed and disposed of by especially residents in the low-income suburbs or neighbourhoods in Kaduna metropolitan area. Consequently, therefore the overriding objective of these study is to determine household solid waste management practices among residents of low-income neighbourhoods in Kaduna North and South LGAs. It is expected that the findings of this study will help in the formulation of policies that will motivate individuals and communities to cultivate and adopt proper waste disposal or management practices.

2. Methodology

Location of Study: The study was conducted in Kaduna-North and Kaduna-South Local Government areas. These LGAs, in addition to some parts of Chikun and Igabi LGAs constitutes Kaduna metropolis, the capital of Kaduna state. The study area is largely cosmopolitan in nature consisting of people from different ethno-religious groups within and outside the state. The prominent ethnic groups in the area include the Gbagi, Hausa, Fulani, Bajju, Kagoro, Ham, Adara Kanuri and migrants from other states across Nigeria like the Yorubas, Igbos, Nupes, Tivs, Igala, Edos, etc. The choice of this area of study is informed by the considerable increase in the amount of solid waste generated by the increasing population and households.

Population of Study: The population of study comprised of residents of the low-income neighborhoods or suburbs located within Kaduna North and South LGAs. They include people from different ethno-religious background whom are residents of low-income suburbs within the Kaduna metropolitan area for a period of not less than one year. They also consisted of both male and female household heads engaged in different occupations irrespective of their educational status.

Sampling Technique and Sample Size: The first step in the sample selection process began with the compilation of the names of low-income communities or suburbs particularly those with the most open waste dump sites in each of the two selected LGAs. From the list compiled the researcher selected three (3) suburbs or neighborhoods in each of the two LGAs using simple random sampling technique. From Kaduna-North LGA, Anguwar-Shannu, Kurmin-Mashi and Tudun-wada were selected, while Makera, Badiko, and Badawa were chosen from Kaduna South LGA. Overall, a total of six (6) suburbs or neighborhoods from the study area were chosen for the study.
Given that the houses in each of the six (6) suburbs or neighborhoods selected for the study were systematically arranged on both sides of well laid out streets or pathways, the researcher started the selection by picking the first household on each side of the street, after which three (3) to five (5) households depending on the length of the street were are skipped and then the next fourth, fifth or sixth house as the case may be was selected. This method was used until the required seventy-five (75) households were selected in each suburb or community.

In each of the household picked, any adult person above the age of 18 years, irrespective of gender, whom was found at home during the survey was interviewed or given the research questionnaire complete by himself. Using Krejcie and Morgan's formula, the minimum sample size required for the study was found to be three hundred and eighty-five (385). To enhance the precision and provide more insights to our findings a total of four hundred and fifty (450) respondents were selected for the study. This implies that an equal number of seventy-five (75) respondents were selected from each of the six chosen neighborhoods in the study area.

Methods of Data Collection: Questionnaire survey was the method primarily employed for data collection in this study. A total of four-hundred and fifty (450) questionnaires were administered to the respondents in their respective households. Literate respondents who could read and write were given the questionnaires to fill by themselves but were closely supervised by the researcher or his research assistants. Those who could not read and write, the researcher or his assistants read out the questions to them and their responses were recorded in the appropriate spaces provided in the questionnaire.

Method of Data Analysis: The quantitative data generated from the questionnaire survey was first checked for consistency and edited accordingly. After cleaning, the data were coded and analyzed using the Statistical Package for Social Science [SPSS] version 27.0. Descriptive statistics such as the use frequencies and percentages as well as chi-square test were employed for data analysis.

3. Findings and Discussions

Socio-demographic Characteristics of Respondents

A total of four-hundred and fifty (450) questionnaires were administered however only four-hundred and forty-seven (447) of the questionnaires were retrieved. The socio-demographic characteristic of respondents displayed in Table 1, shows that those who were below 21years were 17.4%. Respondents who were between 21 and 30years were 24.2% while 28.6% were between 31 and 40years and 18.6% were between 41 and 50years. Only 11.2% of the respondents were above 50years. The mean age of the respondents was 32.7years with a standard deviation of 16.6years. Of the total (447), 61.3% were males and 38.7% were females. By their religious affiliation, 18.3% were of the Christian faith while 81.7% were of the Islamic religion. Most (61.1%) of the respondents were married. Those who were single were 31.0% and 3.6% were widowed, 3.1% were divorced while 1.1% were separated from their spouses.

Table 1: Socio-Demographic Characteristics of Respondents (n=447)

Variables	Frequency	Percentages
Age Range		
<21 Years	78	17.4
21-30 Years	108	24.2
31-40 Years	128	28.6
41-50 Years	83	18.6
>50 Years	50	11.2
Gender		
Male	274	61.3
Female	173	38,7
Religious Affiliation		
Christianity	82	18.3
Islam	365	81.7
Level of Education		
No Formal Education	28	6.3
Primary Education	56	12.5
Secondary Education	177	39.6
Post-Secondary Education	186	41.6
Ethnic Group		
Hausa	139	31.1
Fulani	19	4.3
Other Ethic Groups from Kaduna State	143	32.0
Other Ethnic Groups from Northern Nigeria	38	8.5
Number of Children		
No Children	77	17.2
3 Children & less	185	41.4
4-6 Children	145	32.4
7-9 Children	24	5.4
10 Children & above	16	3.6
Occupation		
Unemployed/Housewife	42	9.4
Self-employed	246	55.0
Faming	21	4.7
Private Sector Employment	53	11.9
Artisan/Daily Labourer	23	5.1
Government/Public Sector Employment	42	9.4
Retired/Pensioners	15	3.4
Others	5	1.1

Monthly Income		
Less than ₦10,000.00	105	23.5
₦10,000 - ₦40,000.00	164	36.7
₦41,000.00 - ₦70,000.00	87	19.5
₦71,000.00 - ₦100,000.00	49	11.0
₦101,000.00 and above	42	9.4

Source: *Field Survey 2025*

In terms of educational attainment, 6.3% of the respondents had no formal or Western education. Those with primary school education were 12.5% of the respondents and 39.6% had Secondary School education. Those with Post Secondary School education were 41.6% of the total involved in the study. The respondents could therefore be said to have had the requisite education to be in positions where they could be expected to provide the required information in relation to household solid wastes management practices within neighbourhoods under study.

By ethnic grouping, respondents of the Hausa ethnic group were 31.1% of the total involved in the study. Those of the Fulani ethnic group were 4.3% and 32.0% were other ethnic groups like Bajju, Jaba, Kadara, Gbagy among others. Those of Southern Nigeria ethnic groups involved in the study were 8.5% of the total. They included, Yoruba, Igbo, Edo among others). Respondents of other Northern states ethnic groups like Igbira, Igala, Tiv. Idoma Jukun among others constituted 24.2% of the total involved in the study. Table 2: showed the socio-economic characteristics of the respondents.

Some (17.2%) of the respondents had no children or did not indicate the number of children they had. Those who had 3children or less were 41.4% and 32.4% of the respondents had between 4 and 6children per family while 5.4% had between 7 and 9children per family. Only 3.6% of the respondents had 10children and above per family. By occupational orientation, 9.4% were either unemployed or were full time housewives among the respondents. Those engaged in self-employed (business or petty trading) were 55.0% while 4.7% were involved in farming. Respondents employed in the private sector were 11.9% of the total while 5.1% were engaged in artisanship or daily paid jobs. Those in public service at the time of the survey were 9.4% and 3.4% of the respondents were retired from service or were pensioners while 1.1% were engaged in other unspecified occupations. The monthly income, 23.5% of the respondents was lower than ₦10,000.00. Those who earned between ₦10,000 and ₦40,000.00 were 36.7% and 19.5% earned between ₦41,000.00 and ₦70,000.00 as their monthly income while 11.0% earned between ₦71,000.00 and ₦100,000.00. Only 9.4% of the respondents earned ₦101,000.00 and above at the time of this survey.

Household Solid Wastes Management Practices among Residents of Low-Income Neighbourhoods/Suburbs.

The study investigated the methods through which solid wastes generated in the various households are collected, processed, transported, recycled and disposed of. The study began with the determination of the compositions of solid waste generated by residents of the study area. The types of waste produced in the households are summarized in frequencies and percentages in Table 2.

Table 2: Compositions of solid wastes generated by households

	Yes		**No**	
Compositions of wastes disposed by household	Freq.	Percent	Freq.	Percent
Products packaging	285	63.8	162	36.2
Furniture/wood	73	16.3	374	83.7
Food scraps or waste	291	65.1	156	34.9
Paper/newspaper	179	40.0	268	60.0
Batteries	51	11.4	396	88.6
Burnt wood ash	229	51.2	218	48.8
Bone	206	46.1	241	53.9
Grass clippings/leaves	142	31.8	305	68.2
Clothing/textiles	208	46.5	239	53.5
Bottles/glass	153	34.2	294	65.8
Electrical/electronic appliances	48	10.7	399	89.3
Metals/can and tins	177	39.6	270	60.4
Rubber/tires/ polythene or plastics	247	55.3	200	44.7

Source: *Field Survey, 2025*

The most outstanding solid wastes generation in the respondents' households were food scraps and product packages. These two forms of waste were mentioned by 65.1% and 63.8% of respondents respectively. Rubber/tires and plastics materials were identified by 55.3% of the respondents as the next most popular source of solid waste, while ashes from burnt wood and other sources was mentioned by 51.2% of the respondents. Table 2 also showed that clothing, nylon or textiles materials (46.5%), Bones (46.1%), pieces of paper and Newspaper (40.0%) and Metals and Can or Tins (39.6%) were the other forms of solid waste reported to be generated by respondents in the study area. Furthermore, the data in the table also showed that 34.2%, 31.8% and 16.3% of the respondents divulged that bottles/glasses, grass clippings/leaves as well as furniture/wood respectively are the some of the solid waste they generate from their homes. The least generated solid waste mentioned by 11.4% and 10,7% of are batteries and electrical/electronic appliances.

Furthermore, the study sought to find out from the respondents if they usually keep or store the waste they generate in their respective households before evacuating such to the dumpsite. Responding to the question posed, an overwhelming 91.7% of respondents indicated that they often store their daily generated waste within their households before it is eventually evacuated to the dumpsite. Those who were not storing solid wastes before disposal were only 9.3% of the total number of respondents involved in the study. In addition, the study examined the various methods through which residents store or keep their waste in their respective household before disposal. On how such solid wastes are kept before disposal. Table 3 shows the different methods of solid waste storage adopted by residents of respective households within the study area.

Table 3: Methods of solid wastes' storage in respective households

Method of solid wastes' storage before disposal	Frequency	Percent
The waste is kept in uncovered container/refuse bin	131	29.3
The waste is stored in polyene/sacks bags within the house	184	41.2
The waste/garbage is stored in sealed containers	69	15.4
It is dumped in a corner within the compound in the household	40	8.9
Others	23	5.2
Total	**447**	**100.0**

Source: *Field survey, 2025*

As observed from the data in Table 3, all of the respondents store solid wastes in one form or the other before disposal. Those who kept such wastes in uncovered container/refuse bin before final disposal were 29.3% while 41.2% used polyene/sacks bags within the house to store such solid wastes and 15.4% stored their solid wastes in sealed containers. But 8.9% of the respondents dumped their solid wastes in corners within their compound or households while 5.2% stored such solid wastes in unspecified places before disposal.

Information on the rate or frequency of waste generation in each household within the study area was obtained from the respondents. The responses obtained on the regularity of waste generation by households is presented in Table 4.

Table 4: Frequency of solid wastes generation by household

How often do you generate wastes/garbage in your household	Frequency	Percent
Very often	132	29.5
Often	189	42.3
Sometime	87	19.5
Rarely	39	8.7
Total	**447**	**100.0**

Source: *Field survey, 2025*

Table 4 revealed that a significant proportion of respondents (42.3%) stated that they often generate solid waste in their households, 29.5% of the respondents disclosed that they generate solid wastes most of the time in their respective houses. Respondents who generate was sometimes among the total were 19.5 and 8.7% rarely generate solid wastes from their routine activities. It can therefore be deduced from this data that solid waste is regularly generated by most of the households covered in this study.

As shown in Table 5, the respondents indicated that they generated various quantity of solid waste from their households daily. As revealed in Table 5, solid wastes generated by 47.2% of the respondents were usually between 1kilogram of less. Those whose solid wastes generation were between 2 and 3kilograms were 32.7% of the respondents and 13.0% usually generate between 3 and 4kilogram per household while 4.0% of the respondents usually generate between 5 and 6kilograms per household. Only 3.1% of the respondents generated between 7kilograms and above per household.

Table 5: Classification of respondents by weight of solid wastes generation in household

Estimated quantity of solid waste generated in household daily	Frequency	Percent
1kg less daily	211	47.2
2-3kg daily	146	32.7
3-4kg daily	58	13.0
5-6kg daily	18	4.0
7kg and above daily	14	3.1
Total	447	100.0

Source: *Field survey, 2025*

The study also sought to find out the opinion of respondents as to whether they expect the amount of solid waste generated in their respective households to increase in the next five years. While 63.3% answered in the affirmative, 36.7% were of the view that they did not expect any increase in their solid wastes' generation within the period. For respondents who expected an increase in their solid wastes' generation in the next five years, Table 6 showed the percentages of the expected increase in solid wastes' generations by the respondents.

Table 6: Expected percentage increase in solid wastes generation of households

Estimated percentage of expected solid wastes of household increase in the next five years	**Frequency**	**Percent**
Not indicated	164	36.7
Less than 5 percent	132	29.5
5-10 percent	99	22.1
11-15 percent	25	5.6
16-20 percent	17	3.8
More than 20 percent	10	2.2
Total	447	100.0

Source: *Field Survey, 2025*

Table 6 showed that 36.7% of the respondents did not indicate expected increase in solid wastes' generation in their households. This no indication could be associated with the expressed opinion where 37.4% of the respondents were of the view that they did not expect any increase in their solid wastes' generation within the period. But 29.5% were pf the opinion that the expected an increase of less than 5% while 22.1% expected between 5 and 10% increase in their household solid wastes' generations. Those who expected an increase of between 11 and 15% in solid wastes generation in their households were 5.6% and 3.8% expected an increase of between 11 and 15% while 3.8% expected an increase of between 16 and 20% in their households' solid wastes generation. Only 2.2% expected their increase of solid wastes generation to be more than 20% within the period.

The various methods of solid waste disposal adopted by respondents in the study area were similarly investigated. The responses obtained from respondents when asked to mention how they dispose of their accumulated waste is shown in Table 7.

Table 7: Methods of solid wastes disposal used by respondents

	Yes		**No**	
Methods of solid wastes disposal	Freq.	Percent	Freq.	Percent
Open Burning	116	26.0	331	74.0
Burying/Landfill	53	11.9	394	88.1
Water drainage	57	12.8	390	87.2
Throwing of waste into bushes	35	7.8	412	92.2
Dumpsite/refuse dump	266	59.5	181	40.5
Garbage truck services	69	15.4	378	84.6
Reuse/Recycling	114	25.5	333	74.5
Used door to door services	99	22.1	348	77.9
Usage of waste as compost/manure	53	11.9	394	88.1

Source: *Field survey, 2025; Multiple Response*

As shown in Table 7, the evacuation of solid wastes from households to designated dumpsites or refuse dumps was the most popular method adopted by majority of the respondents. The data showed that 59.5% of the respondents used this method of waste disposal. Open burning which was mentioned by 26.0 % of the respondents was observed to be the next most widely used method of waste disposal in the study area. This was followed by reuse or recycling of solid waste which was mentioned by 25.5% of respondents. While 22.1% of the respondents used the door-to-door services to evacuate their household waste 15.4% mentioned using garbage truck services. While the data also showed that 12.8% of respondents dump their waste in open water drainages, 11.9 % of respondents reported burying and usage of waste as composed or manure respectively as their method of disposing their waste. The least adopted method of solid wastes disposal was throwing them into surrounding bush which as practiced by 7.8% of the respondents.

Furthermore, the means by which accumulated waste is evacuated or transported from the respondents' household to the final disposal site was examined. Table 8 showed the different means of solid waste removal used by respondents.

Table 8: Means of transporting generated solid wastes from households to dumpsites

Means by which generated solid wastes were taken to dumpsites	Frequency	Percent
Not indicated	11	2.5
We trek to the dumpsite carrying the waste containers/polyene bags	129	28.9
We use wheel barrow to transport the waste to the dumpsite	108	24.2
We pay people/individuals to take it to the dumpsite	150	33.6
We pay private truck/pick up owners to evacuate our waste	41	9.2
Waste is dumped in front of house for evacuation by garbage trucks	8	1.8
Total	447	100.0

Source: *Field Survey, 2025*

The respondents adopted different modes of transporting their generated solid wastes to their dumps sites as indicated in Table 8. For mode of transporting the solid wastes, 28.9% of the respondents disclosed that they usually trek to the dumpsite carrying the waste containers or bags. While 24.2% of the respondents reported using wheel barrow to transport the wastes to the dumpsite, 33.6% stated that they usually pay individuals to take their solid wastes to the dumpsites. Additionally, 9.2% of the respondents claim to pay private truck or pick up owners to evacuate their solid waste to dumpsites while 1.8% of the stated that they usually dump solid wastes our wastes front of their houses or street for evaluation by trucks. However, 2.5% of the respondents did not indicate the mode or means by which their solid wastes were taken to dumpsites.

The frequency with which accumulated solid waste is disposed of by residents of the various households were also inquired into. Respondents were asked to mention how often they do evacuate accumulated solid wastes from their respective households to dumpsite. The responses they provided are presented in Table 9.

Table 9: The frequency with which solid wastes are evacuated from household to dumpsite

How often do you dispose or evacuate the waste generated in your household to the dumpsite or evacuation point	**Frequency**	**Percent**
Not indicated	4	0.9
Everyday	66	14.8
Once every two to three days	111	24.8
Once a week	199	44.5
Once every two weeks/fortnightly	55	12.3
Once monthly	9	2.0
Others	3	0.7
Total	**447**	**100.0**

Source: *Field Survey, 2025*

Though 0.9% of the respondents did not state the frequency with which they evacuate solid wastes from their households but 14.8% were of the view that they carry out such operation every day, 24.8% performed their solid wastes evacuation once every two to three days, 44.5% carry out the process once in a week and 12.3% evacuate the solid wastes once every two weeks or fortnightly while 2.0% carry out solid wastes' evacuation once a month. However, 0.7% of the respondents indicated that they evacuated solid wastes in other unspecified frequency.
Furthermore, Table 10, showed the persons or agencies responsible for evacuating solids waste from households to designated dumpsite.

Table 10: Individual or agency responsible for solid wastes evacuation or disposal

Persons or agencies responsible for solid wastes evacuation or disposal	Frequency	Percent
Household head/Tenant	218	48.8
Landlord/House owner	57	12.8
Employee/Hire hand	57	12.8
Private collectors	90	20.1
KEPA	15	3.4
Others	10	2.2
Total	**447**	**100.0**

Source: *Field Survey, 2025*

The data in Table 10, reveals that 48.8% of household heads or tenants stated that they are responsible for evacuating solid waste from their respective households to dumpsites. While 12.8% of the respondents disclosed that some Landlord or House owners are responsible for the removal of solid waste from their households, another 12.8% indicated that they usually employ the services of paid individual or hire hands to carry out the responsibility. It was also observed that 20.1% of the respondents mentioned that their solid wastes' is usually collected and disposed of by private collectors who are paid for their services. However, only 3.4% of the respondents indicated that the Kaduna State Environmental Protection Agency (KEPA) was responsible for evacuating their solid waste to the dumpsite while a marginal 2.2% of the respondents stated that other unspecified persons or agencies were responsible for the task.

A chi-square (X^2) test to establish bivariate association between some selected socio-demographic characteristics and methods of waste disposal were conducted. The results of the test revealed that age was not statistically significant with burning of waste, disposal of waste in nearby bushes and the use of garbage truck for waste disposal ($p > 0.05$). However, when age was associated with burying of waste, disposal of waste at refuse dump and the use of door-to-door waste collection services were noted to be significantly significant ($p < 0.05$). Additionally, the methods used for wastes disposal by the residents in almost all cases were not significantly influenced by sex of the respondents ($p > 0.05$). The only exception here was the use of recycling of wastes where it was revealed that sex of residents was significantly influencing the reuse of wastes ($p < 0.05$).

Furthermore, it was observed that the disposal of waste by burning, dumping of wastes in water drainages and use of door-to-door services of wastes collectors were significantly influenced by religion of respondents ($p < 0.05$). However, the burying of wastes, dumping of wastes in the bush, the disposal of waste at dumpsite and reuse of wastes were not significantly influenced by religious orientation of the residents ($p > 0.05$). Methods of waste disposal such as burning, burying, dumping wastes in water drainage, using dumpsite and use of door-to-door services of wastes collectors used by residents were not significantly influenced by their marital statuses ($p > 0.05$). But the adoption of wastes reuse was significantly influenced by marital statuses of the respondents ($p < 0.05$).

Similarly, respondents' level of education was statistically significant with waste disposal methods like burning of wastes, burying of wastes, throwing of wastes into water drainages, use of garbage truck services and recycling of wastes ($p < 0.05$). But waste disposal practices such as throwing of wastes into nearby bushes, the disposal of waste at refuse dump and the use of the door-to-door services of wastes collectors were not significantly associated with respondents' level of education ($p > 0.05$).

4. Discussion

Findings from this study revealed that different types of wastes were generated from the studied households. Prominent among the types of wastes produced, includes food scraps, product packaging, rubber/tires plastics/polythene, clothing/textiles, papers/newspapers etc. This study is in agreement with that of Fakere, Gabriel & Oriye (2012) in Akure. They reported that the respondents generate different types of waste which includes mostly kitchen garbage, ashes, dead animals, etc. A significant proportion (65.1%) of respondents in this study identified food scraps as their most generated household waste.

In contrast, the findings of this study contradict that of Chinwendu & Nkechi (2023) which disclosed that the major type of waste generated by most households in some selected communities in Owerri were plastic and rubbers. This finding is surprising because it is not expected that food scraps would constitute a worthy percentage of the solid waste generated in low-income households, particularly when the current deplorable economic condition in the country is taken into consideration. However, the most plausible explanation of this study's differing finding could be that residents do select reusable plastics or polythene which they either reuse at home or sell to buyers who in turn sell them to recycling firms. This could be the likely reason why plastics and rubber are less generated as waste than food scraps or debris.

In addition, the assessment of the frequency of waste disposal showed that majority of the respondents (42.5%) dispose of their waste often, while 29.9% said they do so very frequently. This finding varies with that of Udensi, Anyanwu, Opara, Duru, Onyima & Okafor (2023) which reported weekly disposal of waste in their study. The variation in the findings of these studies can be attributed to locations where these studies were conducted. While this present study was specifically conducted in low-income suburbs situated in Kaduna metropolis, Udensi et al, carried out their study in selected villages in three communities of Owerri-west LGA.

The study also observed that generated solid waste are transported from the households to the dumpsites using different means. The payment of individuals or cart pushers to transport waste from households to refuse dump was mentioned by 33.6% of the respondents as the most popular means of waste evacuation in the study area. This finding differs with that of Salisu, Fashina, Akanmu & Sanni (2022) in Lagos which reported that the residents of Ikeja (65.0%) and Ojo (48.0%) used the services of private sector participants (PSP). The differences between the present study and that of Salisu et al can be attributed to the cosmopolitan nature and population density of Ikeja and Ojo LGAs.

This study also revealed that the evacuation of solid waste to refuse dump is the most popular and frequently used method of household wastes disposal in the study area. Other methods identified include burning, dumping of waste in drainages, on the streets, in uncompleted buildings and nearby bushes and so on. The result of this study is not in line with the findings of Yoada, Chirawurah & Adomgo (2014) in urban Accra which showed that majority of the household disposed of their wastes at community bins or had their wastes picked up at their homes by private contractors. The discrepancies in these studies could be attributed to the location/area of these studies. Urban Accra could have a well-organized system of solid waste management practices unlike the area of the present study where there was no provision for picking wastes from homes of the respondents by private contractors.

5. Conclusion

It is evident from the findings of this study that the poor management of household solid waste in the study area poses serious problems and challenges to the health and wellbeing of residents. These challenges are further compounded by the huge quantity of waste generated daily and the absence of an efficient and effective waste disposal system. Furthermore, the absence of rules or bye-laws which specifies the standard procedures for waste disposal is largely responsible for the poor waste management practices existing in the study area. Additionally, the lack of information, high population density, over crowing and inadequate water supply among others have significantly contributed to the poor domestic waste management practices observed in the study area.

6. Recommendations

Considering that food scraps constitute the most significant amount of waste generated from households in the study area it is suggested that the various communities should be taught or exposed to practical skills on how they can convert food debris into compost manure. This natural and organic fertilizer can be used to enhance soil fertility and crop growth. In instances where the compost is produced in large quantities can be sold to gardeners and vegetable farmers.

With regards to plastics, polythene and nylon which was second most produced waste, environmental health workers, healthcare providers and other stakeholders need to create public awareness to on the dangers of improper disposal of plastics and nylon on human health. Nylons and plastics contain chemicals that can enter the body and settle into the system, increasing the toxic load in the body and triggering serious health challenges. Emphasis should be placed on recycling and reuse of these products in order to minimize their negative impact on human health. Proper awareness on the importance of sorting of household wastes will also help in determining appropriate methods of disposing various household wastes.

Similarly, given that the practice of waste burning is widely practiced in the study area it is recommended that residents need to be sensitized on the health and environmental hazards associated with the practice. Additionally, the community and local authorities in conjunction with the Kaduna State Environmental Protection Agency (KEPA) should ensure that refuse dumps or waste collection points are establish within safe distance away from the communities and community leaders should take a more proactive steps towards preventing indiscriminate dumping of waste in drainages and along the streets. Finally, there is also the need for the respective communities to establish a system of waste management that will allow individuals or private contractors to evacuate accumulated waste from the various households to designated dumpsite.

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Leveraging Social Media Use for Tourism Promotion and Development in Nigeria

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Abstract. Tourism is a major driver of economic growth and sustainable development in many countries across the globe. In Nigeria, the tourism industry remains underperforming in its output due to dwindling patronage, largely borne from poor or inadequate promotions, of many tourist centres in the country. With the penetration of digital technologies in contemporary marketing ventures, strategic utilisation of social media platforms hold much promise for tourism visibility, promotions and engagement. This paper, therefore, explored how social media use can be leveraged for tourism promotion and development in Nigeria. It was established that many Nigerian tourist centres underutilise the digital marketing opportunities embedded in the social media sphere. The paper discussed how tourism promotions on social media, with increasing prominence of user-generated content, impact tourists' patronage decisions and their experience-sharing proclivities about tourist destinations. Strategic implications of the social media promotional dynamics for tourism stakeholders in Nigeria were also postulated. It was concluded that social media utilisation can accelerate tourism promotion and development in Nigeria as long as tourist centres in the country pay attention to creating share-worthy experiences and cultivating vibrant engagements with tourists.

Keywords: Social Media Use, Tourism Promotion, Tourist Patronage Decision, Tourist Experience Sharing, Nigerian Tourist Centres

1. Introduction

Digital technologies have revolutionised promotional dynamics in the tourism industry by offering innovative and creative methods for communication. The rise of social media in recent decades has, particularly, changed conventional norms of engagement between tourist destinations and tourists. There have been some transitions in how the former curate and disseminate information to induce patronage, as well as how the latter source for and gather information, make decisions, and share their experiences. Social media platforms like Instagram, Facebook, X (formerly Twitter), and YouTube have become essential tools for tourism marketing. These platforms are used for promoting tourist destinations, enabling real-time connection with potential visitors through visually appealing content, and direct engagement with audiences (Chourasis, 2021; Okonkwo et al., 2015). The rapid dissemination of information and enhanced interactive communication make social media an indispensable tool for tourism businesses aiming to maintain a competitive edge in the industry. Through social media promotion, tourist centres are able to create targeted campaigns, share user-generated content, and build a sense of community among tourists. This not only helps in building brand loyalty but also generates word-of-mouth promotion.

The capacity of social media to influence tourism decision-making processes is particularly evident in the role it plays in tourists' patronage decisions (Chu et al., 2020; Dwityas & Briandana, 2017) and their experience-sharing practices (Yilmaz, 2016; Oliveira et al., 2020). Potential tourists increasingly rely on social media reviews, travel blogs, and influencer recommendations to inform their choices, with many prioritising destinations that offer unique, authentic experiences, rich cultural heritage, and personalised services (Olaleye, 2020). Patronage of tourist destinations is often shaped by the experience-sharing practices of tourists through stories, photos, videos, and reviews posted on social networking sites (Dedeoglu et al., 2020; Kim & Fesenmaier, 2017). Many tourists, upon visiting a tourist destination, actively engage in documenting their travel experiences on social media platforms; inadvertently providing other prospective tourists with essential insights into a destination's appeal, safety, accessibility, and overall perceived value (Abimbola, 2017). Access to reviews and evaluations on platforms like TripAdvisor, Instagram, and Facebook are instrumental to shaping the visitation decision of a prospective tourist in that such individual can gain valuable, real-time feedback on destinations and services. Since tourism products are primarily services that cannot be tested in advance, tourism-related information gotten from social media platforms help reduce perceived risks and give potential visitors the confidence to make informed decisions (Arica et al., 2022). Essentially, the active participation of tourists in the tourism narrative can help tourist destinations refine their marketing strategies (Chu et al., 2020).

Nigeria is home to many beautiful tourist centres, ranging from natural landscapes to historical sites and cultural attractions. In the past, these locations attracted both local and international visitors. However, in recent years, many of these sites have experienced a decline in patronage (Olugbemi et al., 2020). Despite positive projections for the tourism sector in Nigeria (Statista, 2024), it has been observed that many legacy tourist destinations in the country have no or low visibility online, particularly on social media. The dearth of intentionally-curated promotional online content may explain why many local tourist centres have struggled to attract visitors in more recent years (Nadube & Akahome, 2017; Okonkwo et al., 2015; Ohwo & Ndakara, 2023). It is against this backdrop that this paper aims to explore how social media use can be leveraged for tourism promotion and development in Nigeria.

2. The Tourism Patronage Conundrum in Nigeria

Tourism has been recognised as a sector with immense potentials to improve economic growth in Nigeria (Statista, 2024; Uboegbulam, 2024). The development of tourism in the country has, however, been hampered by low patronage of tourists to tourist destinations. Decline in the patronage of many tourist centres in Nigeria can be attributed to several factors. One major factor is the state of security in the country. Over the years, cases of kidnapping, terrorism, and general unrest have made people hesitant to travel to certain parts of the country (Ajayi et al., 2022). Many international tourists who once visited Nigeria frequently now opt for tourist destinations in other countries deemed to be safer, while local tourists are also cautious of exploring certain areas in the country. Tourist centres in Northern Nigeria have been particularly affected by the conundrum of insecurity. Prominent tourist sites in the northern part of the country, such as Zuma Rock (near Abuja), Gurara Waterfalls (Niger State), Mambilla Plateau (Taraba State), Kajuru Castle (Kaduna State), and Yankari Game Reserve (Bauchi State), have seen a decline in patronage due to tourists' fear of terrorist attacks, banditry, kidnappings and sectarian clashes (Ayantoye, 2022; Ukah et al., 2023). Similarly, spates of kidnapping, insurrection, militancy and crimes have inhibited tourism exploration in Southern Nigeria (Ayantoye, 2022).

Another major challenge among tourist attractions in Nigeria is the lack of intentionality in building a vibrant online presence. In today's digital world, active online visibility has become an indispensable marketing strategy for tourism establishments as many tourists now rely on online platforms to discover new destinations. Yet, many Nigerian tourist centres remain underrepresented online. Many of them are yet to take full advantage of using websites and social media platforms to promote their offerings. The growth of the Nigerian tourism industry, as Iyatse (2016) observed, has been hindered partly because of tourist centres' failure to maximise digital marketing opportunities that the cyberspace affords. Without a strong online presence, tourist centres are limited in the prospect of achieving top-of-the-mind awareness, engagement and patronage among potential tourists. Although some tourist centres, such as Nike Art Gallery, Lekki Conservation Centre, have embraced social media to showcase their attractions and engage visitors, many other tourist sites, like the Gidan Makama Museum in Kano, and the Nok Terracotta sites in Kaduna, still lack active online promotion. These sites have rich historical value, but without strategic digital marketing, they struggle to attract both local and international visitors.

3. Influencing Tourist Patronage Decisions through Social Media Promotion

Patronage or purchase decisions have been explored from various perspectives by scholars worldwide. At its core, patronage decision refers to the process through which consumers develop a favourable disposition towards a specific brand, product, or service (Cheung & Thadani, 2012). Similarly, Hawkins (2020) defines patronage decision as the cognitive process in which a consumer evaluates and selects a particular business or brand to engage with. This evaluation leads to a deliberate choice to either make a purchase or establish a relationship with the brand.

In tourism, the concept of patronage decision goes beyond the simple act of choosing a service or destination; it involves a deeper evaluation process where tourists assess their experiences, satisfaction, and overall value of the destination or service. Similar to other consumers, tourists assess various factors before choosing to visit, revisit, or recommend a destination or service. Tourists' patronage decisions, therefore, involve a process through which individuals evaluate their experiences, satisfaction, and perceived value of the destination to the degree that their evaluations influence their future choice. Wang et al. (2021) assert that decision-making process is complex and involves both cognitive and emotional evaluations, including comparing the actual tourist experience with expectations, assessing the quality, value, and satisfaction derived, forming attitudes, and ultimately deciding whether to revisit, recommend, or explore alternatives. These decisions are crucial as they directly impact tourist loyalty and retention, as well as the long-term reputation and success of tourism destinations and businesses.

The Fourth Industrial Revolution (4IR), marked by the rapid advancement of digital technologies, has brought about significant changes in various sectors, including tourism (Gul & Gul, 2018). Before now, travel and tourism information was primarily controlled by key players within the tourism industry (Hussein et al., 2024). Tourism gatekeepers often only showcased, with inherent biases, the positive aspects of destinations; making it challenging for tourists to differentiate authentic information from promotional embellishments (Berhanu & Raj, 2020; Puh & Bagić Babac, 2023). In recent years, information sources about tourist destinations have shifted from traditional channels and the mainstream media to digital platforms. From the era of depending on brochures, catalogues, newspapers, magazines, billboards, posters, radio and television, tourism information can now be easily accessed through social media, websites, blogs, and mobile apps. Recognising this, tourism organisations are increasingly leveraging digital platforms to share information, connect with tourists and influence their purchasing decisions in order to gain competitive advantage (Chu et al., 2020; Gossling, 2021).

Tourists rely on a wide range of digital resources and channels, enabling them to make more informed decisions as they explore global destinations, plan their travels, and manage bookings. More specifically, user-generated content (UGC), such as reviews, travel vlogs, and social media posts, has had a profound impact on the perceptions and patronage decisions of tourists (Minazzi, 2015; S'hail & Benabdelouahed, 2024). Reviews on platforms such as TripAdvisor and Google help potential tourists to assess the quality and authenticity of services, while travel vlogs on platforms like YouTube offer a personal, immersive assessment of destinations, allowing viewers to visualise and vicariously share in the experiences of real tourists. This type of content, often perceived as more genuine and trustworthy than traditional marketing, tends to influence tourists' patronage decisions, given that it reduces uncertainty, builds trust, and enhances the overall appeal of a destination (Xu, 2022).

Furthermore, social media influencers have emerged as key actors driving tourism promotion by spotlighting the appeal of destinations and influencing tourist patronage decisions thereby (Jaya & Prianthara, 2018). Influencers, through their engaging content on platforms such as Instagram, YouTube, and TikTok, can generate curiosity and enhance the perceived value of a destination. Their endorsements, often perceived as authentic and relatable, are able to easily inspire and persuade their teeming audience to consider and undertake certain travel experiences (Chourasia, 2021). The reliance of tourists on digital word-of-mouth to make informed choices makes social media influencers integral to the process of creating awareness and eliciting patronage for tourist destinations.

4. Tourist Experience Sharing on Social Media as a Promotional Endeavour

Experience sharing entails the process where individuals express their knowledge, insights, and assessments about a particular phenomenon to others, with the goal of transferring information and understanding (Siu, 2024). In the tourism industry, experience-sharing practices are considered a vital aspect of the promotional mix for tourist centres as it is through the personal experiences shared by individual tourists that others get to see and know about a given tourist destination and can further be spurred to plan to visit (Sotiriadis, 2017).

The process of tourists sharing their experiences has moved past an interpersonal activity to becoming a media mainstay. Technological advancements have stimulated rapid changes in the tourism industry, altering the dynamics of what sources and methods of information-sharing are employed in industry. This phenomenon has made tourists prominent sources of tourism information through their use of social networking platforms like Facebook and Instagram, photo-sharing websites such as Flickr and Photobucket, video creation and sharing websites such as YouTube and IBM Cloud Video, and virtual communities and microblogging agents like Twitter (X), among others (Dedeoglu et al., 2020). At the other end of the spectrum, prospective tourists and travelers rely on a variety of online content, such as photos, videos, reviews, and live streams, before they make travel choices. Photos offer a visual representation of destinations, giving potential visitors a sense of what to expect, while videos provide a more immersive experience, allowing audiences to explore places through the eyes of others. Reviews, be them in a written or video format, offer personal assessments and verdicts of credibility about tourist destinations. Live streams, on the other hand, allow real-time interactions and offer a sense of immediacy and authenticity. Essentially, the experiences shared by tourists on social media can play a crucial role in shaping the perceptions of potential travellers, guiding their decisions and helping them to feel more connected to the tourist destinations they are considering visiting.

5. Issues of Consideration in Social Media Use for Tourism Promotion

Social media has transformed how tourists make patronage decisions and share their travel experiences. Yet, significant challenges hinder its effective utilisation. One major issue is the over-reliance on curated content, which often creates unrealistic expectations about destinations (Rani, 2022). Tourists frequently base their patronage decisions on idealised images and reviews, expecting picture-perfect experiences. However, the reality sometimes falls short of expectations. The discrepancy between expectations and reality can breed dissatisfaction in the minds of tourists and also adversely impact their willingness to recommend the destination to others through social media.

The growing dominance of influencers in shaping tourists' perceptions adds another layer of complexity. Influencers often prioritise personal branding and commercial partnerships over authentic storytelling, presenting destinations in a way that aligns with sponsored narratives rather than genuine experiences (Fedeli & Cheng, 2022). For tourists, this can skew their patronage decisions as they may be drawn to a destination based on influencers' rhetoric rather than accurate representations. Moreover, this dominance diminishes the visibility of organic, user-generated content, which is often more relatable and trustworthy for potential visitors. This imbalance hampers the diversity of perspectives and reduces tourists' confidence in social media as a source for planning their trips and sharing unbiased experiences (Poyry et al., 2019).

Ethical concerns, such as data privacy and the prevalence of fake reviews, further complicate the social media landscape for tourists and stakeholders (Rani, 2022). Many tourists unknowingly share sensitive data when engaging with platforms or booking services. At the same time, the proliferation of fake reviews, whether generated by bots or incentivised users, distorts the decision-making process (Tuomi, 2021). Tourists may make patronage decisions based on deceptive or exaggerated claims, which can lead to dissatisfaction and erosion of trust in social media as a reliable tool for sourcing tourism-related information.

Furthermore, the fleeting and volatile nature of social media trends poses challenges for tourist destinations attempting to balance short-term visibility with long-term sustainability. Viral social media trends can cause sudden surges in patronage to certain destinations, leading to overcrowding, resource depletion, and environmental harm (Alaa, 2023). On the other hand, destinations that fail to maintain a robust social media presence may struggle to attract visitors, even if they offer valuable experiences (Hossain et al., 2024). This dynamic creates a tension between leveraging social media for patronage decisions and promoting sustainable tourism practices.

6. Strategic Implications of Social Media Promotion for Tourism Stakeholders in Nigeria

Social media offers numerous opportunities for tourism stakeholders in Nigeria to connect with tourists and improve their services. One key strategy is for tourist centres in the country to invest in social media campaigns, digital storytelling, and virtual tours. Engaging content, such as videos, traveller testimonials, and live interactive sessions, can boost visibility and encourage more visitors. They can effectively use their social media accounts to allay all insecurity fears that may inhibit prospective tourists from visiting. If properly marketed online, these centres can regain attention, increase patronage, and contribute more to Nigeria's tourism sector. Meanwhile, Nigerian destination marketers can use social media insights to guide their promotional efforts. By scrutinising user-generated content such as posts, reviews, and comments, marketers can identify the preferences of Nigerian and international tourists, the challenges they face, and emerging travel trends. This information helps create targeted campaigns that attract the right audience and encourage the patronage of tourist destinations in Nigeria.

Another critical approach for stakeholders in Nigeria is designing share-worthy experiences that encourage positive social media engagement. Nigerian tourists, like others globally, are more likely to share their experiences when they encounter visually-appealing, immersive, or unique offerings. For instance, photogenic landmarks like the Idanre Hills, interactive cultural activities such as the Argungu Fishing Festival, and personalised services at luxury resorts create memorable moments that inspire visitors to share their experiences online. This organic promotion amplifies the visibility of Nigerian destinations and builds their credibility through authentic testimonials.

Nigerian tourism stakeholders can also use analytics as a tool to keep track of tourist behavioural trends. Social media platforms provide rich data on tourists' preferences, demographic details, travel habits, and content-sharing patterns (Mukhopadhyay et al., 2023). Advanced data analytics tools would allow Nigerian stakeholders to extract actionable insights, enabling them to make informed decisions about resource allocation, service improvement, and promotional strategies. For example, analytics can reveal the best times to launch campaigns for major Nigerian festivals, identify influencers who align with the country's tourism brand, and monitor the performance of ongoing marketing efforts. Such data-driven decision-making process ensures that resources are optimally utilised to benefit Nigerian tourism.

Furthermore, it is imperative for tourism stakeholders in Nigeria to focus on building long-term relationships with tourists through meaningful engagement on social media. This would involve paying attention to solicited and unsolicited feedback, addressing concerns about Nigerian destinations, and providing consistent quality in the experiences offered. By doing this, stakeholders can build stronger connections with tourists, enhance patronage decisions and encourage positive experience-sharing. This ultimately benefits both Nigerian destinations and the visitors, contributing to the sustainable development of the country's tourism industry.

It is also important for government policies and interventions to be effectively targeted at supporting tourism promotion and development in Nigeria. Strategic policies that prioritise tourism as a key sector of the economy can help create a more structured and supportive environment for stakeholders. Investment in infrastructure such as road networks, airports, power supply, and internet connectivity is essential in enhancing accessibility and improving the overall tourist experience. When these foundational systems are in place, destinations become more appealing and easier to explore, which in turn encourages higher visitor turnout. In addition, government involvement in ensuring security, offering incentives for tourism-related businesses, and partnering with local and international stakeholders can strengthen marketing efforts and increase visibility for Nigerian tourist sites. By aligning public policy with the goals of tourism stakeholders, the government can help foster a sustainable and competitive tourism sector that benefits both the economy and local communities.

7. Conclusion

Social media has greatly transformed how tourists make decisions and share their experiences, becoming a vital part of modern tourism promotion. It provides tourists with access to authentic reviews, connects them with influencers, and offers engaging content that helps them make informed choices. Tourists not only use social media to evaluate destinations but also contribute by sharing their own experiences, creating a continuous loop of influence and engagement. This shift highlights the dual role of tourists as both consumers and content creators.

Tourist destinations in Nigeria would be prudent to invest in social media promotions for its "push-to-pull" and "pull-to-push" effects. From the "push-to-pull" paradigm, tourist destinations may strategically initiate and sustain promotional content on social media to attract potential tourists. Yet, the promotional efforts of tourist destinations, however modest, can produce a "pull-to-push" effect. By this, promotional reinforcement is provided by tourists who, serving as "brand evangelists", proceed to share their visitation experiences on various social media platforms to the effect of reaching and convincing many more people to visit the destination. The prospect of a promotional push yielding ripples of unsolicited yet effective promotional and engagement outcomes should be enough a motivation for Nigerian tourist centres to leverage the use of social media to bolster their visibility and patronage rate. The revolving and interactive content-points of the social media sphere should, therefore, be more purposefully harnessed to activate promotional strategies that will ultimately further the development of the tourism industry in Nigeria.

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Librarians' Utilization of Intellectual Property Protection Rights (IPPR) and its Challenges in Public Universities in Southern Nigeria

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Abstract. This study examined Librarians utilization of Intellectual Property Protection Rights (IPPR) in public universities in Southern Nigeria.The mixed method of research techniques was adopted for data collection. A population of 327 was used with complete enumeration. The results showed that there were perceived usefulness of IPPR to librarians (x = 3.26) and challenges of IPPR administration (x= 2.99). The study concluded that Librarian utilization of IPPR is necessary and there is need for proper administration of IPPR which will reduced the rate of piracy and plagiarism towards research activities, allocated time for research productivity in the public universities, sensitization of copyright laws, cooperation of the research teams, sustainability support, provision of research information and authorization for external research play a greater role in enhancing the librarian utilization of IPPR in public universities in Southern Nigeria.

1. Introduction

Intellectual Property Protect Rights (IPPR) is one of the institutions that are responsible for promoting the guidelines on creative scholarly writing and protecting it against any form of misuse by other researchers. Utilization of IPPR will create a smooth platform for librarians to have real enthusiasm for originality and creativity, they need to exhibit and improve their potentials in writing quality research. Librarians' quest for enhanced productivity could be destroyed if not properly investigated and controlled.

Intellectual is involving a person's ability to think and to understand ideas and information. An intellectual spends a lot of time studying and thinking about ideas while property is something that belongs to someone and it is physically represented. Intellectual property, therefore, is one's idea that is given as a tangible substance or object. It is a legal right which comes as a result of the intellectual activity in industries, institutions and so on. It is an idea that is actionable. Mouritsen and Moerman (2006) saw intellectual property as an abstract object but WIPO defined intellectual property in this form:

"Intellectual property protects products of the human mind, such as invention, literary and artistic work, symbols, names, images and designs used in commerce. Intellectual property comprises the areas of patent, trademarks, industrial designs, and geographical indications of source and copyright, which include literary and artistic works. Rights related to copyrights include those of performing artist in their performance, producers of phonograms in their recordings and those broadcasters in their radio and television programmes (WIPO, 1996: p.21)."

There are two main reasons why intellectual property is protected. The first is to give statutory expression to the moral and economic rights of creators in their creations and the right of the public to access these creations. The second is to promote, deliberately the act of Government policy, creativity, dissemination and application of its results and to encourage fair trading which would contribute to economic and social development. Intellectual property law aims at safeguarding creators and other producers of intellectual goods and services by granting them certain time limit rights to control the use of these productions.

In July 1967 in Stockholm, the convention establishing the World Intellectual Property Organisation (WIPO) concluded that intellectual property shall include the following rights relating to: ‘‘Literary, artistic and scientific works, Performances of performing artists, phonograms and broadcasts, Inventions in all fields of human endeavour, Scientific discovering, Industrial designs, Trademarks, service marks and commercial names and designations, Protection against unfair competition and all other rights resulting from intellectual activity in the industrial scientific, literary or artistic field (WIPO, 2004:p.21).’’

IPR are customarily divided into two main areas: copyright and its related rights as well as rights to industrial property. The copyright is the rights of authors of article/books as well as right of artistic works that may take in form of music composed, video, and computer software/programs developed among others. These rights are protected by copyright, for a minimum period of 50 years after the death of the author(s). The related rights to copyright which include rights of actors, singers and musicians as well as producers of phonograms-sound recordings and broadcasting organizations are also protected by copyright. One of the primary social objectives of protecting the copyright and its related rights is to encourage and reward creative works.

Former (2010) proposed that the difference between copyrights and all other major aspects of Intellectual property lies in the psychological finding on creativity. He went on to state that if the goal of copyrights and patent laws is to provide incentives to produce creative works, then it is worth looking to the psychological literature that illustrate the process by which scientists and artists actually create and by which individuals appreciate creative works.

The level of participation of Nigerian universities in the new global knowledge order is, in part, a function of their resourcefulness in innovation and, by extension, their strategic engagement with IPRs. Equally, the ability of universities to optimise the benefits of these technologies is largely dependent on their IP laws and overall knowledge governance strategy. Consequently, Nigerian universities have been put under pressure by developed nations to carry out a holistic enforcement of IP laws. This, they claim, will protect innovations in the research and publications that are produced by these institutions from illegal imitation and copying. However, the concern for the Nigerian universities is the social-economic implications of the implementation of such IP regimes in their respective universities and their impact on development. Such ‘lucrative’ offers in exchange for IPRs in the Nigerian universities, according to some developing countries, are in view of the benefits to developed nations and their interests (Harris, 1996). In reality, the IPRs that the universities insist on may not be able to produce favourable conditions in the developing countries from their present states. In other words, the benefits reaped from certain IP systems implemented in the developed countries may not affect developing countries the same way. There is a need to first of all have an understanding of the fundamental justification of IPRs in general given that it is the justification that proper IPRs advancement. IPRs is seen as incentives for innovations and, since the academic community want to have more innovation, we should therefore encourage it to strive (Harris, 1996).

Majority of the librarians are faced with time constraints and this corroborates the study of (Ogbomo, 2010; Moahi, 2007). Poor scheduling of time to carry out research has been reported to be the most prominent challenge faced by librarians (Ogbomo, 2010). Poor data interpretation skill is another problem faced by librarians in the process of making publication, especially journal articles. This challenge was also noted in the study conducted by Moahi (2007) and Suwanwala (2011). Exorbitant fees for publishing (page charges) by journal outfits is another big challenge facing librarians in this study and this perhaps explains why some librarians spend months searching for journals to publish their articles without success. In spite of these constraints, publication productivity of librarians was reported high in terms of articles in learned journals. It is, of course, likely that untrue claims of autonomous inventions will increment in the event that autonomous inventions is permitted within patent laws. But this assertion does not imply the increment will cause a threat. Consider Vermont (2006) observations that worrying about ease of copying patent objects – or, as he puts it, with antecedent fraud effects is the reason independnt(autonomous)inventions is not allowed.

Indeed, three brief points will be added to Vermont's claims. First, having competitors does not fundamentally kill incentives, as, even if one cannot solely market a product, one can still be in the market. There are universities that flourish inspect of rampart copying in the market place. Second, though inventors have higher development costs than copiers (who don't invest time and effort into research and development), copiers have costs that first innovators don't. These costs include those cost associated with copying (or maybe re-engineering) to make their products look original as if they were not copied. This executing of fraud can be costly in covering one's tracks, guaranteeing that one's mischief will not be taken note. Finally, innovators (trend-setters) can make copying difficult by taken appropriate steps. They can erect “technology fences" that will make it harder to copy their inventions or make their innovations difficult copy by others without leaving a sign. Working these details out would, of course, be important to ensure that any loss of incentives will be minimal (if indeed they are not minimal to begin with).

The mixed method of research techniques was adopted for data collection by this study. By this, it means that the qualitative and quantitative research techniques were used for data collection.

With the use of qualitative data, researchers can better explain an outcome emanating from a quantitative research, likewise quantitative data can be used to complement some shortcomings of qualitative data such as the issue of generalization (Onwuegbuzie & Johnson, 2004).

2. Methodology

Institution	**Frequency**	**Percent**	**Cumulative Percent**
UI	11	3.4	3.4
UNN	12	3.7	7.0
OAU	23	7.0	14.1
UNILAG	22	6.7	20.8
UNIBEN	24	7.3	28.1
UNICAL	16	4.9	33.0
FUTO	19	5.8	38.8
FUTA	4	1.2	40.1
FUNAB	24	7.3	47.4
UNIUYO	17	5.2	52.6
MOUA	12	3.7	56.3
NAU	10	3.1	59.3
NOUN	6	1.8	61.2
FUPRE	4	1.2	62.4
FUOE	6	1.8	64.2
RSUST	5	1.5	65.7
AAU	5	1.5	67.3
ABSU	8	2.4	69.7
OOU	4	1.2	70.9
LASU	7	2.1	73.1
LAUTECH	6	1.8	74.9
DELSU	8	2.4	77.4
AAUA	5	1.5	78.9
COOU	9	2.8	81.7
EBSU	4	1.2	82.9
NDU	15	4.6	87.5
AKSUT	2	.6	88.1
CRUTECH	5	1.5	89.6
USTECH	8	2.4	92.0
TASUED	4	1.2	93.3
OSSU	5	1.5	94.8
OSUTECH	4	1.2	96.0
UNIPORT	8	2.4	98.5
FUO	5	1.5	100.0
Total	**327**	**100.0**	

Table1 shows that out of the 555 librarians in universities in Southern Nigeria, only 327(63.5%) completed and returned the copies of the questionnaire sent to them. The analysis of this study was based on the 327 copies of the questionnaire that were returned.

Distribution of respondents by qualifications and official status

Qualification	**Frequency**	**Percent**	**Cumulative percent**
MLS/ M.Sc.	215	65.7	65.7
PhD	76	23.2	89.9
Any other	36	11.0	100.0
	327	100.0	
Official Status			

Graduate Assistant	34	10.4	10.4
Assistant Librarian	53	16.2	26.6
Librarian II	62	19.0	45.6
Librarian I	66	20.2	65.7
Senior Librarian	58	17.7	83.5
Principal Librarian	39	11.9	95.4
Deputy University Librarian	02	0.6	96.0
University Librarian	13	4.0	100.0
	327		

Table 2 reveals that out of the 327 respondents used for the study, 215(66.7%) have qualifications of M.Sc./ MLS, 76(23%) have PhD while 36(11%) have any other degree. It is also seen in table 4.2 that out of the 327 respondents, 34(10%) claimed to be graduate assistants, 53(16.2%) were assistant librarians, 62(19%) were librarian 11 and 66(20.2%) were librarian 1.The table also reveals that 58(17.7%) were also made up of senior librarians, while 39(11.9%) were principal librarians, and only 2(.6%) were deputy university librarians and 13(4%) were university librarians.

Table 4.8: Perceived usefulness of IPPR regimes to librarians

S/N	Statements	SD (1)	D (2)	A (3)	SA (4)	X	SD
1	IPPR regimes will positively affect the standard of my publications.	1 (.3%)	13 (4.0%)	221 (67.6%)	92 (28.1%)	3.24	0.53
2	IPPR regimes will bring about institutional development.	2 (.6%)	13 (4.0%)	194 (59.3%)	118 (36.1%)	3.18	0.64
3	IPPR will bring incentive and means to finance projects	2 (.6%)	35 (10.7%)	193 (59.0%)	97 (29.7%)	3.28	0.57
4	IPPR regime will appropriately respect balance between the interest of stakeholders, individuals and libraries	2 (.6%)	8 (2.4%)	225 (68.8%)	92 (28.1%)	3.22	0.51
5	IPPR will bring about discipline and ethical standard in the research and publication industries	2 (.6%)	8 (2.4%)	186 (56.9%)	131 (40.1%)	3.37	0.57
N=327 criterion mean (x = 2.50) weighted average (x = 3.26)							

The data in Table 3 shows that all the items used to measure the perceived usefulness of IPPR regimes went above the criterion mean ($\bar{x}$=2.50) with a weighted average mean of ($\bar{x}$ =3.26). Librarians are of the opinion that IPPR will bring about discipline and ethical standard in the research and publication industries with the highest mean value ($\bar{x}$=3.37; SD=0.57). This was followed by IPPR will bring incentive and means to finance projects ($\bar{x}$=3.28; SD=0.57), IPPR regimes will positively affect the standard of my publications ($\bar{x}$=3.24; SD=0.53). IPPR regime will appropriately respect balance between the interest of stakeholders, individuals and libraries ($\bar{x}$=3.22; SD=0.51), and IPPR regimes will positively influence their research productivity ($\bar{x}$=3.18; SD=0.64). All the statements were above the criterion mean of ($\bar{x}$ = 2.50). This implies that librarians perceived usefulness of IPPR regimes to research productivity in universities in Southern Nigeria.

Perception on intellectual property rights is an important issue for librarians and researchers. This is because research and publishing are two important factors in disseminating information in the society, so managing author understands and interpretation of intellectual property laws through copyrights is meant to reshape scholarly communication and protect original materials. Academic librarians are required to have good perception on intellectual property laws, in order to have improved research publications which turn out to be their intellectual property. Many of the participants interviewed in the in-depth said that copyrights protect original material, including original compilations of previously published materials from unlicensed copying. This was clearly reflected in the following statement by one of the academic librarian participants in in-depth interview (IDI) conducted said that:

The perceived usefulness of IPPR regimes to research productivity is to handle the protection right of authors. To me copyright it is an aspect of IPPR, while IPPR deals with patent or trademark, copyright deals with publication, record, videos etc. I think Writers should have free relationship with copyright agencies. As a researcher, I think the implications of plagiarizing somebody work other researcher will not want their work to be plagiarizing (IDI /Male/ Principal Librarian / University of Benin / 53 years, February, 2022).

Another interviewee explained that:

IPPR have improved the quality of research productivity
in public universities in Nigeria. Also IPPR positively affects the standard of research publication in my university (IDI /Male/ Librarian I / LASU / 52 years, February, 2022).

It was observed that majority of the participants perceived the usefulness of IPPR with different perception. The implication of this is that IPPR bring about institution development, bring incentives and means to finance research and development activities.

A senior librarian shed more light on this during the course of investigation. Below is a transcript of these findings:

IPPR bring sanity, discipline and ethical standard in the research and publication institutions. And also appropriate respect to the individual and libraries (IDI /Male/ Senior Librarian / Nnamdi Azikwe University / 43 years, February, 2022).

Challenges of IPPR

s/n	Statements	SD	D	A	SA	X	Σ
1	High cost of publication	2 (6%)	24 (73%)	207 (66.4%)	84 (25.7%)	3.18	0.59
2	Lack of time	11 (3.4%)	37 (11.3%)	186 (56.8%)	93 (28.4%)	3.11	0.75
3	Ignorance of copyrights laws	19 (5.8%)	95 (29.1%)	139 (42.5%)	74 (22.6%)	2.80	0.89
4	Poor administration of IPPR	19 (5.8%)	75 (22.9)	135 (41.2)	98 (30%)	2.95	0.91
5	High rate of piracy and plagiarism	20 (6.1%)	68 (20.8%)	161 (49.2%)	78 (23.9%)	2.90	0.85
N=327 criterion mean (x = 2.50) weighted average (x = 2.99)							

The information in Table show that all the items used to measure the challenges IPPR in public universities in Southern Nigeria had a weighted average mean ($\overline{x}$ = 2.99) which is above the criterion mean ($\overline{x}$ = 2.99 > 2.50). High cost of publication scored the highest ($\overline{x}$ = 3.18; SD = 0.59) followed by lack of time ($\overline{x}$ = 3.11; SD = 0.75). Librarians' ignorance of copyrights laws scored the lowest ($\overline{x}$ = 2.80; SD = 0.89), followed by High rate of piracy and plagiarism ($\overline{x}$ = 2.90; SD = 0.85) and Poor administration of IPPR ($\overline{x}$ = 2.95; SD = 0.91) Observations from the data in the table show that all the items in the instrument used for the study to measure the challenges are influential.

Intellectual property law has gain impressive global interest. While intellectual property (IP) has gained increased protection with advances in technology and international trade in institutions in developed countries, the developing countries' institutions are still at the throes of uncertainty regarding the attainment of the elusive template of IP protection being flaunted for development.

Findings from the study showed that the Majority of the librarians are faced with time constraints had a strong bearing on their research productivity. Findings from public universities in Nigeria indicated that participants, who lacked Poor data interpretation skill is another problem faced by librarians in the process of making publication, especially journal articles also explicated negative impact on them.

Majority of the participants also claimed to have poor scheduling of time to carry out research has been reported to be the most prominent challenge faced by librarians. The IDI respondent from University of Lagos confirmed the position as thus:

The Nigeria economy is affecting most of the publications that is the issue of finance. Most of foreign journals are expensive because the exchange rate is high. I pay more to publish on foreign journal and I also think the high rate of corruption in the country is not helping. Most local journals are interested in money you pay instead of the contents (IDI /Female/ Principal Librarian / University of Lagos / 49 years, February, 2022).

According to the findings from the qualitative data on challenges of librarians IPPR in universities in Southern Nigeria: A principal librarian said that:
One the major challenges is lack of time, ignorance of copyright laws among academic librarian and poor administration of IPPR in university systems. (IDI /Male/ Librarian I / AAU/ 45 years, February, 2022).

From the above finding, it can be further stressed that majority of the respondents suggest that high cost of publication, lack of time, ignorance of copyright laws and high rate of piracy and plagiarism are factor affecting the research productivity in Nigeria public universities.

3. Discussion of findings

The study showed that librarians have perceived usefulness of IPPR regime in public universities in Southern Nigeria. It was also indicated that IPPR will bring about discipline and ethical standard in the research and publication industries. This result affirms Maskus' (1999) study, where he found out that "the Parliamentary Assembly of the Council of Europe has recommended adoption of guidelines on patents legislation which should help to develop criteria for granting patents continuously according to technological progress in favour of both the interests of the claiming party, as well as the interests of the public in regard to public order, morality and general aspects of state economy". The finding corroborates an earlier one by Famola (2013) whose finding on the impact of intellectual property protection rights (IPPR) on librarians revealed that academic librarians are encouraged to improve their research productivity when they know that they are entitled to intellectual property right.

Also, the finding agrees with that of Ogbomo (2010) who noted that intellectual property right leads to increase research productivity among librarians. According to Onyeka (2014) who opines that technological advancement in turn promotes export of new technologies and also satisfies local demand thereby resulting in overall economic development. More so, during this period there was steady improvement in the education system as there was steady rise in the level of protection of IPRs. Consequently, the level of change in the degree of IPRs protection goes together with the improvement in education. So one may suggest that there is a possibility that as the level of education improved individuals learn to accept, appreciate and respect intellectual property rights. And furthermore, the increase in the investment made in education and favorable changes in government policies could all contribute to not only to understanding the value of IPRs but also aid innovation. Ogunkule, (2013) whose found that intellectual property protection rights (IPPR) on librarians enhanced research productivity in universities and is an essential step in striving to attain national goals via higher education. The development of skilled manpower and advancement in science, technology and engineering that are associated with improvement in scholarly or research productivity would not only advance the national economy but also capable of putting the country in a strategic position to compete favorably and benefit significantly in the competitive globalized economy of the radically changing Information Communication and Technology Age (Kpolovie and Lale, 2017).

High cost of publication, lack of time to publish, ignorance of copyrights law, poor administration of IPPR and high rate of piracy and plagiarism are some of the challenges encountered by librarians in the course of publishing their research work. This finding is in agreement with Moahi (2007) who noted that the reasons why librarians always publish in learned journals is as a result of the fact that journal articles are easy, less time-consuming and cheaper to publish compared to textbooks and monographs. The finding also agrees with Okenedo's (2015) findings that challenges to librarians' publications efforts, among others, are time constraints, poor interpretation skills, exorbitant publication fees by journal outfits and indiscriminate rejection of manuscripts by journals.

It was also revealed in the study that majority of the librarians have master's degree in Library Science as against PhD holders. The implication of this finding is that master's degree holders still continue to dominate the practice of librarianship in the southern universities for some time to come. This confirms Umar's (2016) study that revealed "academic librarians with PhD and M.Phil were ostensibly few" and also Salam and Onifade's (2009) postulation that most librarians are still MLS holders and incentives such as study leave, financial assistance and so on should be granted to librarians to enable them facilitate the acquisition of PhD. The assertion of Salam and Onifade on encouraging librarians to attain PhD may be right, because if librarians have academic status, just like their teaching counterparts, they need also to be encouraged to attain PhD degrees. This will boost their academic performance and improve their research productivity.

Agboola (2000) also agreed to the attainment of higher degrees by librarians. He observed in his study that "higher qualifications are vital to capacity building and skills development". The higher the qualification, the more the skills and exposure that one requires and when this is combined with interest, intellect and experience of the individual, the success could be high research productivity. It is also noteworthy that majority of the librarians are librarian 1 cadre 66(20.2%) followed by Librarian 11 cadre 62(19%). This may be as a result of the fact that PhD is now made compulsory for the promotion of librarians to the senior positions.

The research is also in agreement with that of Suber (2003) and Goodman (2005) who connected open access with intellectual freedom issues such as privacy, copyright, censorship. Goodman (2005) further stressed that managing intellectual property rights through alternative publishing agreements is another issue that developing countries are confronted with. For instance, in 2008, the International Institute of Tropical Agriculture (IITA) in Nigeria developed an institutional repository, but the repository could not go public due to some copyright issues. Copyright in research works conducted by the researchers at the Institute was signed away to the commercial journal publishers for the publication. Curiously, the Institute lost the right to make public research works it has funded and now had to negotiate the right from the journal publishers (Christian, 2011).

4. Conclusion

The study established that librarians' utilisation intellectual property protection rights affected research productivity in public universities in Southern Nigeria. Librarians publish mainly for their promotion and other positive incentives. Their research productivity will improve and develop positively if adequate time and information on Intellectual Property Protection Rights are provided and properly utilised.

Finally, the study concluded that, in order to increase research productivity in public universities, proper administration of IPPR, reduced rate of piracy and plagiarism towards research activities, allocated time for research productivity in the public universities, sensitization of copyright laws, cooperation of the research teams, sustainability support and provision of research information and authorization for external research play a greater role in enhancing research productivity of librarians in public universities in Southern Nigeria. Once these factors are properly taken care of, the awareness and perception levels will change positively towards improving research productivity of librarians Nigeria.

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Assessment of the Operational Characteristics of Petroleum Product Distribution and Logistics in Lagos State, Nigeria

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Abstract. This study evaluates the operational characteristics of petroleum products distribution in Lagos state. The study utilised a systematic-random sampling which was used to select 1,000 tanker drivers. Descriptive and inferential statistical techniques were used to evaluate the operational characteristics of petroleum distribution, including factors like the volume of products transported, travel distances, and route preferences. Findings from this study reveals that majority of drivers operate high-capacity tankers (45,000 litres, 41.4%), and that 45.9% of drivers work over 12 hours daily, raising concerns about fatigue, safety, and the need for regulatory enforcement of work-hour limits. Moreover, the low frequency of trips, with 63.7% of drivers completing only 1–2 trips weekly, suggests inefficiencies and delays in deliveries that could be mitigated through better scheduling and reduced downtime at depots. The analysis also shows that 59.2% of drivers operate outside Lagos, indicating a significant portion of the distribution network extends beyond the state, adding complexities such as longer delivery times and higher transport costs. Operational characteristics of petroleum product distribution showed that high-capacity tankers, long working hours, and low-trip frequencies dominate the petroleum logistics landscape in Lagos State. These factors contribute to inefficiencies and safety risks, requiring better scheduling, work-hour regulation, and investment in inter-modal means. This study thus recommended that policymakers should establish formal training centres, provide subsidies for low-income drivers, and develop gender-inclusive policies to encourage female participation in the sector. Training programs should focus on safety protocols, vehicle maintenance, and regulatory compliance to improve operational efficiency.

Keywords: Operational characteristics, Operational efficiencies, Petroleum products, Lagos State.

1. Introduction

Petroleum products play a pivotal role in driving global economic progress by fueling key sectors such as manufacturing, transportation, and power generation (OPEC, 2013). As the dominant source of energy worldwide, petroleum products are essential to sustaining daily activities and industrial operations across nations (OPEC, 2013; World Bank, 2023). Ensuring the smooth and efficient distribution of these products is vital for maintaining economic resilience and meeting energy demands. Moreover, strategic logistics management within the petroleum supply chain helps optimize delivery, lower operational costs, minimize supply disruptions, and strengthen energy security (Lisitsa et al., 2019; World Bank, 2023).

Petroleum logistics in Nigeria are plagued by a range of longstanding and interconnected challenges. These include deteriorating infrastructure, limited investment in multimodal transport systems, an overwhelming dependence on road tankers, and mismatches between supply centers and areas of high demand. Compounding these issues are rampant oil theft and lapses in regulatory oversight, all of which contribute to erratic fuel supply, elevated distribution costs, and broader economic instability. According to the World Bank's 2023 Logistics Performance Index, Nigeria—and many of its African counterparts—continue to rank poorly due to weak transport systems, inadequate storage capacity, and the slow pace of digital integration (World Bank, 2023). These shortcomings point to deeper structural problems within the downstream petroleum framework. Data from the Nigerian Midstream and Downstream Petroleum Regulatory Authority (NMDPRA) reveal that over 85% of petroleum products are conveyed via tanker trucks. This mode of transport is highly inefficient, especially given the state of Nigeria's roads, which are often congested, poorly maintained, and vulnerable to frequent breakdowns. In Lagos State, which accounts for roughly 40% of national fuel consumption, major distribution corridors are routinely clogged by tanker traffic, resulting in prolonged delays, increased environmental degradation, and heightened safety concerns. The prevalence of tanker accidents further exacerbates these issues, causing substantial human and economic losses, while severely disrupting product flow and contributing to fuel scarcity.

However, existing studies including Badejo (2018); Umar, et al. (2021); Adewuyi, et al., (2021); Nwoloziri et al., (2021) and Ucheobi et al. (2024) on physical distribution challenges and petroleum logistics in Nigeria often fail to adopt spatial approaches or focus specifically on Lagos State, highlighting a significant gap in the literature. Furthermore, the role of truck drivers in the petroleum distribution network is also critical. Truck drivers face numerous operational challenges that affect delivery efficiency, such as long waiting times at depots, inadequate rest facilities, poor logistics planning, and exposure to security risks. These challenges impact not only the drivers' well-being but also the timely delivery of petroleum products. An investigation into these operational issues will help uncover critical bottlenecks and opportunities for improvement.

2. Conceptual Framework and Literature Review

2.1 Concept of Physical Distribution Management

Physical Distribution Management (PDM) refers to the activities involved in moving and storing goods, ensuring that products are delivered to the right place at the right time, in the right quantity, and in a cost-effective manner (Somuyiwa, 2010; Oyesiku, 2021). This concept is integral to logistics and supply chain management, particularly in industries like petroleum distribution, where timeliness and efficiency are critical. PDM includes several key activities such as transportation, warehousing, inventory management, order fulfilment, and handling (Rushton et al., 2006). Effective PDM aims to optimise the flow of goods from the point of production or storage (depots) to the end consumer (e.g., filling stations), ensuring that the logistical chain operates smoothly and cost-effectively. The concept of PDM was primarily formalised by scholars such as Herbert Simon and George Dantzig, who contributed to the theoretical foundation of operations research and logistics management in the 1950s and 1960s (Rushton et al., 2006; Rodrigue, 2013). These scholars helped define how goods could be transported in the most cost-effective and efficient way. In the context of petroleum, PDM involves the intricate coordination of tanker trucks, pipelines, storage facilities, and various stakeholders to ensure uninterrupted supply to filling stations and ultimately consumers.

One of the key issues in PDM practice is the infrastructure challenges that hinder the smooth transportation of goods. Heavy congestion on the road networks, inadequate infrastructure, and poor road conditions significantly impact the operational efficiency of petroleum distribution. Furthermore, inefficient storage facilities and delays in loading and unloading also contribute to logistical bottlenecks. Studies on global logistics, such as those conducted by Christopher and Adepoju (2012) and Hugos (2018), emphasise the importance of infrastructure investment and technological integration in enhancing PDM efficiency. For example, effective route planning using GPS and Geographic Information Systems (GIS) has been employed in regions like the United States and Europe to improve the efficiency of petroleum distribution by optimising travel routes and reducing fuel consumption (Hugos, 2018).

PDM has evolved with technological advancements, especially in transportation management systems (TMS), warehouse management systems (WMS), and advanced inventory tracking tools. In countries like the United States, sophisticated software platforms are utilised to monitor and manage every aspect of the supply chain. For example, ExxonMobil uses data analytics and real-time tracking systems to monitor the movement of petroleum products and optimise delivery routes (ExxonMobil, 2020). These innovations reduce fuel costs, increase delivery speed, and help in making better decisions regarding supply chain operations. Similarly, Royal Dutch Shell has implemented automated systems for real-time tracking of inventory at depots, enhancing the efficiency of their distribution systems globally (Shell, 2018).

In Lagos, however, the full potential of PDM has not been realised due to ongoing infrastructural deficiencies. While global best practices such as the use of GPS systems and route optimization are not new, their implementation in Lagos remains limited. The petroleum distribution system often faces delays due to traffic congestion, frequent roadblocks, and poor road conditions. The studies by Salisu et al. (2022); Etuk et al. (2024) highlighted that the logistics sector in Lagos is characterised by inefficiencies such as high transportation costs, long lead times, and fuel shortages, all of which stem from inadequate PDM practices. Improving PDM in Lagos requires addressing these infrastructural gaps, investing in technology, and improving the coordination between different stakeholders in the supply chain, including depots, tanker drivers, and filling stations towards achieving better operational efficiency in the state.

2.2 Literature Review

Distribution consists of the series of logistic activities involved in planning, organising, and transporting goods and services from production locations to where they are needed (Ekakitie-Emonena & Ehimen, 2016). It involves various distribution channels composed of intermediaries such as agents, wholesalers, and retailers, who specialise in distinct roles within the conveyance process. This aligns with the conceptual position of scholars like Marbuah (2014), who view distribution as a network of independent units working collaboratively to ensure products and services are made available for use or consumption across multiple locations. Within this system, intermediaries perform core activities that enable producers to focus on production while leaving the complexities of distribution to the channel members (Ekakitie-Emonena & Ehimen 2016; Joshi et al., 2016)

Many marketing studies highlight the significant benefits of involving intermediaries in the distribution process. For instance, using a constrained model (e.g., 4 + 4 = 8), producers are only able to make direct deliveries to consumers a limited number of times. However, through a dynamic model (e.g., 4 x 4 = 16), intermediaries increase efficiency by multiplying the number of delivery contacts. This not only ensures wider product reach but also stimulates business activities, maximises resource utilization, and satisfies consumer demands along the value chain. Beyond basic logistics, intermediaries perform deeper and more integrated functions, including information gathering, promotion, negotiation, physical distribution, financing, and risk management. These roles apply across both industrial markets and consumer markets, where intermediaries serve as critical facilitators between producers and end-users.

In channel management, Adamolekun (1999) identify multiple dimensions of flows in distribution, which they term "multivariate flows and mixes." These flows involve various patterns, including physical flows, financial flows, risk flows, negotiation flows, promotional flows, and payment flows. Successful distribution strategies often combine pull and push strategies, where goods are pushed through intermediaries to consumers or demand is pulled from the market through targeted promotion. In the Nigerian petroleum industry, such multivariate flows are particularly evident as stakeholders, ranging from depot operators to marketers and tanker drivers, engage in a series of coordinated activities to ensure product availability.

Marketers in the petroleum sector often adopt push and pull strategies to improve supply chain efficiency. Ekakitie-Emonena and Ehimen (2016) explains that the push strategy involves producers actively promoting products to intermediaries and final buyers, ensuring downstream demand. On the other hand, the pull strategy focuses on stimulating demand directly at the consumer level, compelling intermediaries to respond by stocking and distributing products. For instance, NNPC Mega Stations primarily rely on the pull strategy, promoting their products to attract end-users, while major marketers such as Total, Oando, and Mobil favor push strategies by engaging intermediaries in their supply chains. Globally, push-pull distribution strategies have proven effective in ensuring logistical efficiency and reducing supply chain disruptions. In countries like the United States and Japan, petroleum companies adopt hybrid models, combining direct deliveries with intermediary networks to optimise distribution costs and enhance responsiveness. These approaches ensure timely product delivery, mitigate bottlenecks, and maintain customer satisfaction.

In the Nigerian context, particularly Lagos State, the distribution of petroleum products faces several challenges, including traffic congestion, poor infrastructure, and supply inconsistencies. Intermediaries, such as tanker drivers and filling station operators, play critical roles in managing multivariate flows to ensure products reach consumers efficiently. Physical flows, negotiation flows, and payment flows are observable as sector actors navigate logistical constraints to meet the state's high petroleum demand. While marketers adopt pull strategies to promote availability and customer satisfaction, push strategies are equally necessary to ensure the efficient movement of products through Lagos' complex supply chain. The integration of effective distribution management strategies is crucial to addressing these challenges. By leveraging channel flows and optimising intermediary roles, stakeholders in the petroleum sector can enhance the physical distribution process, reduce delays, and ensure products reach end-users efficiently despite infrastructural limitations.

3. Research Methodology

3.1 Study Area

Lagos State was created on May 27, 1967, by virtue of States (Creation and Transitional Provisions) Decree No. 14 of 1967 which restructured Nigeria's Federation into 12 States. Prior to this, Lagos Municipality was administered as a Federal Territory by the Federal Government through the Federal Ministry of Lagos Affairs as the regional authority, while the Lagos City Council governed the City of Lagos (Lagos State Government-LASG, 2024). The State is located on the South–Western part of Nigeria, on the narrow plain of the Bight of Benin. Lying approximately on longitude 20 42'E and 32 2'E respectively, and between latitude 60 22'N and 60 2'N (Figure 1.1). Lagos State is bounded in the North and East by Ogun State of Nigeria, in the West by Republic of Benin, and stretches over 180 kilometers along the Guinea Coast of the Bight of Benin on the Atlantic Ocean (LASG 2024). Its territorial extent and political jurisdiction encompass the city of Lagos and the four administrative divisions of Ikeja, Ikorodu, Epe and Badagry collectively referred to as IBILE and covering an area of 358,862 hectares or 3,577 sq. km. which represents 0.4% of Nigeria's territorial land mass of 923,773 sq. km (LASG 2024).

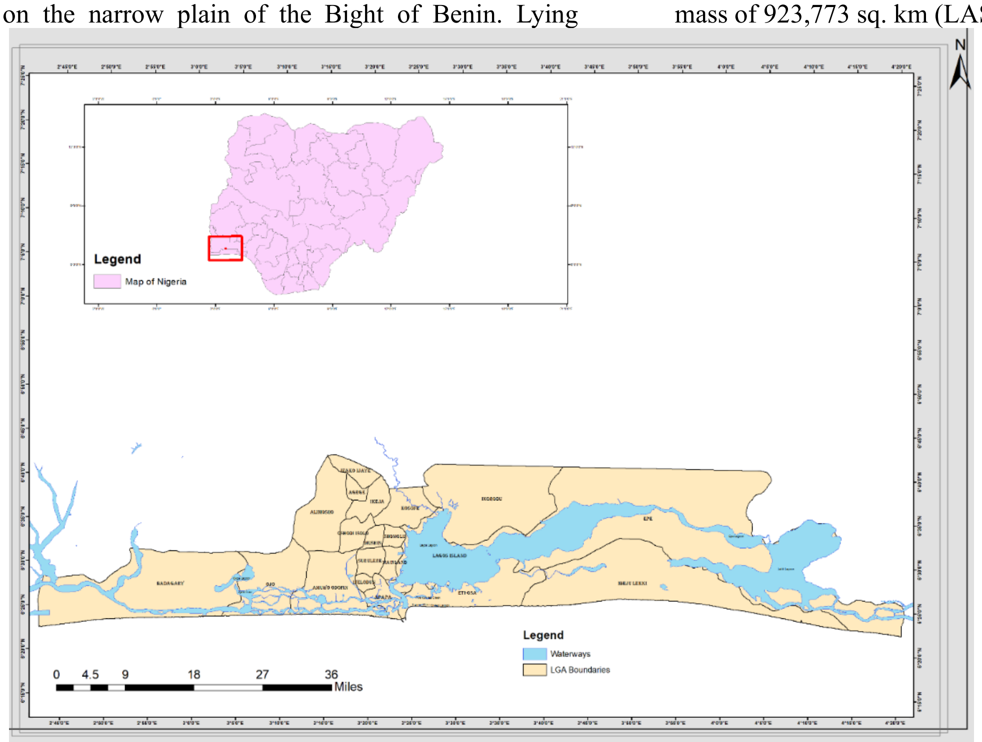

Figure 1: Lagos State Showing LGAs in the context of Nigeria
Source: *Author's GIS Analysis, (2024)*

3.2 Methods of Data Collection

The data for the study were obtained both using primary and secondary data source. This study adopts a quantitative research approach to systematically analyse the operational characteristics of petroleum products distribution in Lagos state. The quantitative approach ensures objectivity, reliability, and replicability by employing standardised instruments, such as structured questionnaire survey. The study population comprises key stakeholders directly involved in the distribution of petroleum products within Lagos State, Nigeria. Specifically, the study targets registered petroleum tanker drivers under the Petroleum Tanker Drivers (PTD), a specialised arm of the National Association of Road Transport Owners (NARTO). These tanker drivers play a critical role in the downstream sector, as they are responsible for the physical movement of petroleum products from depots to filling stations across the state. Structured questionnaires were administered to petroleum tanker drivers to gather information on the operational characteristics of petroleum distribution in Lagos State.

Systematic random sampling was used for the first sample unit, the petroleum tanker drivers. By employing this two-stage process to sample the truck drivers, it ensures unbiased selection and thus appropriate for this study. First, loading depot parks are randomly identified, and then the first truck in the queue is selected. Subsequently, every third truck in the queue is systematically chosen. This process, repeated three times (Monday, Wednesday and Friday) a week in Apapa, Lagos State, ensures a representative sample of the drivers involved in the physical distribution of petroleum products. Systematic-random sampling is ideal here as it helps minimise selection bias while offering a methodical and efficient approach to data collection.

For the first sample unit, which consists of petroleum tanker drivers, the study systematically sampled 1,000 drivers from the cluster depot parks in the Apapa area of Lagos State. This sample represents approximately 23% of the total population of 4,393 registered truck drivers in Lagos State, according to the Lagos State Bureau of Statistics (2023). This sample size aligns with Bruton's (1985) recommendation, which suggests that a sample size of between 10% and 50% is appropriate when the population exceeds 1,000.

4. Findings

4.1 Socio-economic and Demographic Characteristics of Respondents (Truck Drivers)

The analyses of the demographic and socioeconomic characteristics of truck drivers involved in the distribution of petroleum products in Lagos State are presented in Table 4.2, focusing on key factors such as gender distribution, age group, marital status, ethnic group, and educational level, which collectively provide understanding into the demographic profile and workforce composition in the petroleum distribution sector in Lagos State, Nigeria.

The gender distribution of respondents reveals a significant disparity, with males accounting for 96.2% (962) and females only 3.8% (38) among the truck drivers' population in the study area.

The age distribution indicates that 44.6% (446) of respondents are aged 26–35 years, followed by 34.6% (346) in the 36–45 age group. Only 9.2% (92) are within 18–25 years, and an even smaller proportion (9.8%, 98) are aged 46–55 years, with just 1.8% (18) above 55 years.

Marital status data shows that 58.3% (583) of respondents are married, 37.3% (373) are single, 4.1% (41) are divorced, and only 0.3% (3) are widowed (Table 4.2). This prevalence of married individuals may reflect the stability and economic necessity associated with family responsibilities, which no doubt affects drivers' commitment to job. Single drivers, who constitute a significant proportion, might represent individuals at the beginning of their careers or those without immediate family obligations, enabling them to endure the rigors of the job. The petroleum distribution industry could leverage this dynamic by designing job roles and benefits that cater to both married and single individuals. For instance, providing family-friendly work schedules or incentives for singles who can handle extended trips may optimise workforce utility.

The ethnic composition shows a dominance of Hausa (41.4%, 414) and Yoruba (39.0%, 390), followed by Igbo (13.4%, 134) and Niger Delta respondents (6.2%, 62). In terms of educational attainment, the majority of drivers have secondary education (56.2%, 562), followed by primary education (17.2%, 172) and no formal education (16.6%, 166). A smaller fraction has technical/vocational training (5.6%, 56) or higher degrees (4.4%, 44). This highlights the adequacy of basic literacy levels in meeting the profession's requirements while pointing to a lack of specialised training as reflected in the lowest percentage of drivers with high degrees in the petroleum distribution in the study area. The findings emphasise the need for technical upskilling programs, which could improve operational efficiency by equipping drivers with advanced knowledge of vehicle technology and logistics management.

The analysis of income levels reveals that 33.5% (335) earn less than ₦50,000 monthly, closely followed by those earning ₦50,000–₦100,000 (32.9%, 329). Only 16.1% (161) earn ₦100,001–₦150,000, 16.9% (169) earn ₦150,001–₦200,000, and a meagre 0.6% (6) earn above ₦200,000.

In is worth knowing that the findings from Table 4.2 showed that the physical distribution of petroleum products in Lagos State relies heavily on a predominantly male, young to middle-aged, married, and moderately educated workforce. While this demographic configuration supports the operational demands of the industry, it also highlights critical areas for improvement, including gender diversification, equitable recruitment measures, and enhanced compensation. Enhancing these, could lead to more sustainable logistics practices and a more resilient workforce in the petroleum distribution sector in Lagos State and Nigeria at large.

Table 1: Socio-Economic characteristics of Tanker Drivers

Gender	Frequency	Percentage %
Male	962	96.2
Female	38	3.8
Total	1000	100.0
Age Group		
18-25 years	92	9.2
26-35 years	446	44.6
36-45 years	346	34.6
46-55 years	98	9.8
Above 55 years	18	1.8
Total	1000	100.0
Marital Status		
Single	373	37.3
Married	583	58.3
Divorced	41	4.1
Widowed	3	.3
Total	1000	100.0
Ethnic Group		
Yoruba	390	39.0
Hausa	414	41.4
Igbo	134	13.4
Niger Delta	62	6.2
Total	1000	100.0
Highest Educational Level		
No Formal Education	166	16.6
Primary Education	172	17.2
Secondary Education	562	56.2
Technical/Vocational Education	56	5.6
Higher Degree Education	44	4.4
Total	1000	100.0
Average Monthly Income		
Less than #50,000	335	33.5
#50,000 - #100,000	329	32.9
#100,001 - #150,000	161	16.1
#150,001 - #200,000	169	16.9
Above #200,000	6	.6
Total	**1000**	**100.0**

Source: *Author's Analysis (2024)*

4.2 Locational Distribution of Respondents

From the study, a total of 7 depot parks are represented, each with varying proportions of respondents. NIPCO Depot Park leads with the highest proportion of respondents, making up 42.0% (415) of the total sample. This large percentage indicates that NIPCO Depot Park is a central hub for petroleum distribution, likely serving more drivers with varied products due to its capacity, location, or other logistical importance. A significant concentration of drivers at this depot suggests that it plays a crucial role in meeting the demand of the drivers for petroleum products distribution in Lagos State. The centralization of operations at this depot could bring about both benefits, such as economies of scale and optimised resource use, and challenges, such as congestion and overburdened infrastructure.

Koko Trailer Park follows, with 30.0% (298) of respondents based there, suggesting that it plays a secondary role in the distribution network. While it represents a smaller share compared to NIPCO, it is still an essential point for drivers of petroleum product distribution, possibly serving specific routes or market segments. The Marine Bridge Park Depot, on the other hand, accounts for a small percentage, 0.3% (3) of respondents. This suggests that while it may play a smaller role in the overall distribution system, due to specialised nature handling specific drivers with limited capacity or reduced operational reach. Other parks represented in the figure include Oando Depot Park (9.0%, 94 respondents), AP Depot Park (8%, 81 respondents), Total Depot Park (6.0%, 55 respondents), and Conoil Depot Park (5.0%, 54 respondents). Each of these depot parks plays a role in the overall petroleum distribution system, but their lower representation compared to NIPCO Depot suggests that they may either serve niche market group or operate at a smaller scale and have less capacity to handle the volume of distribution that larger depot parks like NIPCO manage.

The findings revealed the need to improve the infrastructure and expanding capacity at depot parks like Marine Bridge Park, Oando Depot Park, AP Depot Park, Total Depot Park, and Conoil Depot Park and these would help distribute the operational load more evenly, reducing pressure on drivers. Additionally, implementing strategic loading plan and optimising delivery schedules would alleviate traffic-related delays at the parks and improve overall operational efficiency of drivers of petroleum products distribution.

4.3 Analysis of Other Operational Characteristics of Petroleum Products Distribution

Table 2 present the findings on the tanker or truck vehicle capacity. As revealed in the table, findings indicates that the majority of drivers operate vehicles with a capacity of 45,000 litres (41.4%, 414), followed by 33,000 litres (26.9%, 269) and 40,000 litres (23.6%, 236). A smaller proportion use vehicles with 11,000 litres capacity (8.1%, 81). This distribution highlights a preference for larger-capacity tankers, which may stem from efforts to maximise efficiency in petroleum distribution by reducing the number of trips required. The average delivery hours per day reveal that 45.9% (459) of drivers spend more than 12 hours daily on deliveries, followed by 11–12 hours (22.0%, 220), 8–10 hours (17.7%, 177), and less than 8 hours (14.4%, 144). The prevalence of extended work hours suggests a highly demanding operational environment, potentially leading to fatigue and safety risks.

The average number of trips per week shows that 63.7% (637) of drivers complete 1–2 trips weekly, followed by 32.7% (327) completing 3–4 trips. Only 2.6% (26) and 1.0% (10) manage 5–6 trips and more than six trips, respectively. This low trip frequency could reflect the long distances covered and the delays experienced during deliveries. Operational coverage data shows that 59.2% (592) of drivers operate outside Lagos, while 40.8% (408) remain within the state. This suggests that petroleum distribution spans inter-state routes, requiring drivers to navigate diverse terrains and regulatory environments. The preference for operations outside Lagos could be linked to the presence of high-demand zones in neighbouring regions. However, inter-state operations often introduce complexities, such as extended delivery times and higher transportation costs. Policies aimed at decentralising petroleum storage and distribution hubs could reduce reliance on Lagos as the primary hub, thereby improving delivery efficiency across the country.

The nature of petroleum products carried is dominated by Premium Motor Spirit (PMS) at 69.6% (696), followed by Automotive Gas Oil (AGO) at 15.6% (156) and Liquefied Petroleum Gas (LPG) at 11.1% (111). Kerosene (DPK) and Aviation Turbine Kerosene (ATK) are carried by only 2.6% (26) and 0.6% (6) of drivers, respectively, while a negligible 0.5% (5) handle both PMS and AGO. This concentration on PMS reflects its status as the most widely consumed petroleum product in Nigeria. However, the limited transport of other fuels like DPK and LPG could indicate inefficiencies in meeting diverse energy demands. Expanding the distribution of alternative fuels could support energy diversification goals and reduce reliance on PMS, aligning with sustainable energy policies.

The findings from Table 2 however, emphasise several critical operational attributes and opportunities in petroleum product distribution in Lagos State. The dominance of high-capacity tankers suggests efficiency in bulk transport but raises concerns about urban sustainability and sustainable urban logistics. The extended work hours and limited trip frequencies highlight inefficiencies that could compromise driver safety and delivery schedules. Furthermore, the heavy focus on PMS transport emphasised the need for a more balanced distribution of petroleum products to align with broader energy needs transformation.

Table 2: Operational Characteristics of Petroleum Products Distribution

Tanker Vehicle Capacity	**Frequency**	**Percentage %**
11,000 Ltrs	81	8.1
33,000 Ltrs	269	26.9
40,000 Ltrs	236	23.6
45,000 Ltrs	414	41.4
Total	1000	100.0
Average Delivery Hours per Day		
Less than 8 hours	144	14.4
8-10 hours	177	17.7
11-12 hours	220	22.0
More than 12 hours	459	45.9
Total	1000	100.0
Average Number of Trips per Week		
1-2 Trips	637	63.7

3-4 Trips	327	32.7
5-6 Trips	26	2.6
More than 6 Trips	10	1.0
Total	1000	100.0
Operational Coverage		
Within Lagos	408	40.8
Outside Lagos	592	59.2
Total	1000	100.0
Nature of Petroleum Carried		
PMS	696	69.6
AGO	156	15.6
DPK	26	2.6
LPG	111	11.1
ATK	6	.6
PMS and AGO	5	.5
Total	1000	100.0

Source: *Author's Field Survey (2024)*

4.4 Association between Socioeconomic and Demographic Characteristics of Truck Drivers and Operational Capacity in Petroleum Product Distribution

This section evaluates the relationship between the socioeconomic and demographic characteristics of truck drivers and their operational capacity in the distribution of petroleum products in Lagos State using Pearson Chi-Square Analysis and Phi Cramer's V Test. In other words, these socioeconomic characteristics are linked to the type of driving training received to understand the extent to which the variables affect one another.

Findings presented in Table 3 on the age group and training type revealed that the majority of drivers aged 26–35 years (61.0%, 272) received specialised training for tanker driving, followed by those aged 36–45 years (57.5%, 199) and 18–25 years (55.4%, 51). Younger drivers, aged 18–25 years, exhibited a higher proportion of informal training (27.2%, 25), which reflects limited access to formal training facilities or reliance on informal learning sources, such as family and friends. Older drivers above 55 years also showed a preference for specialised training (61.1%, 11). The Pearson Chi-Square test ($\chi^2 = 38.571$, $p < 0.001$) confirms a significant relationship between age group and training type, with a weak but meaningful association indicated by the Phi value (0.196, $p < 0.001$).

Findings on gender and training type revealed that male drivers dominate the logistics workforce, with 58.5% (563) receiving specialised training, compared to 63.2% (24) of female drivers. However, female drivers are disproportionately represented in the "no training" category (15.8%, 6) compared to males (1.2%, 12). This disparity indicates potential barriers to formal training for women, likely influenced by gender biases or societal perceptions of their roles in physically demanding sectors. The Chi-Square test ($\chi^2 = 49.968$, $p < 0.001$) and Phi value (0.224, $p < 0.001$) confirm a moderate and significant association between gender and training type.

Findings on the marital status and training type revealed that married drivers predominantly received specialised training (56.6%, 330), reflecting the stability and economic motivation often associated with marital responsibilities. Single drivers also displayed significant engagement with specialised training (61.7%, 230), although they exhibited a slightly higher tendency toward informal training (19.8%, 74). Divorced drivers showed a mix, with some receiving specialised training (65.9%, 27) while others remained informally trained (19.5%, 8). The Chi-Square test ($\chi^2 = 32.279$, $p < 0.001$) and Phi value (0.180, $p < 0.001$) suggest a weak but significant relationship between marital status and training type. These results imply that marital stability influences access to or pursuit of formal training, potentially due to a focus on stable income streams to support family needs. Employers can enhance inclusivity by offering training packages that cater to drivers across different marital statuses, ensuring equal opportunities for professional development.

Analysis on ethnic group and training type showed that the Hausa ethnic group showed the highest proportion of informally trained drivers (29.2%, 121), whereas the Niger Delta group demonstrated the highest proportion of specialised training (77.4%, 48). Yoruba (60.8%, 237) and Igbo (47.8%, 64) drivers exhibited more balanced distributions between formal and informal training types. The Chi-Square test ($\chi^2 = 56.683$, $p < 0.001$) and Phi value (0.238, $p < 0.001$) confirm a moderate association between ethnicity and training type. Findings on the association between educational level and training type revealed that drivers with higher degrees predominantly received specialised training (56.8%, 25), while those with no formal education were overrepresented in informal training (34.3%, 57). This trend highlights the correlation between education and access to advanced training. The Chi-Square test ($\chi^2 = 126.115$, $p < 0.001$) and Phi value (0.355, $p < 0.001$) indicate a moderate and significant relationship between education and training type. These results emphasise the need for specialised training programs that accommodate drivers with limited educational backgrounds, ensuring competency across the workforce. As suggested by Adewuyi et al. (2021), literacy-inclusive training initiatives can improve operational standards and inclusivity.

Findings on the influence of monthly Income on training received revealed that drivers earning less than ₦50,000 showed the highest rate of informal training (44.2%, 148), whereas those in higher income brackets, such as ₦150,001–₦200,000, predominantly received specialised training (85.8%, 145). This strong association is confirmed by the Chi-Square test ($\chi^2 = 208.032$, $p < 0.001$) and Phi value (0.456, $p < 0.001$). The findings suggest that income levels are both a determinant and a result of training type. Drivers with specialised training often earn higher incomes due to enhanced competencies and reduced risks. Subsidising training costs for low-income drivers can increase access and improve the operational capacity of this segment. Employers should also consider linking training completion to income progression, incentivising drivers to pursue professional development.

The findings from Table 3 however highlight that socioeconomic and demographic characteristics significantly influence the operational capacity of truck drivers in petroleum distribution, with implications for workforce development. Younger drivers, particularly those in low-income brackets, require accessible formal training to standardise competencies and improve operational safety. Gender equity initiatives are crucial to addressing training disparities for female drivers, diversifying the workforce, and enhancing efficiency. Establishing decentralised training facilities can mitigate regional and ethnic disparities, fostering a more uniform and skilled workforce. Specialised training programs for drivers with limited educational backgrounds can promote inclusivity and facilitate skill acquisition, while linking training completion to income progression can incentivise professional development and reduce reliance on informal training.

Table 3: Association between Socioeconomic and Demographic Characteristics of Truck Drivers and Operational Capacity in Petroleum Product Distribution using Pearson Chi-Square Analysis and Phi Cramer's V Test

Socio-economic and demographic characteristic		Driving Training Received					Pearson Chi-Square						
		None	Informal (Learned from Family and Friends)	Formal Driving School	Specialised Training for Tanker Driving	Total	Value	Df	Sig.	Phi value	Sig.	Cramer's V value	Sig.
Age Group													
18-25 years	F	8	25	8	51	92	38.571[a]	12	.000	.196	.000	.113	.000
	%	8.7%	27.2%	8.7%	55.4%	100.0%							
26-35 years	F	7	85	82	272	446							
	%	1.6%	19.1%	18.4%	61.0%	100.0%							
36-45 years	F	2	81	64	199	346							
	%	0.6%	23.4%	18.5%	57.5%	100.0%							
46-55 years	F	1	27	16	54	98							
	%	1.0%	27.6%	16.3%	55.1%	100.0%							
Above 55 years	F	0	5	2	11	18							
	%	0.0%	27.8%	11.1%	61.1%	100.0%							
Total	F	18	223	172	587	1000							
	%	1.8%	22.3%	17.2%	58.7%	100.0%							
Gender													
Male	F	12	222	165	563	962	49.968[a]	3	.000	.224	.000	.224	.000
	%	1.2%	23.1%	17.2%	58.5%	100.0%							
Female	F	6	1	7	24	38							
	%	15.8%	2.6%	18.4%	63.2%	100.0%							
Total	F	18	223	172	587	1000							
	%	1.8%	22.3%	17.2%	58.7%	100.0%							
Marital Status													
Single	F	11	74	58	230	373	32.279[a]	9	.000	.180	.000	.104	.000
	%	2.9%	19.8%	15.5%	61.7%	100.0%							
Married	F	5	139	109	330	583							
	%	0.9%	23.8%	18.7%	56.6%	100.0%							
Divorced	F	1	8	5	27	41							
	%	2.4%	19.5%	12.2%	65.9%	100.0%							
Widowed	F	1	2	0	0	3							
	%	33.3%	66.7%	0.0%	0.0%	100.0%							
Total	F	18	223	172	587	1000							
	%	1.8%	22.3%	17.2%	58.7%	100.0%							
Tribe													
Yoruba	F	6	73	74	237	390	56.683[a]	9	.000	.238	.000	.137	.000
	%	1.5%	18.7%	19.0%	60.8%	100.0%							
Hausa	F	5	121	50	238	414							
	%	1.2%	29.2%	12.1%	57.5%	100.0%							
Igbo	F	6	21	43	64	134							
	%	4.5%	15.7%	32.1%	47.8%	100.0%							
Niger Delta	F	1	8	5	48	62							
	%	1.6%	12.9%	8.1%	77.4%	100.0%							
Total	F	18	223	172	587	1000							
	%	1.8%	22.3%	17.2%	58.7%	100.0%							
Highest Educational Level													
No Formal Education	F	2	57	20	87	166		12	.000	.355	.000	.205	.000

Source: *Author's Field Survey (2024)*

5. Conclusions

Operational characteristics of petroleum product distribution showed that high-capacity tankers, long working hours, and low-trip frequencies dominate the petroleum logistics landscape in Lagos State. These factors contribute to inefficiencies and safety risks, requiring better scheduling, work-hour regulation, and investment in inter-modal means. Additionally, socioeconomic and demographic factors such as age, education, and income levels, significantly influenced truck drivers' operational capacity, revealing disparities in training and experience, which need to be addressed through targeted programmes. This finding highlights the need for standardised training programmes, gender-inclusive policies, and subsidies for low-income drivers or operators.

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Cashless Policy and the Financial Performance of Deposit Money Banks in Nigeria

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Abstract. This study empirically investigated the effect of cashless policy on the financial performance of thirteen listed deposit money banks (DMBs) in Nigeria using quarterly data covering the period 2009Q1 to 2023Q4. The study employed error correction model and multivariate OLS regression. The findings revealed that mobile banking (MOB), national electronic funds transfer (NEFT) and automated teller machine (ATM) transactions have significant impact on the financial performance of DMBs in the short-run while national electronic funds transfer (NEFT), point of sales (POS), automated teller machine (ATM), Nigerian inter-bank (NIP) transfer and web-based (WB) transactions exerts significant impact on DMBs' financial performance in the long-run. Therefore, the study recommends among others that management of DMBs should reduce the prevalence of hacking by investing more on the security of mobile banking and other electronic payment channels and this would lead to increased customer's satisfaction and patronage which can induce higher ROA of DMBs.

Keywords: Cashless Policy, Financial Performance, Mobile Banking, Point of Sales, Automated Teller Machine.

1. Introduction

The banking sector has undergone continuous change throughout time due to the constantly changing and unstable environment in which it operates as well as the pursuit of an effective and efficient payment system. Banks worldwide have persisted in using financial technology to address shifting demands and competing stakeholders' interests. The cashless banking policy is one of such technological innovations adopted in reaction to both internal and external pressures banks face (Arinze-Emefo & Ibrahim, 2023). The innovation in payment systems has brought about the cashless initiatives and the consequent cashless policies to drive cashless economies. Cashless banking is not the total nonexistence of cash. It is an economic situation in which goods and services are bought and paid for via electronic media (Muotolu & Nwadialor, 2019).

Many economies (including Nigeria) have already adopted cashless policy to facilitate smooth transactions as the world undergoes a rapid shift. Cashless policy was initiated in 2012 in Nigeria by the Central Bank of Nigeria (CBN) with the objective of reducing the use of physical cash and promotes digital transactions. This policy sought to advance financial inclusion, lessen corruption, and improve the efficiency of the Nigerian economy (Central Bank of Nigeria, 2024).

Since the advent of cashes policy initiatives, it has impacted developed, emerging and developing economies and specifically, it has impacted the performance of banks and other financial institutions as well as the manner in which financial services are rendered. As a consequence, numerous investigations have been conducted globally to fully understand the impact of cashless policies on economies and particularly on banks that deploys cashless policy tools and devices. Specifically for Nigeria, several studies examining the impact of cashless policy on the financial performance of Nigerian deposit money banks (DMBs) exist with mixed and contradictory results. For instance, researches including Ajibola, Alalade and Akinrin (2024) Ibekwe, Ibekwe and Morah (2023) found that cashless policy variables have a positive relationship with the financial performance of banks. On the contrary, Aigbovo amd Orobator 2020 found that cashless policy have a negative relationship with the DMBs' financial performance. These varied results may be due to difference in variables utilised, technique in estimation of variables, scope covered, and difference in estimation procedures utilized in their investigation. Additionally, majority of the researches used very few variables to proxy cashless policy. These conflicting results create a gap for further examination.

In terms of methodology and scope, Ighoroje and Okoroyibo (2020) utilized the ARDL and a dataset from 2008 to 2018; Adu and Williams (2023) employed panel least square technique and a dataset from 2013 to 2020; Ibekwe et al., (2023) utilized the ECM and a dataset from 2013 to 2019 while Ajibola et al., (2024) employ the OLS regression and a data set from 2017 to 2022. From the empirical literature on Nigerian studies, only Ibekwe et al. (2023) have employed the ECM technique. This study used ECM, more variables and a more recent quarterly data set that span from 2009Q1 to 2023Q4. The ECM is useful for forecasting and disentangling short-run dynamics and long-run relationship, which will aid the establishment of a more robust interconnection between the cashless policy and the financial performance variables. The short-run and long-run effects of cashless policy on the financial performance of DMBs have not been extensively studied by prior researchers in Nigeria. As a result, this study investigates the impact of cashless policy variables including mobile banking (MOB), national electronic funds transfer (NEFT), point of sales (POS), automated teller machine (ATM), Nigerian inter-bank (NIP) transfer and web-based (WB) transactions on the financial performance of DMBs in Nigeria.

2. Literature Review

2.1 Empirical Literature

Several studies have been conducted globally to investigate the connection between cashless policy and the financial performance of banks. Ajibola, Alalade and Akinrin (2024) investigated the impact of cashless economy initiatives on profitability metrics of fourteen (14) listed DMBs in Nigeria from 2017 to 2022. The profitability of listed DMBs was examined using inferential statistics, pool regression data analysis, and ADF testing for unit roots. While POS, ITB, NEFT, and NIP exerted positive but minimal impact on ROA, the results shows that ATMs exerted a positive and significant impact on the ROA of Nigerian listed banks.

Ibekwe, Ibekwee and Morah (2023) examined the effect of cashless banking on the performance of DMBs in Nigeria from 2013 to 2019. The variables used were automated teller machines (ATM), mobility of payment (MOP), and point of sales (POS). It was estimated using the OLS approach. The unit root of the variables that were included was confirmed using the results of the ADF test. For short-term correction, an ECM was used. The study discovered that the performance of Nigerian DMBs is positively and significantly impacted by POS and MOP.

Arinze-Emefo and Ibrahim (2023) examined the connection between cashless banking and the performance of DMBs from 2016 to 2020 using thematic statistical techniques. The cost-to-income ratio (CIR), net interest margin (NIM), return on assets (ROA) and return on equity (ROE) were the financial performance metrics that were evaluated. Cashless banking policy variables include ATM, POS and mobile banking. The OLS regression was employed for the analysis. The findings showed that ATM, POS and mobile banking displayed no significant effect on the performance of DMBs in Nigeria.

Adu and Williams (2023) investigated the effect of cashless policy on financial performance of five (5) commercial banks in Nigeria using panel analysis from 2013 to 2020. Regression analysis was used in their investigation to establish the effects of POS, e-banking, NEFT, and ATM transactions on performance. The results demonstrated that the performance of commercial banks is significantly impacted by ATM, NIP, mobile banking, and cheque transactions.

Shamanth and Aparna (2022) examined the effect of cashless policy on the financial performance of SBI bank using various cashless methods adopted by the bank. They employed a multiple regression technique to ascertain the significance of the correlation amid the independent variables, which are electronic banking metrics, and the dependent variables, which are profitability metrics such as ROE and ROA. The results show that most of the indicators are positively affecting the bank's performance as calculated by ROE and ROA.

Ighoroje and Okoroyibo (2020) investigated the cashless policy and the performance of Nigerian DMBs from 2009 to 2018 using descriptive statistics, ADF and Philip Perron (PP) tests for unit roots and the ARDL for cointegration and coefficient analysis. ATMs, mobile banking, POS machines, and internet banking were utilised as proxies for cashless policies, while ROE was employed as a proxy of performance. They discovered that both ATMs and internet banking positively and significantly impacted ROE. Also, POS showed a positive but insignificant effect on ROE, whereas mobile banking had no effect. Mobile banking had a negative and statistically significant effect on ROE. Their conclusion was that the cashless policy manifests a positive and significant effect on the performance of Nigerian DMBs.

Aigbovo and Orobator (2020) examined the effect of electronic banking on financial performance of DMBs in Nigeria from 2009 to 2018. The data was analysed using dynamic panel data alongside multivariate panel estimation. The GMM results revealed that while the overall value of POS transactions exerted a negative effect on DMBs' performance, the aggregate value of automated teller machine transactions exerted a favourable and significant effect. Additionally, there was a negative connection between the overall value of mobile payments and performance and it did not pass the significant test.

3. Data and Methodology

3.1. Data

This study examined the impact of cashless policy on the financial performance of DMBs in Nigeria spanning a 15-year period from 2009Q1 to 2023Q4 with 60 observations. There were thirteen (13) listed DMBs operating in Nigeria as at 31st December, 2023 and this constitute the population and the sample for the study. Hence, the census sampling technique was employed in the study. The DMBs were Zenith Bank Plc, Fidelity Bank Plc, Ecobank Nigeria Plc, First Bank of Nigeria Ltd, First City Monument Bank Plc, Jaiz Bank Plc, GT Bank Plc, Stanbic-IBTC, UBA Plc, Sterling Bank Plc, Unity Bank Plc, Access Bank Plc and Wema Bank Plc. The data for this study was obtained from the Central Bank of Nigeria Statistical Bulletin (2023) and the World Bank Global Financial Indicators website. This study was confined to Nigeria because of the few country-specific studies on this topic and the need to provide evidence on the subject matter based on the most recent data. Data availability also had a role in the choice of the period.

3.2 Theoretical Framework and Model Specification

The study is anchored upon the Technology Acceptance Model (TAM) theory propounded by Davis (1985). It describes how consumers in can adopt cashless policies and utilize technologies that will improve DMBs' performance. TAM opines that when people are introduced to a new technology, an array of factors determines their choice of when and how to use it. The perceived utility (PU) and perceived ease of use (PEOU) are among the variables. The TAM theory helps us to understand those factors that have the impact on cashless policy adoption by DMBs.

The model of Arinze-Emefo and Ibrahim (2023) was adapted and modified for this study. Arinze-Emefo and Ibrahim (2023) model is specified as:

$$h_t = \alpha_0 + \alpha_{1x1t} + \alpha_2 x_{2\,t} + \alpha_3 x_{3t} + \mu_t \;\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(1)$$

Where: h_t = Banks' performance proxied by ROA (dependent variable); α_0 = the constant variance (mean); $\alpha_{1\text{-}3}$ = coefficients of the cashless systems variables (automated teller machine ATM, POS and mobile banking; μ_t = error term; t = time subscript.

Unlike Arinze-Emefo and Ibrahim (2023) model, our model is broader and much more an all encompassing measure of cashless policy, as it sufficiently captures more cashless policy variables in Nigeria. Functionally, our model is specified as:

$$ROA = f\,(MOB,\ NEFT,\ POS,\ ATM,\ NIP,\ WB) \;\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(2)$$

The econometric form is specified as:

$$ROA = \beta_1 MOB_t + \beta_2 NEFT_t + \beta_3 POS_t + \beta_4 ATM_t + \beta_5 NIP_t + \beta_6 WB_t + \mu_t \ldots\ldots\ldots\ldots\ldots\ldots(3)$$

By log linearizing the model, we have:

$$ROA = \beta_1 LMOB_t + \beta_2 LNEFT_t + \beta_3 LPOS_t + \beta_4 LATM_t + \beta_5 LNIP_t + \beta_6 LWB_t + \mu_t \ldots\ldots\ldots\ldots(4)$$

The error correction model (ECM) from equation (4) is given as:

$$ROA_t = \beta_0 + \beta_1 \Sigma LMOB_{t-1} + \beta_2 \Sigma LNEFT_{t-1} + \beta_3 \Sigma POS_{t-1} + \beta_4 \Sigma LATM_{t-1} + \beta_5 \Sigma LNIP_{t-1} + \beta_5 \Sigma LWB_{t-1} + \beta ECM_{t-1} + \Sigma t_n \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(5)$$

Where ROA = Return on Asset; MOB = Total value of mobile payment transactions; NEFT = Total value of national electronic fund transfer transactions; POS = Total value of point of sale transactions; ATM = Total value of automated teller machine transaction; NIP = Total value of Nigerian inter-bank transactions; WB = Total value of web/internet transaction; β_0 = Constant ; $\beta_1 - \beta_6$ = Coefficient relating to the independent variables; μ_t = Stochastic term; L = Logarithm; t = Time; ECM = Error Correction Model; $_{t-1}$ = variable that has been lagged by one period.

The a priori expectation is: β_1-β_6>0, that is, MOB, NEFT, POS, ATM, NIP and WB transactions are expected to be positively related to the financial performance of DMBs in Nigeria.

3.3 Method of Data Analysis

The study employed the ECM and multivariate OLS regression techniques for the long-run analysis. To effectively utilize the ECM framework, all variables were integrated of order one (i.e. I[1]). As a prelude to these, the unit root characteristics of the time series variables were investigated using the ADF to establish the stationarity of the underlined variables since the regression of non-stationary time series variable on another yields spurious and inconsistent parameter estimates. The Engle-Granger two stage residual test for cointegration was also conducted. The E-Views 9.0 statistical software was employed for the analysis.

3.4 Measurement of Variables

The variables that were employed are listed in Table 3.1 along with the a priori expectation and the prior researchers that utilised the variable in their study.

Table 3.1: Variable Measurements

SN	Variables	Types of Variables	Variable Measurements	Previous Researchers that used the Variables	A priori Expectation
1	Return on Asset (ROA)	Dependent	Net income divided by total assets	Arinze-Emefo and Ibrahim (2023)	
2	Mobile banking transactions (LMOB)	Independent	Measured as the total value of mobile payment (MOB) transaction in Nigeria	Aigbovo and Orobator (2020)	(+)
3	National electronic fund transfer (LNEFT)	Independent	Measured as total value of national electronic funds transfer (NEFT) transactions in Nigeria	Ajibola et al., (2024)	(+)
4	Point of sales transactions (LPOS)	Independent	Measured as the total volume of transaction on point of sales (POS) in Nigeria	Aigbovo and Orobator (2020)	(+)
5	Automated teller machine transactions (LATM)	Independent	Estimated as the total volume of automated teller machines (ATM) in Nigeria	Ibekwe, et al., (2023)	(+)
6	Nigerian inter-bank transactions (NIP)	Independent	Measured by the total value of Nigerian inter-bank (NIP) transfer transactions in Nigeria	Adu and Williams (2023)	(+)
7	Web-based transactions (WB)	Independent	Measured by the total value of web-based (WB) transactions in Nigeria	Ajibola et al., (2024)	(+)

Source: *Authors' compilation (2024).*

4. Results and Discussion

4.1 Descriptive Statistics

The attributes of the dataset utilised in this investigation is detailed employing descriptive statistics. The results of the summary statistics for all variables employed in the investigation are presented in Table 4.1.

Table 4.1: Descriptive Statistics

	Mean	Max	Min	Std. Dev.	Skew	Kurt.	J-B	Prob
ROA	1.917573	3.481652	0.190894	0.640235	0.13	4.56	4.18	0.12
LMOB	6.609592	10.74902	2.430126	2.098883	-0.02	2.51	0.39	0.82
LNEFT	9.760247	12.88459	6.056493	1.141945	0.37	6.47	21.01	0
LPOS	6.532085	10.01165	3.28225	1.71409	0.13	2.4	0.7	0.7
LATM	8.531158	9.93735	7.428866	0.697392	0.51	2.67	1.94	0.37
LNIP	10.09998	11.81976	4.800693	1.515071	-1.41	5.27	21.93	0
LWB	6.044876	13.20861	3.452207	3.095546	1.61	4.11	19.41	0

Source: *Authors' computations (2025) using Eviews 9.0.*

From Table 4.1, the average annual change in ROA of DMBs in Nigeria is 1.91 percent, which is a not too high rate of ROA. With a maximum value of 3.48 percent, it is seen that there were periods of very rapid annual increases in ROA which is the performance indicator, although there were also periods of sharp year-on-year declines in ROA, going by the minimum value of 0.19 percent. The standard deviation values for the performance indicator (ROA) is much lower than the mean values, suggesting that there were low swings or movements (variability) in the performance indicators (ROA) of DMBs over the period. The

Kurtosis value of ROA is 4.56 which is greater than the 3 margin which imply that the distribution is presumed to be peaked (leptokurtic) in relation to normal. The dataset for ROA is positively skewed to the right. The Kurtosis of ROA is less than 3 (platykurtic), implying that its distributions are flat compared to a normal distribution. Meanwhile, the J-B values of 4.18 reveals that ROA evidently failed significantly at the 5 percent level as showed in the probability value of 0.12, indicating that ROA is normally distributed.

For the independent variables, the average values of mobile banking (LMOB), national electronic funds transfer (LNEFT), point of sales (LPOS), automated teller machine (LATM), Nigeria interbank payment system (LNIP) and web-based (LWB) transactions are 6.61, 9.76, 6.53, 8.53, 10.09 and 6.024 respectively; with their individual maximum values greater than their mean values. Hence, the explanatory variables utilised in this investigation has moved higher than average during the period of investigation. However, these were connected with low inconsistency as shown by the low values of their individual standard deviations. The data set for LMOB and LNIP transactions were negatively skewed suggesting the distribution has a long-left tail while that of LNEFT, LPOS, LATM and LWB transactions were positively skewed to the right implying the distribution possess a long-left tail. The Kurtosis of LNEFT, LNIP and LWB transactions is more than 3 which suggests that the distribution is presumed to be peaked (leptokurtic) in relation to standard while LMOB, LPOS and LATM transactions is lesser than 3 (platykurtic), implying that their distributions is flat compared to a normal distribution. The Jaque-Bera (J-B) statistic values for LMOB, LPOS and LATM transactions are insignificant since their probability values are greater than 5%. It implies that the data set for values for LMOB, LPOS and LATM transactions are normally distributed while that of LNEFT, LNIP and LWB are significant since their probability values are less than 5%, an indication that LNEFT, LNIP and LWB transactions are not normally distributed.

4.2 Correlation Analysis

In order to observe the initial characterisation in terms of the nature and extent of associations amongst the variables utilised in this investigation, the correlation analysis is performed. Table 4.2 shows the outcome of the pairwise correlation matrix.

Table 4.2: Correlation Matrix

Correlation Probability	ROA	LMOB	LNEFT	LPOS	LATM	LNIP	LWB
ROA	1.000000 -----						
LMOB	-0.129489 (0.4258)	1.000000 -----					
LNEFT	0.223503 (0.1656)	0.428759 (0.0000)	1.000000 -----				
LPOS	0.118654 (0.4659)	0.581094 (0.0000)	0.675494 (0.0000)	1.000000 -----			
LATM	0.145039 (0.3719)	0.562236 (0.0000)	0.484244 (0.0000)	0.525079 (0.0000)	1.000000 -----		
LNIP	0.086909 (0.5939)	0.437054 (0.0000)	0.435974 (0.0049)	0.439664 (0.0000)	0.673777 (0.0000)	1.000000 -----	
LWB	-0.120452 (0.4591)	0.527612 (0.0000)	0.461583 (0.0000)	0.452624 (0.0000)	0.510451 (0.0000)	0.404988 (0.0095)	1.000000 -----

Source: *Authors' computations (2025) using Eviews 9.0. Probabilities in parentheses () below each coefficient.*

The correlation matrix for the variables in Table 4.2 indicates that all the explanatory variables except LMOB and LWB transactions were positively correlated with ROA. However, none of the explanatory variables was statistically significant. By implication, none of the explanatory variable is significantly associated with the dependent variable.

Furthermore, in terms of the correlation among the explanatory variables, there is a significant and positive connection amid all the explanatory variables, suggesting that all the cashless policy variables (MOB, POS, ATM, WB, NEFT and NIP transactions) positively stimulate each other. An overall consideration of the result of the correlation coefficients signifies the absence of multicolinearity problem in the empirical estimates since none of the correlation value exceeded 0.80 percent or had perfect correlation. According to Barry and Feldman (1985) criteria, "multicolinearity is not a problem if none of the correlation values exceeds 0.80".

4.3 Unit Root Test

The ADF test was utilised so as to analyse unit roots and the outcomes are shown in levels and at first difference. This allows us ascertain the level or order of integration of all the variables, specifically whether the variables have unit root in their time series and to also get more robust results. Table 4.3 shows the ADF test in levels and at first difference.

Table 4.3: Unit Root Test Result

Augmented Dickey–Fuller (ADF) Test			
Variables	At levels	First Difference	Order of Integration
ROA	-3.3232**	-3.8691**	I[1]
LMOB	-1.4061	-6.1834**	I[1]
LNEFT	-1.9679	-6.4107**	I[1]
LPOS	0.8894	-6.6770**	I[1]
LATM	-2.2398	-3.7532**	I[1]
LNIP	0.5757	4.4188**	I[1]
LWB	-0.11	-7.7240**	I[1]

Source: *Authors' computations (2025) using Eviews 9.0. Note: * and ** indicate significance at 5% and 1 percent respectively.*

According to the findings, one of the variables' ADF values (ROA) is below the 95 percent required ADF value (in absolute values). This implies that the time series are not stationary in their levels. From the first differences, it can be observed that the ADF test statistic for all the variables is higher compared to the 95 percent critical ADF value (in absolute values). From these results, these variables are deemed to be stationary, that is, stationarity was established following the first difference. Therefore, we would allow the hypothesis that the variables have unit roots because they are integrated of order one (i.e. I[1]).

4.4 Co-integration Test

Since it is proven that the variables possess unit root, the next step was to test for co-integration between the dependent variable (ROA) and the explanatory variables (LMOB, LNEFT, LPOS, LATM, LNIP and LWB). The Engle and Granger (1987) two stage co-integration technique is utilised to analyze the co-integration. The process for applying the Engle and Granger test is to conduct an OLS regression at level for ROA regressors, retain the residuals, and subsequently use the ADF test for unit roots to see whether the residuals are stationary. Computer output test statistics are compared to the relevant Engle-Granger critical value. Table 4.4 presents the result of the unit root tests on the OLS residuals.

Table 4.4: Test of Unit Root for ECM Result

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.466613	0.0146
Test critical values:	1% level	-3.615588	
	5% level	-2.941145	
	10% level	-2.609066	

*MacKinnon (1996) one-sided p-values.

Source: *Authors' computation (2025) using Eviews 9.0.*

Since the absolute ADF test statistics, which have a value of -3.4666, are higher than the absolute critical ADF value, which is -2.941145 at the 5 percent level of significance, the results in Table 4.4 demonstrate that the residual is stationary. This leads us to the conclusion that, at the 5 percent test levels, the dependent variable (ROA) and the explanatory variables (LMOB, LNEFT, LPOS, LATM, LNIP, and LWB) are co-integrated. Therefore, a long-run equilibrium relationship between the dependent variable (ROA) and the regressors (LMOB, LNEFT, LPOS, LATM, LNIP and LWB) is confirmed.

4.5 Parsimonious Error Correction Model (Short-Run) Analysis

The result of the ECM estimation on cashless policy variables (LMOB, LNEFT, LPOS, LATM, LNIP and LWB) and financial performance of Nigeria's DMBs is presented in Table 4.5.

Table 4.5: Error Correction Model (Short-Run) Regression Result

Dependent Variable = DROA			
Variables	Coeff.	t-stat	Prob.
C	-0.070398	-0.960575	0.346
DROA(-1)	0.408093	2.839917	0.0088*
DLMOB(-1)	0.001073	3.147877	0.0042*
DLMOB	0.000879	3.26377	0.0032*
DLNEFT(-1)	-1.109726	-2.859813	0.0084*
DLNEFT	2.835647	4.628568	0.0001*
DLPOS(-1)	0.903903	2.057336	0.0502**
DLPOS	1.146388	1.742363	0.0937
DLATM(-1)	3.490907	3.804837	0.0008*
DLATM	5.525325	5.202643	0.0000**
DLNIP	0.639639	1.844597	0.077
DLWB	0.153805	1.852535	0.0758
ECM(-1)	-0.294042	-3.134846	0.0044
R^2	0.879649		
Adj R^2	0.82188		
F-stat	15.22709		
Prob.	0		
D.W Stat.	1.828805		

Source: *Authors' computation (2025) using E-views 9.0 Software. * &** = 1% and 5% level of significance.*

The model's high predictive ability is demonstrated by the R squared value of 0.88 in Table 4.5, which indicates that changes in the cashless policy variables account for over 88 percent of the systematic variations in DMBs' performance (ROA) in Nigeria. The adjusted R-squared value of 0.82 is extremely elevated and suggests that the model's predictive ability is good; therefore, we conveniently conclude that the explanatory variables during the reference period account for over 82 percent of the short-run systematic variations in ROA, the proxy for financial performance. The F-value of 15.22709, which passes the significance test at the 1 percent level, further validates the model's overall fitness, including the dependability of the explanatory power. Consequently, the hypothesis that ROA and the independent variables have a substantial linear relationship is validated. The ECM coefficient is significant at the 1% level and has the right sign, which is negative. As a result, the model can adjust for any change in DMB's financial performance from the short-term equilibrium state to the long-term equilibrium state. When there is a transitory disequilibrium, the speed of adjustment is around 29%, according to the ECM's coefficient, which has a value of -0.29. This suggests that the speed of adjustment to the long term would be approximately 29%. There is no autocorrelation in the model, as indicated by the Durbin Watson statistic of 1.82. The importance of each of the independent variables in the model is established by taking into account the respective coefficients of the variables in terms of significance and signs. A detailed analysis of each coefficient shows that the coefficient of return on asset [DROA (-1)], which is one period lagged (prior year), is positive and statistically significant. This indicates that one important aspect to be taken into account when determining the current year performance (DROA) of DMBs in Nigeria is the one-year lagged return on asset [DROA (-1)]. The coefficient of previous period mobile banking transactions [DMOB(-1)] and the current period mobile banking transactions (DMOB) are positively signed and also passed the significance test at 1 percent level of significance. The positive sign suggests that a percentage increase in previous period mobile banking transactions [DMOB (-1)] and the current year mobile banking transactions (DMOB) improve the performance (DROA) of DMBs by 0.001073 and 0.000879 respectively. Furthermore, the coefficients of one period lagged national electronic funds transfer transactions [DLNEFT (-1)] was negatively signed while that of the current period national electronic funds transfer transactions (DLNEFT) was positively signed. However, both variables passed the significance test at 1 percent level of significance. The negative sign between previous year national electronic funds transfer transactions [DLNEFT (-)] and ROA, suggests that a percentage increase in previous period national electronic funds transfer transactions [DLNEFT (-)] adversely affect the performance of DMBs while the direct relationship between current period national electronic funds transfer transactions (DLNEFT) and ROA, imply that current period NEFT transactions stimulate the performance of DMBs in the short-run.

Also, the coefficients of one-year lagged point of sales transactions [DLPOS (-1)] and the current year point of sales transactions (DLPOS) was positively signed but only the one-year lagged point of sales transactions [DLPOS (-1)] passed the significance test at the 5 percent level of significance. The positive sign implies that one-year lagged point of sales transactions [DLPOS (-1)] enhances the financial performance (DROA) of DMBs in Nigeria in the short-run. On the contrary, the coefficients of one year lagged automated teller machine transactions [DLATM (-1)] and current year automated teller machine transactions (DTATM) are positively signed and both passed the significance test at the 1 percent level of significance. The positive sign implies that the one year lagged automated teller machine transactions [DLATM (-1)] and current year DTATM enhances the performance of DMBS in Nigeria in the short-run. Finally, Nigeria interbank payment system transactions (DLNIP) and web-based transactions (DLWB) were positively signed but both variables failed the significance test. Also, the short-run result reveals that if all the explanatory variables are zero, there is an insignificant decrease in the financial performance of DMBs in Nigeria by 0.07 percent as shown by the intercept (constant).

4.6 Long-Run Analysis

The OLS regression results for the quarterly time series data of 40 observation, that is, 2009Q_1 to 2023Q_4 indicated the presence of autocorrelation with DW= 0.92 thus rendering the initial results spurious. To correct for autocorrelation, the Cochrane-Orcutt autoregressive technique, AR (4), was employed. It attained convergence after 17 iterations with 40 included observations after adjustment in time period (2011Q3 2021Q2). The final result is presented in Table 4.6.

Table 4.6: Ordinary Least Squares (Long-Run) Regression Result

Dependent Variable = ROA			
Variables	Coeff.	t-stat	Prob.
C	12.75714	1.789862	0.0832
LMOB	-0.61589	-1.661409	0.1067
LNEFT	0.537682	3.264237	0.0027
LPOS	0.769197	1.991257	0.0553
LATM	2.69583	2.315223	0.0274
LNIP	0.390627	2.741643	0.0101
LWB	0.334245	2.957834	0.0059
AR(4)	-0.319265	-1.494881	0.1451
R^2	0.59056		
Adj R^2	0.484898		
F-stat	5.589153		
Prob.	0.000203		
D.W Stat	1.917256		

Source: *Authors' computation (2025) using E-views 9.0 Software.* ** &** = 1% and 5% level of significance*

With an R^2 value of 0.590560, the OLS regression result displayed in Table 4.6 shows that the explanatory variables (LMOB, LNEFT, LPOS, LATM, LNIP, and LMB) account for around 59% of the aggregate variation in the dependent variable (ROA). After accounting for the degrees of freedom (df), this outcome was below average, as shown by the adjusted R^2 value of 0.48898 (about 49%). Consequently, the regression fit was marginally subpar. At the 1% level, the model's explanatory power is tested using the F-statistic, which is 5.589153 with a corresponding probability value of 0.000203. This suggests that the six (6) explanatory variables (LMOB, LNEFT, LPOS, LATM, LNIP and LMB) have joint significant effect on DMBs' performance in Nigeria in the long-run. Since the Durbin-Watson statistic value of 1.917256 is roughly equal to 2, autocorrelation can be ruled out of the results entirely.

A close review of the coefficient of the variables in the model shows that all the explanatory variables (except LMOB) pass the significant test at the 1 percent and 5 percent significant levels. Also, all the explanatory variables except (LMOB) were positively signed. Hence, a percentage change in LNEFT, LPOS, LATM, LNIP and LMB will increase the performance of DMBs. Again, the result shows that if all the explanatory variables are zero, there is an insignificant rise in performance of DMBs by 12.75 percent as shown by the intercept (constant).

4.8 Discussion of Findings

The findings obtained from this investigation are far reaching and have significant policy implications. Evidence from the study shows that MOB transactions have significant positive effect on the financial performance of DMBs in the short-run and insignificant negative impact on the financial performance of DMBs in the long-run. This findings aligns with that of Ajibola et al. (2024) and Ighoroje and Okoroyibo (2020) but disagreed with that of Arinze-Emefo and Ibrahim (2023). The implication of this result is that MOB transaction is a key cashless policy variable that enhances the financial performance of Nigeria's DMBs in the short-run.

Also, this study found that the coefficient of NEFT transactions exert a positive and significant impact on the performance of DMBs in both short-run and long-run. This suggests that NEFT transactions improve the performance of DMBs in both short-run and long-run. This finding agrees with that of Adu and Williams (2023) but contradicts that of Ajibola et al., (2024). The implication of this finding is that a NEFT transaction is a key cashless policy variable that enhances the financial performance of Nigeria's DMBs in both short-run and long-run.

Furthermore, POS transactions have insignificant positive effect on the performance of DMBs in the short-run and a positive and significant impact on the performance of DMBs in Nigeria in the long-run. This result corroborates those of Adu and Williams (2023) and Ibekwe et al., (2023) but does not align with those of Ajibola et al. (2024), Arinze-Emefo and Ibrahim (2023) and Ighoroje and Okoroyibo (2020). The implication of a positive and significant connection amid POS transactions and financial performance of DMBs is that POS transactions play a major part in the performance of DMBs in Nigeria in the long-run.

In addition, results from this study shows that the coefficient of ATM transactions exerts a significant positive effect on the financial performance of DMBs in both the short-run and long-run. The result is in consonance with those of Ajibola et al., (2024) and Ighoroje and Okoroyibo (2020) but not in agreement with that of Arinze-Emefo and Ibrahim (2023). The implication of this finding is that ATM transaction is a key cashless policy variable that enhances the financial performance of Nigeria's DMBs in the short-run and long-run.

Furthermore, findings also reveals that the coefficient of the NIP transactions have a positive and insignificant effect on the performance of DMBs in the short-run and a significant positive impact on the performance of DMBs in the long-run. This result aligns with the study of Adu and Williams (2023) but disagrees with that of Ajibola et al., (2024). The implication of this finding is that NIP transactions improve the financial performance of DMBs in Nigeria in the long-run.

Finally, the study found that the coefficient of the WB transactions have a non-significant positive effect on the financial performance of DMBs in the short-run and a significant positive effect on the financial performance of DMBs in the long-run. This result aligns with that of Ighoroje and Okoroyibo (2020) but disagrees with those of Ajibola et al., (2024). The implication of this finding is that WB transaction is a critical cashless policy variable that enhances the financial performance of DMBs in Nigeria in the long-run.

5. Conclusion and Policy Recommendations

Since the introduction of digital payment systems including mobile payments, internet/web banking, and electronic financial transfers, cashless policies have grown in popularity. The financial performance of the banking sector is significantly impacted by this trend, especially DMBs, which depend on deposits as their main source of funding. Hence, the study empirically investigated the effects of cashless policy on the financial performance of DMBs in Nigeria for the period 2009Q1 to 2023Q4. To examine the background characteristics of the dataset, we employed correlation and descriptive statistics; co-integration test was used to ascertain the long-run equilibrium relationship between the dependent and independent variables; the ECM and multivariate OLS methods were utilized in the evaluation of the model stated in the study. The result reveals that in the short-run, MOB, NEFT and ATM transactions were found to be the key cashless policy variables that drive financial performance. In the long-run, all the cashless policy variables except MOB transaction influence the financial performance of Nigeria's DMBs. The study concludes that cashless policy influences the financial performance of Nigeria's DMBs.

The results obtained from the empirical analysis provides basis for making certain recommendations for policy decision:

- Management of DMBs should reduce the prevalence of hacking by investing more on the security of mobile banking and other electronic payment channels and this would lead to increased customer's satisfaction and patronage which can induce higher ROA of DMBs;
- DMBs operating in Nigeria need to invest huge financial resources on computer technology and telecommunication facilities with a back-up arrangement for power supply. It is believed that such arrangement would boost users' confidence and help improve the volume and value of electronic fund transfer transactions;
- More POS should be installed across the country specifically in areas where it is not sufficiently accessible. There should be a cautious analysis of the system to establish the quantity of POS terminals that will guarantee its smooth running in Nigeria so as to avoid needless friction in the system;
- To cut down on long lines at ATM locations, more ATM centers and outlets should be created. These should also be positioned in convenient areas for quick access. Additionally, DMBs should hire qualified personnel to operate the unit to reduce human error and maintain their ATMs to make them more user-friendly;
- To guarantee the safety and integrity of transactions and avert fraud and unauthorized access, the security of Nigeria NIP system should be strengthened. This would encourage more individuals to use the platforms.
- DMBs should strengthen the security of web-based/internet banking platforms to protect against threats, ensuring that customers feel safe when conducting transactions online.

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Part Two
Educational Psychology

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Impacts of Peer Collaboration, Teacher Feedback, and STEM Career Exposure on Girls' Attitudes Toward Science and Mathematics in Lagos State, Nigeria

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Abstract. The study examined impacts of Peer Collaboration, Teacher Feedback, and STEM Career Exposure on Girls' Attitudes Toward Science and Mathematics in Lagos State, Nigeria. The population for this study was made up of the all teachers and students in Education District V, Lagos State. The two instruments employed for data collection were a 4-point Likert scale questionnaire and teacher interview guide with a reliability value of 0.79 and 0.82 respectively. The data were analysed using Means and Standard deviation z-scores and P-values. The findings revealed that peer collaboration, teacher feedback, and STEM career exposure play pivotal roles in shaping girls' attitudes towards STEM subjects. The study recommended among other schools and policymakers should integrate structured peer learning programs, mentorship programs, and career exposure activities into the curriculum to ensure continuous engagement in STEM fields. Also, schools should provide regular teacher training programs to improve the effectiveness of feedback strategies and implement structured feedback mechanisms to provide timely and constructive support to foster girls' interest in STEM.

Keywords: Peer collaboration, teacher feedback, career exposure, learner engagement, attitude

1. Background to the Study

Peer collaboration in education is a pedagogical approach that emphasizes cooperative learning among learners. Peer collaboration refers to the structured or informal opportunities for learners to work together on science and mathematics tasks. This could include group projects, peer discussion, and problem-solving activities. Peer-collaboration, or collaborative learning, is an educational approach in which learners work together in groups to achieve common goals (Gillies, 2016). This approach improves critical thinking, communication skills, and overall understanding by encouraging students to engage with one another, exchange ideas, and construct knowledge collectively. Collaborative learning is particularly effective in stimulating active learning, increasing learners' involvement, and fostering a deeper grasp of material. In such a setting, learners converse with peers, present and defend ideas, exchange diverse perspectives, and are actively engaged (UNESCO, 2020).

UNESCO (2020) emphasized the role of peer collaboration in fostering inclusive and high-quality education. It highlights how collaborative learning strategies can improve students' engagement and outcomes, particularly in addressing global educational challenges.

In using collaborative learning as a teaching strategy, teacher's feedback is very vital. This is needed for clarification of facts, guidance, direction and motivation which would encourage the learners to stay on the task at hand and to succeed. Teacher feedback plays a crucial role in students' learning and development. Effective teacher feedback provides students with information about their performance, identifies areas for improvement, and reinforces positive behaviour (Hattie & Ganley, 2011). Teacher feedback is a critical component of formative assessment, encompassing the guidance, suggestions, and evaluations provided by educators to enhance students 'understanding and performance in subjects like science and mathematics (Brookhart,2017). According to Jussim and Haber (2018), effective feedback plays a key role in learning, particularly when it helps students reflect on their errors and provides clear strategies for improvement. In the context of STEM, feedback is vital for promoting critical thinking, scientific inquiry, and metacognitive skills (Mackinney et al., 2021). Positive feedback from the teacher is critical in encouraging student engagement, especially among girls in STEM subjects. Research by Ganley et al. (2021) suggests that Positive and constructive feedback helps build students' confidence and motivates them to participate more actively in science learning. By recognizing students' effort, achievement, and progress, teachers have been shown to promote perseverance and resilience in scientific pursuit (Baranczyk & Best, 2020).

Conversely, negative or absent feedback can undermine students' self–efficacy and confidence in science, particularly for girls. A lack of supportive feedback can decrease students' belief in their ability to succeed, leading to lower engagement and interest in science" (Eccles & Wang, 2021). Therefore, providing constructive and encouraging feedback is essential in nurturing a positive attitude towards science and mathematics. In the context of girls' attitudes towards science and mathematics, teacher feedback can play a significant role in shaping their perception of competence and value in these subjects. Positive feedback that highlights girls' contribution and encourages their scientific inquiry can help develop a sense of efficacy and increase their engagement in science related activities and career (Wang & Degol, 2017). The Key aspect of teacher feedback comprises timeliness, specificity, constructive and balanced, actionable, and student-centered (Baliram & Youde, 2018).

STEM (Science, Technology, Engineering, and Mathematics) education is recognized as an interdisciplinary approach that integrates academic concepts with real-world application, fostering critical thinking, creativity, and innovation among students. Recently, there has been an emphasis not only on developing students' cognitive skills, such as problem solving and critical thinking, but also on fostering critical thinking, but also on fostering behavioral competencies like perseverance, collaboration, and adaptability (National Science and Technology Council [NSTC], 2018).

STEM career exposure refers to activities and experiences that give students insight into potential careers in science, technology, engineering, and mathematics. This includes career talks, mentorship programs, science fairs, field trips, and interaction with female STEM role models. Shin et al. (2019), "Exposure to STEM careers and role models is crucial in shaping students' interest and persistence in STEM fields. Such exposure involves providing students with opportunities to explore and learn about careers in STEM. STEM careers are critical in broadening students' understanding of the diverse careers available within STEM fields, and they inspire them to pursue these pathways. (Eechles and Wang, (2021). According to Wang and Degol, (2017), Exposure to STEM careers is essential for students to visualize themselves in these roles, which in turn increase the motivation to pursue STEM education. STEM career highlights the relevance of STEM skills in a real-world context (Feber et al., 2021). For example, mentorship programs, STEM career fairs, and shadowing STEM professionals that connect students with female role models in STEM can play a pivotal role in helping girls see themselves in STEM careers. As Master et al. (2021) emphasize, "Female role models can increase girls' sense of belonging in STEM, which is crucial for their identification with and pursuit of STEM careers.

1.1 Statement of the Problem

The under-representation of women in STEM fields remains a global issue. According to UNESCO (2020), women account for only a little of the workforce in science, technology, engineering and mathematics (STEM) worldwide. A clear indication of a persistent gender gap, particularly in secondary, where girls are significantly less involved in STEM activities compared to boys." "In Nigeria, as in many other developing countries, girls are less likely to pursue STEM subjects and careers due to various socio–cultural and institutional barriers (Aina, 2022).

Research has highlighted several factors contributing to this disparity, including gender stereotype, male-dominated environment, math anxiety, negative attitude, and a lack of confidence, which can discourage girls from pursuing STEM pathways (Master et al., 2021). Despite the growing recognition of the importance of fostering positive attitudes toward STEM among girls, there is limited research exploring the specific factors that influence girls' attitudes within the Nigerian context (Adeyemi & Afolabi, 2021). Existing studies often overlook the critical roles that peer collaboration, teacher feedback, and STEM career exposure play in shaping girls' perceptions of science and mathematics in secondary education (Dewitt et al, 2019).

Lastly, STEM career exposure plays a very important role in broadening girls' aspirations and motivation, and challenging traditional gender roles. According to Archer et al. (2019), Exposing girls to STEM careers and female role models can significantly enhance their interest and confidence in pursuing STEM pathways. STEM career programs, internships, and mentorship opportunities can help dismantle misconceptions about STEM fields, demonstrating that these careers are accessible and rewarding. However, in Nigeria, the availability and effectiveness of such programs remain limited, often contributing to a narrow perception of what is possible for girls in STEM (Aing, 2022). Hence, this study is on the impact of Peer collaboration, Teacher feedback, and STEM career exposure on girls' attitudes toward science and mathematics in Lagos state, Nigeria.

1.2 Purpose of Study

The main purpose of the study is to investigate the effect of peer collaboration, teachers' feedback, and STEM career exposure on girls' attitudes towards science in secondary education in Educational District V of Lagos state.

The specific objectives of the study are to:

- Evaluate the influence of peer collaboration on girls' interest and confidence in engaging with science–related subjects and Mathematics in secondary school education.
- Analyze the role of teacher feedback in fostering girls' engagement and cultivating a positive attitude towards STEM subjects.
- Evaluate students' exposure to STEM career opportunities and knowledge by exploring their awareness, availability of STEM resources, involvement in STEM initiatives, and the influence of schools and teachers in career guidance.
- Investigate how exposure to STEM careers shapes girls' aspirations and perceptions of Science and Mathematics as a rewarding and attractive career option.

1.3 Research Questions

The following research questions were formulated from the objective to guide this study:

- How does peer collaboration influence girls' interest and confidence in engaging with science-related subjects in secondary school?
- What is the impact of teachers' feedback on girls' engagement and contribution to the development of positive attitudes towards science and mathematics?
- What is the extent of students' exposure to STEM career opportunities and knowledge?
- In what ways does STEM careers exposure affect girls' aspirations and perceptions of science and mathematics as a rewarding and attractive career option?

2. Expectancy – Value Theory

Developed by Eccles and his colleagues, Expectancy–value theory provides a comprehensive explanation of the motivation behind students' choices and performance in academic settings, particularly focusing on how students' beliefs about their abilities (expectancies) and the perceived value of task influence their attitudes and behaviour (Wigfield & Eccles, 2000).In the context of the study, expectancy–value theory is used to shape girls' engagement and attitudes towards STEM subjects, which are traditionally perceived as a male–dominated field. According to this theory, students are more likely to engage and persist in a task that they believe they can succeed in and perceive as important or useful.

Students are more likely to engage in subjects they perceive as useful for their future goals. Providing girls with opportunities to learn about STEM careers through guest speakers, internships, or mentorship can increase their understanding of these subjects are applied in a real–world context." "This, in turn, enhances their perception of utility value and encourages greater engagement. Shine et al. (2021) opined that, "Students who see the relevance of STEM to their career aspiration are more motivated to invest effort and persistence in these subjects. Exposure to female role models in STEM careers is particularly significant in increasing both the utility and attainment value of STEM subjects. Girls are more likely to identify with and aspire to emulate individuals who share their gender and background, making the pursuit of a STEM career seem more attainable. Seeing stereotypes enables girls to envision themselves in similar roles (Wang & Degol, 2017)

When girls are exposed to successful professionals in STEM who have overcome obstacles, they may view the challenges of pursuing these fields are more manageable and worth the effort. By diminishing the perceived cost and enhancing the utility and attainment value of STEM subjects, career exposure plays a crucial role in shaping a positive attitude toward science and mathematics. Feedback that connects classroom learning to real–world applications can increase students' sense of utility value, a crucial component of EVT. Teachers who make explicit connections between STEM content and career paths, particularly those that defy traditional gender expectations, can significantly enhance girls' interest and engagement in these subjects.

3. Research Methodology

This study adopts a mixed-method survey approach combining quantitative and qualitative methods to investigate the effect of peer collaboration, teacher feedback, and STEM career exposure on girls' attitude towards science and mathematics in education District V of Lagos State." The population of this study comprises all female students and STEM teachers in the 159 public secondary schools within Education District V, Lagos State.

Education District V was randomly selected out of the six education districts in Lagos State. 20 schools (10 junior and 10 senior schools) were randomly selected from the total of 159 Secondary schools in Education District V. Purposive sampling was used to select 30 Female students offering science and mathematics in each selected secondary school. Making a total of 600 students who participated in the study. 10 STEM Teachers were randomly selected for the interview.

3.1 Instrument for Data Collection

Both quantitative and qualitative instruments were used in this study. The quantitative instrument was a structured Likert-scale questionnaire. The qualitative instrument involves an in-depth semi-structured interview with selected STEM teachers conducted face-to-face. To ensure the validity of the instrument, the instruments were reviewed by two experts, one of whom is an expert in STEM and the other is an expert in test and measurement. The reliability of the instruments was established by conducting a trial test on a sample of 30 students and 5 teachers from Education District 1. Cronbach's Alpha values of 0.79 and 0.82 were obtained, indicating strong alignment among the items."

3.2 Procedure for Data Collection

The instrument was administered to the respondents by the researchers and with the help of 3 research assistants. The questionnaire was collected on the spot to ensure a high response rate. In-depth interviews with teachers were conducted in a quiet space at the school. Each interview lasted for 10-15 minutes and was recorded (with consent) for transcription and analysis.

3.3 Method of Data Analysis

The data obtained was analyzed using both descriptive and inferential statistics. Means and Standard deviation z-scores and P-values were used to analyze the data at a 0.05. Thematic coding was used for the qualitative analysis of interview responses.

4. Results

Research Question One: How does peer influence affect girls' interest and confidence, in engaging with STEM subjects in secondary school?

Table 1: Influence of peer collaboration on STEM Engagement Among Female Students

Item	Mean	Standard Deviation	Standard Error	Z-value	P-value
Working with my classmate increases my interest in STEM subjects.	3.93	0.30	0.0126	113.75	0.00
Collaborating with my peers helps me feel more confident in talking about science and mathematics problems.	3.86	0.38	0.0156	86.89	0.00
I perform better in STEM subjects when I collaborate with my classmates.	3.84	0.41	0.0168	79.65	0.00
Group work in science and mathematics makes the subject more enjoyable for me.	3.97	0.23	0.0094	157.08	0.00
I prefer collaborating with peers rather than working alone on science and mathematics assignments.	3.88	0.44	0.0182	75.74	0.00

Table 1 revealed the mean responses of the respondents, the p-values, and the z-values, respectively. The mean responses of all the variables on the influence of peer collaboration on STEM Engagement among female students were greater than 3.0 ($X \geq 3.0$), which is the criterion mean for a 5-point Likert scale data. Also, Z-values were extremely large, ranging from 75 to 157, P=0.00, which is significant at 0.05. This implies peer collaboration enhances STEM Engagement among female Students

Research Question Two: What is the impact of teachers' feedback on girls' engagement and Contribution to the development of a positive attitude towards science and mathematics?

Table 2: Impact of teachers' feedback on female students' engagement and attitude towards STEM

Question	Agree + Strongly Agree (n)	Proportion ($\hat{p}$)	Z-Value	P-Value	Significance
Teacher feedback encourages me to participate more	570	0.9828	23.20	< 0.00001	Significant ($p < 0.05$)
Feedback motivates me to study science and mathematics	520	0.8966	19.07	< 0.00001	Significant ($p < 0.05$)
My confidence improves after receiving feedback	570	0.9828	23.20	< 0.00001	Significant ($p < 0.05$)
Feedback helps me understand difficult concepts	500	0.8621	17.39	< 0.00001	Significant ($p < 0.05$)
More likely to contribute to the discussion when given positive feedback	510	0.8793	18.24	< 0.00001	Significant ($p < 0.05$)

Table 2 presents the respondents' mean responses on the impact of teachers' feedback on girls' engagement and contribution to the development of a positive attitude towards science and mathematics. The mean responses of the respondents were greater than or equal to 3 3 ($x \geq 3.0$)

Z-values were extremely large, ranging from 75 to 157, P=0.00 which is significant at 0.05. Z-values are extremely large, ranging from 17.39 to 23.20, $P < 0.00001$ which is significant at 0.05 level of probability. Therefore, teacher's feedback contributes to learners' engagement and the development of a positive attitude towards science and mathematics among female students.

Research Question 3: What is the extent of students' exposure to STEM career opportunity and knowledge?

Table 3: Student STEM career exposure and knowledge.

SN	Question	Agree % (A + SA)	Z-value	P-value	Conclusion ($\alpha = 0.05$)
1	My school offers adequate information about STEM (science, technology, engineering, mathematics) careers.	72.4%	10.80	< 0.0001	Significant
2	I am often given the chance to take part in hands-on STEM workshops or activities	56.9%	3.32	0.0004	Significant
3	My teachers or mentors regularly encourage me to explore career opportunities in STEM	98.3%	23.25	< 0.0001	Significant
4	I have a good understanding of the different career paths available in STEM fields	39.7%	-4.98	1.0000	Not Significant
	I have access to resources (e.g. books, websites, and videos) and STEM professionals who help me learn about STEM careers.				
3	I have access to resources (e.g., books, websites, and videos) and STEM professionals who help me learn about STEM careers.	70.7%	9.97	< 0.0001	Significant

Table 3 shows that the respondents agree unanimously on 4 out of the 5 items (items 1,2, 3, and 5) identified on the extent to which students are exposed to STEM careers and opportunities. Item 4 shows significantly fewer than 50% agree, indicating a potential gap in understanding STEM career paths. Z-values of the 4 items are large enough, ranging from 3.32 to 10.80 p-values less than 0.05. However, a z-value of -4.9 and a p-value of 1 >0.5 was observed for item 4, indicating a potential gap in understanding of the career path.

Research Question Four: How does STEM career exposure affect girls' aspirations and perception of science and Mathematics as a rewarding and attractive career?

Table 4: Effect of STEM career exposure on girls' career aspirations and Perceptions

S/N	ITEM	Agree % (SA+A)	Z-value	P-value	Conclusion (α = 0.05)
1	Exposure to STEM careers has increased my interest in studying science and mathematics.	94.8%	21.59	< 0.0001	Significant
2	Learning about STEM careers motivates me to pursue a career in science or mathematics.	96.6%	22.42	< 0.0001	Significant
3	Knowing about successful women in STEM has positively influenced my career aspirations.	99.1%	23.67	< 0.0001	Significant
4	Attending STEM workshops or events has increased my awareness of career opportunities in science and mathematics.	98.3%	23.23	< 0.0001	Significant
5	STEM career exposure has made me realize science and mathematics as more rewarding career paths.	98.3%	24.21	< 0.0001	Significant

The respondents agreed overwhelmingly with all 5 items identified with very high proportions and extremely small p-values. This indicates a strong positive impact of STEM exposure on interest, motivation, and career perception in science and math. Z-values range from 14.12 to 23.67, $p < 0.0001$ is significant at 0.05. Hence, STEM career exposure affects girls' aspirations and perception of science and mathematics as a rewarding and attractive career option

Qualitative Analysis (Teachers' Interview)

Introduction

This section presents a qualitative analysis of teacher interviews, focusing on how peer collaboration, teacher feedback, and STEM career exposure influence girls' interest in science and mathematics in Education District V, Lagos State. The thematic analysis revealed five key themes: peer collaboration, teacher feedback, STEM career exposure, school initiatives, and parental support in promoting STEM participation among female students.The teachers' insights were drawn to provide a rich understanding of the factors influencing girls' participation and confidence in STEM.

Thematic Analysis of Teacher Interviews.

This section presents insights from interviews conducted with sampled STEM teachers, exploring their perspectives on factors influencing girls' engagement in STEM." "Key themes identified include peer collaboration, teacher feedback, STEM career exposure, school initiatives, and parental/community involvement. The analysis highlights strategies employed by teachers to foster interest and participation in STEM subjects, supported by direct quotes from the interviews.

Peer Collaboration as a Teacher Interview: The teachers' emphasis on peer collaboration highlights the significance of social interaction in learning. The several interviews that girls often feel more comfortable and supported when learning alongside their peers." "They emphasized that group learning helps girls overcome fear and build confidence in STEM subjects. Some of the strategies used by teachers include small group discussions, student pairing (peer teaching), project–based learning, and collaborative competitions."
One teacher explained,
"Mixing students of different skill levels allows high achievers to encourage those struggling, improving overall confidence and participation".
Teacher Feedback as a Motivational Tool
The teachers' insights into the role of feedback reveal a strong commitment to fostering growth mindsets. Their strategies focus on encouragement and constructive criticism, rather than punitive measures. Many girls have preconceived fears about mathematics and science, and without supportive teacher feedback, they may lose interest or confidence. As one of the teachers stated:
"I don't use harsh words when giving feedback because negative reinforcement discourages female students from STEM subjects."
Teachers stressed the importance of personalized feedback and continuous assessment to address individual student needs.
Another teacher added: "Students who initially performed poorly in mathematics improved after continuous feedback and encouragement."
Personalized feedback, formative assessments, performance tracking, and encouraging language usage are some strategies outlined by the teachers.

STEM Career Exposure as a Career Catalyst

Teachers reported that many female students lack awareness of STEM careers and opportunities, making career exposure essential in shaping their aspirations. “Introducing students to real-world STEM application through mentorship, industry visits, guest speaker sessions, and STEM clubs increases their interest in science and mathematics.”
A teacher highlighted that: “Many female students changed their attitudes towards STEM after visiting industries where women worked as engineers and scientists".

School Initiative and Gender Inclusion

Teachers emphasized the importance of school-wide initiatives in creating equitable and inclusive learning environments. “They highlighted the importance of STEM competitions and Olympiad, scholarships and mentorship programs, encouraging gender – neutral class participation and teacher training on gender sensitivity on high–achieving girls in STEM subjects.” One of the teachers mentioned: “We organize science competitions where girls can showcase their abilities, which has greatly improved their confidence”.

Parental and Community Support in STEM Engagement

Teachers recognized the significant influence of parental and community support on girls’ engagement in STEM. Teachers emphasized that parental support is essential for sustaining girls’ interest in STEM subjects. Some parents hold traditional beliefs that discourage girls from pursuing STEM careers, making community sensitization efforts necessary. Some of the strategies agreed to be adopted by schools include STEM-focused PTA meetings, encouraging parents to support STEM learning at home, and community-based STEM programs and workshops.

5. Discussion of Findings

The findings from this study indicated that peer collaboration, teacher feedback, and STEM career exposure play a significant role in enhancing girls’ attitudes toward science and mathematics in secondary school. The quantitative analysis of students’ and teachers’ questionnaires demonstrated that students, irrespective of their level, generally benefit from peer collaboration as it strengthens their confidence, engagement, and problem–solving skills. This finding is in line with that of (Adeoye, & Igbinedion, (2018); Animola (2019); Olaniyan, &Yusuf, (2019); Adejimi, et al. (2021); Aniaku et al. (2021) who in their respective studies affirmed the effectiveness of peer tutoring / collaborative learning in enhancing students’ academic achievement

Students identified personalized learning and constructive teachers' feedback as significant motivators in STEM, boosting confidence and inducing learner interest. The findings support that of Aniaku, etal (2021) and Animola (2019), who in their respective studies affirmed the efficacy of peer tutoring in students' achievement and motivation to learning. Similarly, exposure to STEM careers, through initiatives like industry visits and mentorship, significantly shaped students’ aspirations. Teachers also noted that STEM clubs, scholarships, and career guidance enhanced interest. However, they highlighted financial limitations and inadequate industry partnerships as challenges. This corroborates the findings of Adeoye and Igbinedion (2018) & Adejimi et al. (2021), who affirmed that collaborative strategies can enhance learners' motivation and achievement.

The qualitative analysis of teacher interviews supported the quantitative data, revealing that peer collaboration builds students' confidence, targeted feedback improved learning outcomes, and exposure to STEM careers cultivates lasting interest. Teachers emphasized the need for gender-inclusive teaching strategies, STEM competitions, parental involvement, and community-based STEM initiatives to sustain girls’ interest in science and mathematics. This is in line with the findings of Pajares (2020) & Salam, et al. (2020), who opined that increasing self-efficacy and motivation in learners is necessary for optimal performance and a positive attitude to learning.

6. Conclusion and Recommendations

In conclusion, the findings suggest that peer collaboration, teacher feedback, and STEM career exposure play pivotal roles in shaping girls’ attitudes towards STEM subjects. However, there is a decline in positive perception as students’ progress in school, particularly in teacher feedback and career exposure. This prioritized the need for continuous interventions to maintain engagement and interest in STEM throughout secondary education.

Based on the findings of the study, the following recommendations were made:

- Schools and policymakers should integrate structured peer learning programs, mentorship programs, and career exposure activities into the curriculum to ensure continuous engagement in STEM fields.

- Schools should provide regular teacher training programs to improve the effectiveness of feedback strategies. They should also implement structured feedback mechanisms to provide timely and constructive support to foster girls' interest in STEM.
- Schools should engage parents and communities through awareness programs and STEM–focused PTA meetings to foster a supportive learning environment.
- Practical, hands–on STEM activities and personalized career guidance should be provided to prevent declining interest among senior students.
- The government and school administrators should ensure access to modern STEM learning tools, laboratories, and extracurricular programs to enhance engagement.
- Education policymakers should implement targeted initiatives such as scholarships, leadership programs, and mentorship to bridge the gender gap in STEM participation.

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Self-Esteem and Social Comparison: A Study of Body Dysmorphic Symptoms among Private University Students in Nigeria

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Abstract. Body Dysmorphic Disorder (BDD) is a growing concern globally, particularly among university students. In Nigeria, there is a need for further investigation into how self-esteem and social comparison specifically contribute to BDD symptoms in private universities that face unique social and cultural pressures. This study adopted a cross-sectional design involving 222 participants selected through convenience sampling. Data collection utilized standardized questionnaires that covered demographic details, the Body Image Survey by Lindgren & Pauly (1975), Rosenberg's Self-Esteem Scale by Morris Rosenberg (1965), and the Social Comparison Scale by Allen & Gilbert (1995). Descriptive statistics, independent t-tests, and multiple regression analyses were employed to analyze the data, indicating that 47.7% of participants exhibited high tendencies toward body dysmorphia (BD), slightly more prevalent in males than in females. Furthermore, the study identified a positive correlation between self-esteem and tendencies toward body dysmorphia ($r = .32$, $p < .05$). The results indicated that self-esteem and social comparison significantly influence tendencies toward body dysmorphia, with self-esteem emerging as a robust predictor ($R^2 = .11$, $F(1, 219) = 13.47$, $p < .05$, $\beta = 1.58$, $p < .05$). There were no significant differences based on gender in the study ($t(219) = -0.43$, $p > .05$). The findings suggest that BD in this group may not be specific to any gender, indicating a potential gender-neutral nature. Additionally, students with higher self-esteem may significantly impact body image concerns through self-perception. Furthermore, the absence of strong social comparison underscores the critical role of factors such as media literacy and resilience. Programs promoting authentic self-worth through mindfulness and self-comparison, as well as teaching media literacy, are recommended. Subsequent studies should investigate the components of self-esteem and how they contribute to addressing body image challenges.

Keywords: Self-esteem, social comparison, body dysmorphic disorder, body image, gender, undergraduate.

1. Introduction

Body Dysmorphic Disorder (BDD) is a serious mental health condition characterized by an excessive preoccupation with perceived imperfections in one's physical appearance, even if these flaws are deemed trivial or unnoticeable by others (Center for Behavioral Health Statistics and Quality, 2016; Mancuso et al., 2022)**.** This obsession can cause emotional turmoil and disrupt routine activities (Grant et al., 2016). People with BDD exhibit compulsive behaviors such as constantly touching their skin to check for imperfections, spending hours grooming to achieve perceived perfection, and meticulously comparing their appearance to others (Phillips & Menard, 2011) and meticulously analyzing every detail, leading them to withdraw from social settings and avoid specific scenarios (Hartmann, 2014)**.**

They often feel unattractive, ugly, or hideous due to minor flaws in different body parts, perceived facial abnormalities, asymmetries, hair loss, skin creases, scars, prominent veins, and changes in skin colour (Mancuso et al., 2022)**.** Some individuals with BDD resort to undergoing multiple cosmetic surgeries in pursuit of an ideal appearance (Sarwer ,2002; Salari et al., 2022**).** If individuals with BDD do not receive appropriate intervention, they may also exhibit signs of depression, substance abuse, or social anxiety and experience feelings of shame when sharing their body image concerns, apprehensive that others might trivialize their struggles as superficial.

1.1 The Etiology of Body Dysmorphia Disorder

The etiology of BDD is multifaceted, involving psychological, sociocultural, and biological factors. The sociocultural landscape significantly influences individuals' perception of themselves, leading to dissatisfaction and internalized pressure (Grogan, 2008). Social media and societal expectations, especially those related to beauty standards and body image for women, can intensify this cycle of comparison, causing individuals to feel inadequacy. The advent of social media has intensified these dynamics. Platforms such as Instagram and Snapchat are predominantly image-based and often showcase idealized and edited representations of beauty. Research indicates that frequent use of these platforms correlates with heightened body dissatisfaction and BDD symptoms among young people. A study found that the frequency of image-based social media use is significantly associated with body dysmorphic symptoms, particularly when individuals are motivated by appearance-related reasons (Gupta et al, 2023). Moreover, the pervasive use of photo-editing applications and filters has led to phenomena like "Snapchat dysmorphia," where individuals seek cosmetic procedures to emulate their filtered images. This trend underscores the role of social media in shaping unrealistic beauty standards and its impact on body image concerns (Ateq et al.,2024).

Furthermore, social media perpetuates unrealistic beauty standards by presenting unattainable ideals through meticulously crafted images, contributing to feelings of inadequacy. Additionally, studies among young adults in Nigeria have found that social media use is a significant positive predictor of body image dissatisfaction, suggesting that increased exposure to idealized images may exacerbate negative self-perception Nnamchi, et al, 2024. These societal expectations can create internalized pressure, leading individuals to constantly feel the need to meet unrealistic standards and fostering feelings of vulnerability (Feusner et al., 2010).

Recent studies also suggest a possible biological basis for these issues, linked to imbalances in neurotransmitters like serotonin and dopamine. Among the biological contributors, imbalances in neurotransmitters - chemical messengers in the brain - have been implicated in the development and maintenance of BDD symptoms. Serotonin, a neurotransmitter integral to mood regulation and behavioral processes, has been particularly associated with BDD. Abnormalities in serotonin levels may contribute to the obsessive thoughts and compulsive behaviors observed in individuals with BDD. This is supported by the therapeutic efficacy of selective serotonin reuptake inhibitors (SSRIs), which are commonly used to treat BDD, suggesting a serotonergic involvement in the disorder (Phillips et al., 2008). Dopamine, another critical neurotransmitter associated with reward processing and cognitive functions, has also been examined in the context of BDD. Although direct evidence linking dopaminergic dysfunction to BDD is limited, studies on related disorders, such as obsessive-compulsive disorder (OCD), indicate that abnormalities in both serotonin and dopamine systems may influence stereotypic behaviors observed in these conditions Phillips et al., 2008). These imbalances may contribute to negative thoughts and compulsive behaviors (Feusner et al., 2010; Nienke et al, 2016). The cognitive-behavioral model, a widely used therapeutic approach, aims to address these issues through structured therapy sessions (Harrison et al., 2016).

2. Literature Review

Research has highlighted two major psychological factors that influence body dysmorphia: self-esteem and social comparison, both of which significantly shape body image (Turner & Lefevre, 2017)'. Adolescence and young adulthood are crucial developmental periods marked by body image concerns and self-identification formation.

2.1 Exploring the Link Between Body Dysmorphic Symptoms and Self-Esteem

Self-esteem, the evaluation of one's worth and abilities, significantly impacts self-concept and beliefs about capabilities (Rosenberg, 1965). Additionally, self-esteem is influenced by one's self-perceptions, self-judgments, and feelings about personal identity, significantly impacting psychological development (Beauregard & Dunning, 2001). Several studies have investigated how self-esteem is linked to BDD, emphasizing the importance of recognizing and dealing with these issues early in life (Philips et al., 2005; Kuck et al., 2021; Tros et al., 2023; Narang & Kaushik, 2024).

Phillips et al. (2005) found that individuals with BDD exhibited significantly lower self-esteem levels than those in non-clinical control groups in their study. Even after adjusting for comorbid depressive symptoms, the inverse relationship between BDD and self-esteem remained evident. Bartsch (2007) identified that diminished self-esteem, elevated depression levels, and perfectionistic tendencies are predictors of dysmorphic concerns in Australian university students. Kuck et al. (2021) conducted a meta-analysis revealing a moderately negative correlation between BDD symptoms and self-esteem, suggesting that increased BDD symptomatology correlates with decreased self-esteem. However, even after adjusting for depressive symptoms, the correlation remained statistically significant but weakened, showing that while depression has an impact, BDD independently affects self-esteem.

Tros et al. (2023) conducted a study investigating the relationship between BDD and self-esteem in young individuals with acne vulgaris. The study aimed to determine the prevalence of Body Dysmorphic Disorder (BDD) and evaluate self-esteem in adolescents and young adults undergoing treatment for acne vulgaris. Out of the total 105 participants in the study, 13 individuals (12.4%) met the DSM-5 criteria for BDD. Individuals diagnosed with BDD exhibited significantly lower self-esteem levels compared to those without the disorder, highlighting a significant disparity in self-perception. This finding highlights the need for collaborative efforts among dermatologists and healthcare professionals to address the multifaceted nature of BDD conditions and improve patient outcomes.

Additionally, in a related study by Narang & Kaushik (2024), the researchers examined the correlation between body dysmorphia and self-esteem in young adults aged 18–26, focusing on the influence of social media on self-perception. The researchers found a significant negative correlation, indicating that higher levels of body dysmorphia were associated with lower self-esteem. This study underscores the importance of early identification and intervention initiatives in improving self-esteem and potentially preventing the onset or advancement of BDD symptoms in this population.

2.2 The Impact of Social Comparison on Body Image and Mental Health

Social comparison is a fundamental human behavior that involves assessing oneself in relation to others, deeply intertwined with self-worth, motivation, and well-being (Vogel et al., 2014). It can motivate individuals to strive for improvement by observing successful people, setting ambitious goals, and harnessing competitive spirit (Mussweiler, 2003). However, comparisons can also exacerbate social inequalities by amplifying feelings of powerlessness and resentment among disadvantaged groups. Individual susceptibility to comparison's sting depends on personal characteristics like self-esteem and anxiety, as well as cultural norms around success, beauty, and social hierarchies (Buunk et al., 2012).

Individuals with body Dysmorphia (BD), compare themselves to others and becomes a cruel and manipulative game played out in a distorted mirror (Feusner et al., 2010; Wilhelm et al., 2010). Already fixated on perceived flaws in their appearance, they are particularly vulnerable to the negative impacts of social comparison, which fuels their insecurities and exacerbates their struggles (Veale, 2021). Upward comparisons, where individuals with BD focus on the perceived superiorities of others, are especially harmful. Bombarded with seemingly perfect images on social media and in everyday life, they magnify these perceived flaws in themselves, intensifying feelings of inadequacy and worthlessness (Grogan, 2008). While downward comparisons, focusing on perceived flaws in others, might offer temporary relief, they create a false sense of validation followed by guilt and reinforce the underlying belief that everyone is judging their own perceived flaws (Nie et al., 2024). Even lateral comparisons within social circles and close relationships can trigger anxiety and dissatisfaction, fueling the relentless pursuit of unattainable beauty standards (Phillips et al., 2008).

Jiotsa et al. (2021) explored how comparing one's appearance to social media figures affects body dissatisfaction and the drive for thinness. Using a cross-sectional analysis with questionnaires, the study examined social media usage, comparison frequency, and body image measures. Findings revealed a strong link between frequent appearance-based comparisons and heightened body dissatisfaction and drive for thinness. Education level influenced this relationship, while Body mass index showed no significant effect. The study underscores the need for interventions targeting social comparison behaviors, particularly in individuals with lower education levels. Promoting media literacy and raising awareness about the curated nature of social media could help reduce its harmful impact on body image. These strategies are crucial for mitigating body image disturbances.

Thomson et al. (2024) conducted a systematic review and thematic synthesis to explore the lived experiences of individuals with Body Dysmorphic Disorder (BDD). The study aimed to consolidate qualitative findings to better understand the personal and social challenges faced by those with BDD. Using thematic synthesis, the researchers identified key themes, including distorted self-image, which leads to distress and preoccupation with flaws, and difficulties in social interactions, such as avoidance and strained relationships. Participants also reported significant emotional distress, including anxiety, depression, and low self-esteem. Many faced barriers in accessing appropriate healthcare, often due to stigma or lack of understanding. The study recommends that healthcare professionals receive specialized training to better recognize and address the needs of BDD patients. It also emphasizes the importance of raising public awareness to reduce stigma, encouraging individuals to seek help, and suggests further research to develop targeted interventions that address both psychological and social aspects of BDD.

The study by Marengo et al. (2018) highlighted that constant exposure to these unrealistic beauty standards often leads to feelings of body dissatisfaction and lower self-esteem, as individuals compare themselves to unattainable ideals. This influence extends beyond individual feelings and behaviors, shaping societal perceptions and norms by endorsing unattainable beauty standards and distorting social norms. Social media amplifies this comparison cycle by exposing individuals to curated online personas that heighten feelings of inadequacy and perpetuate beauty standards (Feusner et al., 2010).

2.3 Prevalence and Gender Differences in Body Dysmorphic Disorder Among University Students

Research indicates that Body Dysmorphic Disorder (BDD) is a common issue among university students, although its prevalence varies across different studies and populations. For instance, Alam et al. (2022) found a prevalence between 1.5% (severe symptoms) and 11.0% (mild to moderate BDD symptoms); Saab et al. (2023) discovered 6.4 %, and Mohanty et al. (2014) revealed 6.9 %. A study by Taqui et al. (2008) found that 5.8% of medical students in Pakistan met the diagnostic criteria for BDD, with females exhibiting a significantly higher presence of the disorder than males. Similarly, Alam et al. (2022) reported that 6.9% of Indian university students were diagnosed with BDD, with women being diagnosed at a significantly higher rate than men. Another study conducted in New York by Malcolm et al. (2021) estimated a BDD prevalence of 12.5%, with higher rates observed among female students and those attending private universities, highlighting the disorder's varying impact on different student demographics.

Research suggests that female students are more vulnerable to developing Body Dysmorphic Disorder (BDD), emphasizing the necessity for universities to implement gender-sensitive approaches to address body image issues and promote students' mental well-being. Gender differences in body dissatisfaction are evident in the specific body areas that individuals obsessively focus on. Men often focus on muscularity and physique, whereas women may have concerns about multiple aspects of their appearance, including weight, skin, teeth, and legs. Studies by Malcolm et al. (2021) demonstrate that societal expectations and cultural norms significantly influence concerns related to body image issues, shaping individuals' perceptions of themselves. Moreover, women with BDD often experience heightened psychological distress, such as depression and anxiety (Raghad et al., 2021), and have a lower understanding of their condition compared to men. Women with BDD often engage in harmful behaviors, such as skin picking, excessive grooming, and using makeup to conceal perceived flaws.

This study investigates the link between self-esteem, social comparison, and body dysmorphia tendencies among Nigerian undergraduate students in private university settings. Low self-esteem is a significant risk factor for body dissatisfaction, which can negatively impact mental well-being (Kuck et al., 2021). Social media exposure to idealized beauty standards can trigger comparisons, increasing body dissatisfaction. The study emphasizes the need to investigate this under-researched population to develop tailored interventions addressing the mental health needs of Nigerian private university students. Recognizing the influence of cultural norms, media representations, and societal expectations on body image perceptions is crucial for designing interventions. The lack of research on Nigerian private university populations limits the understanding of body dysmorphia tendencies in this cultural and educational setting. While some studies have observed gender differences in BDD prevalence and symptomatology, there is a lack of comprehensive research on how self-esteem and social comparison manifest differently in males and females with BDD in this population.

In addition, most studies on Body Dysmorphic Disorder (BDD), self-esteem, and social comparison focus on general populations or clinical settings, potentially overlooking unique challenges faced by university students in private educational institutions. Further research is needed to develop targeted interventions for young adults in African and Asian contexts.

Based on a review of relevant literature, we proposed the following research hypotheses:

- There will be a joint contribution of self-esteem and social comparison to body dysmorphia among university undergraduates.
- There will be a significant difference between male and female undergraduate students in terms of body dysmorphia.

This study will provide insights into the psychological factors influencing body image perceptions and inform the development of effective strategies to enhance mental health and well-being in Nigeria.

3. Research Methodology

3.1 Research Setting

The research was carried out at Chrisland University in Abeokuta, Ogun State, which is situated in the southwestern region of Nigeria. Established in 2015, Chrisland University, a private institution, was selected as the research site due to its accessibility and suitability for conducting the study. The university has a religious orientation that incorporates elements of Christianity and is privately owned and operated. As a coeducational institution, it serves a student population exceeding 1,500. Chrisland University consists of four colleges: the College of Arts, Management, and Social Sciences (CAMASS), the College of Natural and Applied Sciences (CONAS), the Basic Medical School (BMS), and the College of Law (COLAW).

3.2 Research Design

The study employed a cross-sectional design and gathered data through a survey of undergraduate students at Chrisland University in Abeokuta, Ogun State, Nigeria. The researchers opted for purposive sampling to specifically target participants with in-depth knowledge and experiences related to the research topic. Also, by utilizing purposive sampling, the study ensured that participants with relevant experiences and perspectives were included in the research. The study centered on body dysmorphic disorder as the dependent variable due to its significant impact on self-perception, while investigating self-esteem and social comparison as independent variables to understand their relationships with the disorder.

3.3 Participants and Sampling Techniques

A total of 222 undergraduate students from the university were selected for the study using a convenience sampling method, with 97 (43.7%) males and 125 (56.3%) females. The sample size for the survey was determined using Slovin's formula, a statistical method specifically designed for estimating sample sizes in large populations. This technique was employed to select a subset of the population that mirrors the characteristics of the larger group, thereby improving the study's validity by ensuring a diverse and comprehensive sample. Three colleges, CAMASS, CONAS, and COLAW, were randomly chosen from the four colleges in the institution as part of the sampling process to ensure diversity.

3.4 Research Instruments

A. Self-developed Questionnaire by the Researchers to obtain the sociodemographic variables such as age, gender and level.
B. Researchers used a modified BIS (Body Image survey), Rosenberg's Self-Esteem Scale and the social comparison scale to gather information from the respondents on the body dysmorphia tendencies, self-esteem and social comparison.

The modified Body Image Survey (BIS), developed by Lindgren & Pauly in 1975, is a comprehensive tool designed to assess an individual's perceptions, thoughts, and feelings regarding their physical appearance. Initially intended for evaluating body image disturbances in clinical contexts, the BIS has been adapted for use in non-clinical environments, such as with university students. Responses to the items are rated on a 5-point scale ranging from very dissatisfied (5) to very satisfied (1). The total score ranges from 26 to 130, with higher scores indicating greater levels of dissatisfaction with body image. The scale exhibits high internal consistency, with Cronbach's alpha coefficients exceeding 0.80.

The Rosenberg Self-Esteem Scale (RSES), developed in 1979 by Morris Rosenberg, is a self-report questionnaire designed to assess self-esteem levels in individuals. This 10-item self-report questionnaire measures levels of self-esteem in individuals. Participants evaluate their self-esteem by responding to each item on the scale. In scoring the RSES, items 1, 2, 4, 6, and 7 are scored directly from strongly agree (3), agree (2), disagree (1), to strongly disagree (0), while items 3, 5, 8, 9, and 10 are reverse scored from strongly agree (0), agree (1), disagree (2), to strongly disagree (3). The scale ranges from 0 to 30. Scores between 15 and 25 indicate a typical self-esteem range, while scores below 15 indicate low self-esteem. It demonstrates robust internal consistency, with a value of .92, and exhibits high test-retest reliability, showing stable correlations of .85 and .88 over repeated assessments.
The social comparison scale, a tool designed by Allan and Gilbert (1995), assesses how individuals perceive their social rank and relative social standing. This scale utilizes a method of using opposite pairs and includes 11 bipolar constructs, such as self-esteem, social comparison, and achievement, to measure different aspects of social perception. Participants are required to compare their social standing to others and rate themselves on a ten-point scale to evaluate their perception of social rank. The scale has been found to have good reliability, with reliability coefficients of .88 and .96 for clinical populations and .91 and .90 for student populations (Allen and Gilbert, 1995).

3.5 Ethical Approval

Ethical approval was obtained from the university research ethics committee, while consent was obtained from the participants. The researcher approached the participants in locations such as classrooms, hallways, and the cafeteria within the school premises to seek their consent for participation in the study. Participants who agreed to take part after rapport-building were provided with questionnaires. Prior to collecting the questionnaires, the researcher ensured that participants comprehended the contents thoroughly and completed them accurately. Participants were provided with ample time to read the questionnaire and encouraged to ask clarifying questions if they had any uncertainties about any section. The filled questionnaires were collected and scored based on the manual of the scales.

3.6 Data Analysis and Interpretation

The researcher performed data entry into Statistical Package of Social Science-25 (SPSS-25) after validation procedures. Statistical analysis included descriptive statistics (mean, standard deviation) and inferential statistics (multiple regression, independent t-tests) to draw valid conclusions.

4. Results

4.1 Socio-demographic Characteristics of the Respondents.

Table 1: Summary of data showing demographic characteristics of respondents in the study

Demographic Profile	Items	Frequency	Percentage
Age	≤ 20 years old	154	69.4%
	≥ 20 years old	68	30.6%
	Total	222	100%
Gender	Male	97	43.7%
	Female	125	56.3%
	Total	222	100%
Level	100	89	40.1%
	200	41	18.5%
	300	42	18.9%
	400	37	16.6%
	500	13	5.9%
	Total	222	100%

The majority of respondents, approximately 154 (69.4%), were aged 20 years old or younger, while 68 (30.6%) were above 20 years of age. Females comprised the majority of the study, with 125 individuals representing 56.3% of the total sample, indicating a higher presence of females. In contrast, males, totaling 97 individuals, accounted for the remaining 43.7% of the total sample, showing a lower male representation. The data shows that 89 participants from the 100-level made up 40.1% of the total sample, whereas only 13 participants from the 500-level represented 5.9% of the total sample.

4.2 Prevalence and Patterns of Socio -Demographic Variables on Body Dysmorphia

Table 2: Sociodemographic characteristics of age, gender and body dysmorphia

Variable	Low		High	
	N	%	N	%
Body Dysmorphia	116	52.3%	106	47.7%
Gender				
Male	52	23.4	45	20.3
Female	64	28.8	61	27.5

The results in Table 2 indicate the prevalence of body dysmorphia among the participants. 52.3% of participants reported low body dysmorphia symptoms, indicating that they were content with their body image. In contrast, 47.7% of participants reported high body dysmorphia tendency, indicating dissatisfaction with their bodies.23.4% of male participants reported low body dysmorphia, a percentage lower than the 20.3% who reported high body dysmorphia. 28.8% of female participants reported low body dysmorphia, whereas 27.5% reported high body dysmorphia. Interestingly, the data indicates that male participants have a slightly higher proportion of high body dysmorphia symptoms compared to females. This challenges the common perception that body image issues predominantly affect females.

4.3 Zero Order Correlation showing Relationships among Gender, Self- esteem, Social comparison and Body dysmorphia.

Table 3: Means, Standard Deviations, and Intercorrelations among Variables in the study

Variable	$\bar{X}$	SD	Range	1	2	3	4	5
Gender	.56	.50	0 – 1	-.05	-			
Self Esteem	13.9	3.77	10 – 30	-.08	-.03	-		
Social Comparison	38.1	6.81	11 – 110	-.014	.07	.10	-	
Body Dysmorphia	56.5	19.39	26 – 130	-.11	.03	.32*	.13	-

Table 3 presents mean, standard deviations and intercorrelations between the independent and dependent variables. The result revealed that only self-esteem was significantly moderately correlated with body dysmorphia while gender and social comparison were not correlated with body dysmorphia. The result show that self-esteem had a significant positive relationship with body dysmorphia ($r = .32$, $p < .05$), implying that higher self-esteem increases high body dysmorphia. However, gender ($r = .03$, $p > .05$), and social comparison ($r = .13$, $p > .05$) were not significantly correlated with body dysmorphia. Gender, self-esteem and social comparison were also not significantly correlated with each other.

4.4 Analysis of Research Hypothesis

Hypothesis One: There will be a joint contribution of self-esteem and social comparison to body dysmorphia among undergraduate students in private university.

Table 4: Multiple Regression Analysis Showing Influence Social Comparison and Self-esteem as joint predictors of Body Dysmorphia

Predictor	B	t	P	R	R^2	F	P
Social Comparison	.27	1.49	>.05	.33	.11	13.47	< .05
Self Esteem	1.58	4.80	< .05				

The result revealed that social comparison and self-esteem significantly jointly predicted body dysmorphia among the university undergraduates ($F_{(1, 219)} = 13.47$, $R^2 = .11$, $p < .05$). A close appraisal of the variance reveals that social comparison and self-esteem jointly accounted for a significant 33% variance in body dysmorphia among participants. This result implies that as unit standard deviation increase in social comparison and self-esteem jointly increases body dysmorphia by 0.33 among the undergraduates' students. An assessment of the independent influence of social comparison and self-esteem shows that only self-esteem ($\beta = 1.58$, $t = 4.80$ $p < .05$) significantly independently predicted body dysmorphia among the university undergraduates' students in private university while social comparison ($\beta = 0.27$, $t = 1.49$ $p > .05$) was not a significant independent predictor of body dysmorphia.

Hypothesis Two: Gender will significantly influence Body dysmorphia among Undergraduates students.

Table 5: Summary of Independent T-test of the difference in Body dysmorphia based on participants' Gender.

Outcome	Male			Female					
Body Dysmorphia	N	$\bar{x}$	SD	N	$\bar{X}$	SD	t	df	Sig
	98	55.86	20.72	124	56.99	18.41	-.43	219	>.05

The result revealed that there was no significant difference in body dysmorphia between male and female participants *t* (219) = -.43, $p > .05$. This result implies that female undergraduate students ($x = 56.99$, $SD = 18.41$) did not report a higher body dysmorphia than their male counterparts ($x = 55.86$, $SD = 20.72$). This indicate that gender did not significantly influence body dysmorphia, and females were not more likely to have high body dysmorphia than their male counterparts.

5. Discussion, Conclusions and Recommendations

5.1 Discussion

The findings from this study suggests that higher levels of self-esteem are associated with increased body dysmorphic symptoms, implying that as self-esteem rises, so do concerns and dissatisfaction with one's body. This result contrasts with existing literature, including studies by Chutani et al. (2022)

and Kuck et al. (2021), which predominantly report a negative correlation between self-esteem and body dysmorphia. For instance, a study examining young adults found a significant negative relationship between self-esteem and body dysmorphic disorder (BDD), indicating that as self-esteem decreases, the likelihood of developing BDD increases (Chutani et al., 2022). Similarly, a meta-analysis demonstrated that low self-esteem is a significant hallmark of BDD, persisting beyond the influence of depressive symptoms (Kuck et al., 2021). One possible explanation for the positive association observed in the current study is the presence of inflated or defensive self-esteem, where individuals may outwardly report high self-esteem that masks underlying insecurities or vulnerabilities. This defensive posture might lead to an increased focus on perceived bodily imperfections, thereby elevating body dysmorphic symptoms.

In addition, social comparison is not a significant predictor of body dysmorphic symptoms within this sample. This finding diverges from previous research, as indicated by the systematic review and meta-analysis by Khalil et al. (2024), which consistently highlights relevant associations. Bonfanti et al. (2025) discovered a moderate connection between increased online social comparison and heightened concerns about body image and symptoms of eating disorders. This indicates that individuals who frequently engage in social comparisons, especially on social media, are more likely to experience increased body dissatisfaction and associated concerns, underscoring the potential negative impact of social media on body image and mental health. Although the current study did not establish a significant link between social comparison and body dysmorphia among undergraduates at a private university, this divergence from broader research that suggests a moderate association emphasizes the need for further investigation into the specific factors that may contribute to body dysmorphia in this particular population. This variation could stem from the diverse nature and context of social comparisons among the participants, indicating that individual experiences and perceptions of social media may significantly influence how it affects body image and mental health outcomes. While some students may compare themselves in ways that harm their body image, others may not be as affected, potentially due to variations in personal resilience, self-esteem, or critical thinking skills in evaluating idealized images. Furthermore, the platforms and types of content where social comparisons occur, such as academic settings and social media known for curated and often unrealistic portrayals of beauty standards, could significantly influence their impact.

Furthermore, the joint influence of self-esteem and social comparison on BDD symptoms suggests that both factors contribute to the development of body dysmorphia, reinforcing the idea that self-perception and social influences play a crucial role in body image concerns. However, when examined independently, only self-esteem emerged as a significant predictor, while social comparison did not. This implies that self-esteem has a stronger and more direct impact on body dysmorphic symptoms than social comparison, at least within the sample studied.

There was no significant difference in body dysmorphia between male and female undergraduate students - adds to the ongoing discourse on gender-related prevalence of Body Dysmorphic Disorder (BDD). Within this specific sample, there is no indication that gender plays a significant role in the manifestation of BDD symptoms. This finding was supported by a study conducted by Schneider et al. (2019), which demonstrated that there were no significant differences between males and females in terms of the severity of BDD symptoms, depressive symptoms, or frequency of appearance concerns across different body areas. Additionally, a study by Park et al. (2022) revealed that gender was not a significant predictor of BD symptoms when considering appearance-based rejection sensitivity. In contrast to previous literature, Malcolm et al. (2021) revealed that women exhibited notably higher distress related to BDD behaviors and lacked insight into their condition compared to men. This difference may be explained by the elevated levels of body dissatisfaction and the typically more severe BD symptoms that female experience compared to male. This influence could be attributed to societal expectations that dictate female to conform to narrow beauty standards, leading to increased pressure and dissatisfaction with their appearance, ultimately contributing to the prevalence and severity of BD among females.

5.2 Conclusions and Recommendations

This study challenges the existing literature on (BDD) by revealing a lack of significant gender differences in symptoms, suggesting that both male and female undergraduate students may experience similar body-related concerns. The positive relationship between self-esteem and BDD undermines the belief that low self-esteem predisposes individuals to BDD. This may be due to individuals maintaining overly positive or protective self-perceptions, which lead them to assert high self-esteem despite underlying insecurities. Further research is needed to explore specific components of self-esteem, such as self-worth, self-efficacy, and self-acceptance, and their connections to body image concerns. Social comparison was not found to be a significant independent predictor of BDD symptoms, indicating that individual differences in resilience, media literacy, and self-perception can greatly influence this relationship. The combined impact of self-esteem and social comparison on BDD symptoms suggests that body image worries arise from a complex interplay of individual and social factors. The stronger independent influence of self-esteem emphasizes the need for targeted interventions that prioritize enhancing positive self-perception and addressing external factors like media portrayals of beauty.

On the basis of the present study, the following recommendations were made:

School counsellors in collaboration with other mental health practitioners should implement programs that promote genuine self-worth rather than surface-level or defensive self-esteem. Activities such mindfulness-based interventions and self- compassion training can help students develop a healthier and more stable self-concept.

Educational institutions should introduce media literacy programs. These programs should teach students how to critically analyze and deconstruct unrealistic beauty standards in social and digital media to reduce the negative impact of comparison-based body dissatisfaction.

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Effect of Dictation Strategy on Senior Secondary School Student's Academic Performance in Biology Concepts

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Abstract. The study is concerned with the effect of Dictation Strategy on Biology student's Academic Performance, in Egor Local Government Area of Edo State. Two research questions were raised to guide the study and two hypotheses were formulated and tested at 0.05 level of significance. The study employed a quasi-experimental research design, using pre-test post-test non-equivalent control group design. The population of the study comprised of 10500 SS II Biology students in Mixed public Senior Secondary Schools. The sample of the study consists of students in two intact classes randomly selected by balloting from two schools. One intact SS II class of 40 students: 20 boys and 20 girls served as experimental group while the other intact class of 41 students: 20 boys and 21 girls served as control group. The instrument, Biology Academic Achievement Test (BAAT) was used to collect data and Kuder Richardson formular 20 with an internal consistency coefficient of 0.67 was obtained. The BAAT was used to pre-test both experimental and control group, it was reshuffled and administered as post-test to both groups after the administration of treatment to the experimental group. Paired sample t-test, and ANOVA were used for Data analysis. The findings of the study revealed that there was a significant difference in the post-test and pre-test of students taught concepts of Protista in their Academic Performance using Dictation Strategy and there was no significant interaction effect of Dictation Strategy and sex on Biology students' Academic Performance. It was recommended among others that Biology teachers should incorporate the use of Dictation Strategy in teaching with other methods because it is capable of improving biology students' Academic Performance than the conventional method. It was also recommended that professional organization should organize workshops, Seminars and Conferences for Biology Teachers on the use of Dictation Strategy and its benefit.

Keywords: Dictation Strategy, Biology, Conventional method, Academic Performance and Protista.

1. Introduction

Biology as the science of life is offered in all senior secondary schools in Nigeria. The National Association of Biology Teachers (2005) defined biology as a study of life and its evolution, organisms and their structures, functions, processes, and interactions with one another and with their environment. Biology provides an opportunity for teaching students to develop the ability to apply science concepts and principle in solving everyday life problems. And it is a unique discipline where experiments with living organisms can take place both in the laboratory and in the field. Biology is also a basic prerequisite subject for many fields of study such as Medicine, Agriculture, Pharmacy, Nursing, Bio-technology among others which have immensely contributed to technology. In spite of the imperative nature of the subject, it is pertinent to note that most students, still sees Biology as a very difficult subject to read and comprehend, their reason been that biological words are too difficult to spell and understand, and some students are of the opinion that Biology is too broad. The WAEC Chief Examiners Reports on WAEC results (2015), of senior school/certificate revealed low academic achievement or performance of students in Biology. One of the reasons is due to students' inability to spell technical terms in Biology, this can be seen in the weaknesses found to be common among candidates, which are: Poor handwriting making their work illegible, Poor numbering of questions, Poor spelling of technical terms, Inability to relate structure to function e.t.c.

Slight trend was recorded in the performance of students in Biology in the past twelve years (2010-2021) in May/June WASSCE as seen in the appendix, table 1. where the percentage of candidates that passed falls below average except in Oller, J. (2021(51.66).

This situation is disturbing and not in the best interest of science and technological growth and development of the country, this is in collaboration with Sureka & Murugesan (2017) in a study indicated that the poor performance of students is mainly; students' attitude to learning; lack of teaching skills and competence of science teachers. Reviewed literatures have also pointed out different reasons for students' poor performance, some of which are due to the difficulty in not been able to spell some biological terms, (that is due to poor biological vocabulary) in Biology. Students see Biology terms as abstract, long and difficult to spell. Biological words like Spermatophyte, Bryophyta, pteridophyta, Chlorophyta, (as found in Classification) others are Hermaphrodite, Chlorophyll, Cytokinesis, Eukaryotes, Oligosaccharides, Osteoblast, Heterozygous, Autotrophic, Pneumatophore, Anaerobic etc. these are amongst such word that are difficult to spell by students.

One of the major problems that have been confronting the Nigerian education system over the years is the poor performance of students in the sciences and Biology in particular, the major reason been the methods used by the teacher to deliver his or her lessons. Modern methods of instruction today have equally emphasized that classroom teaching and learning should consist not only of "chalk and talking, but should equally involve teachers' utilization of other Strategies. Brown (2018) equally noted that since success in leaning biological words is linked to the appropriate and effective Strategy or style of teaching the subject (Biology), he further stressed that when the right instructional Strategy are utilized in the process of teaching and learning it helps in clarifying a particular biological word or term and motivate the interest of the student in wanting to know how to spell even such biological word. He also emphasized a situation where the student could be engaged to learn how to spell such word. In a situation where the right and effective technique is not utilized, meaning student can't build up their own Biology dictionary or vocabulary which is one of the prerequisites for passing the subject, and then meaningful learning will not take place and educational goals and objective would not be fulfilled and thus can result into educational disaster. Teaching Strategies comprises of the principles pedagogy and methods used by teachers to enable students learn better. This covers the overall standards, instructional strategies and process that a teacher follows in the classroom. A good and thorough knowledge of methods of teaching is necessary for the attainment of instructional objectives. Stone and Morris, in Issaac, 2019. Teaching Strategy is a generalized plan for a lesson which includes structure, instructional objectives and an outline of planned tactics, necessary to implement the strategies. Furthermore, Isaac (2019) explains that teaching tactics are that behavior of the teacher which he manifests in the class i.e., the developments of the teaching strategies, giving proper stimulus for timely responses, drilling the learnt responses, increasing the responses by extra activities and so on. When we use the term method, it implies some orderly way of doing something. Thus, we use the terms Strategy as synonyms to signify a series of steps that one takes to employ any general model being used in the classroom. Each of these aspects emanate from a broader and more encompassing model (Orlich, Harder, Callahan, Trevisan, & Brown, 2017:4).

The choice of teaching Strategies depend on what fits you, your educational philosophy, classroom demographic, subject area and so on. It should be noted that there are many factors that complement the teaching Methods for the attainment of this objectives. These Strategies, approach of teaching are as follows: Use of interactive visuals, learning through storyline, Use of polls to encourage participation, relate biology to everyday life, Utilization of team-based learning, Host of virtual field trip and Use of dictation approach.

In Oxford Learner's Pocket Dictionary (2016:119), dictation means "Act of saying words aloud so that somebody can write it down". In addition, Rowland, (2019) states that "Dictation is a Strategy used in both language teaching and language testing in which a passage is read aloud to students or test-takers, with pauses during which they have to write down what they heard as accurately as possible". From the definition, it can be concluded that dictation is a teaching technique that asked the students to hear and write down what have said to them, so that the students are hoped to understand the content of it. (2018:128-129) states as follows: A Strategy that ask students to write down what they have heard instead of saying aloud; the written versions can be checked later either by the teacher or, perhaps more productively, by the students themselves using a correct version called dictation. Spelling dictation is often used in the classroom situation to encourage learner especially in their understanding of some biology concepts. In a traditional spelling dictation, the teacher reads a word, the student writes down and then the teacher checks the writing to see to its accuracy. Dictation can be used to check accurate perception and comprehension as well as spelling. Dictation will be useful when it integrated well with the learning activities. It is a teaching technique which has proved extremely effective at all levels of instruction. It ensures attentive listening, trains students to learn to transfer oral sounds to written symbols, helps to develop aural comprehension and assists in self-evaluation. Dictation in predicting overall ability has some advantages. The main purpose of dictation is to evaluate the students‟ proficiency about the language or subject being learned through their listening ability. It means that when students do dictation, they do not only pay attention to the sound of the words that is read by the teacher but also understand about the meaning and be able to understand the content.

Dictation is an easily prepared activity that can become a part of the regular classroom routine (Nation,2017:34). Nation classified the variations of dictation into several categories:

Akanbi and Kolawole (2014) also indicated that in other to overcome the challenges of learning and spelling difficult words or abstract Biology concepts, Rowland (2019), have also suggested the use of activity-oriented strategies such as guided inquiry, cooperative learning, demonstrative schematic writing on problems involving difficult words should be use along with dictation strategy and others.

Dictation Strategy is seen as a process of writing down what someone else has said which involves Teacher spelling difficult words, students repeat the word after the teacher and spell it down. It is a tool for learning difficult words. Dictation is recognized in this study and many researchers sees it as a language activity with integrative effect on teaching and learning difficult terminology in secondary school. It often acts as a memorization exercise or spelling check assessment, it is use for facilitating writing skills such as accurate spelling of words hence, dictation activities could develop the mechanical accuracy and vocabulary which enable the students to write on his/her own. Therefore, dictation Strategy is regarded as a listening activity which enable students to comprehend information and react with written text (Richard and Renandya 2017). In addition, the value of dictation Strategy has been given prominence by some researchers, Akman (2019), Hasril, (2015) suggested that dictation Strategy could inspire the learners to discover and modify Ideas into their own words because they think as they write. This study believes that dictation of biological word can serves as a cognitive process where learners need to practice different words and skills so that they would improve their vocabulary development. Also, in this study, Dictation strategy will be a tool to increase the vocabulary of the learner especially in the usage of difficult words.

In addition, attention in this study will have to do with Dictation strategy as a way of improving Biology students' knowledge of Protista and hence their academic performance which is the aim of education.

Furthermore, focus was also on the interaction of gender on students' Academic Performance in this study. Overall, while dictation strategies are beneficial for Academic Performance in biology, tailoring these strategies to accommodate gender differences can further optimize learning outcomes.

In light of the above, it is believed that when students are given the right Strategy of learning they participate more, and the class look interactive and exploratory and as such facilitates mastering Subject. The Dictation Strategy is one of such technique which can make a class more participatory because all hands are on desk as the teacher gives the dictation, and when this is done regularly can improve students' vocabulary skills especially in Biology of which students regard as broad and having difficult to spell words or concepts, Ogu Iheirika, and Emejulu (2019).

1.1 Statement of Problem

The persistent reports of poor achievement and poor Academic Performance of students in Biology among Nigerian students over the years as revealed by literature and WAEC Chief Examiners reports calls for concern especially for teachers of biology and other stakeholders. Also results on student's biology vocabulary skills in senior secondary certificate examination (SSCE) over the years has not been commendable. Biology students' vocabulary over the years in senior school certificate examination has been generally poor too. Failure in this subject area has been attributed to the method, Strategy and techniques of teaching the subject.

In the May/June 2020 Senior Certificate Examination, the Chief Examiners reported that the examination was generally within the learning experience of the candidates, and compared favourably with previous years. However, candidate performance was generally poor in spelling of technical terms related to biology. According to the Chief Examiner report, the students could not spell correctly some of the technical terms in Classification of Protista, as they were required to do in most of the questions relating to other topics, this was not only in the essay questions but also in the practical questions, this may be as a result of the methodology used or employed by the teacher.

Empirical studies involving the use of Dictation Strategy in teaching the concept of Protista and its effect on student's Academic Performance in Biology is very scanty and based on this background, Perhaps the use of Dictation Strategy could enhance students' Academic Performance in Biology. Therefore, the question is, can the use of Dictation Strategy enhance student's Academic Performance in the Class Protista?

1.2 Research Questions

The following research questions guided the study:
- Is there a. difference between the mean pretest scores and posttest mean scores of students who were taught Concepts of Protista using the Dictation Strategy?
- Is there an interaction effect of method by sex on students' Academic Performance?

1.3 Hypotheses

The following null hypotheses were formulated for this study:

- There is no significant difference between the pretest and post-test mean scores of students who were taught the concept of Protista using Dictation Strategy.
- There is no significant difference in interaction effect of method by sex on students in the experimental group Academic Performance.

1.4 Purpose of Study

The study was designed to examine the effect of Dictation Strategy on the Academic Performance of Biology students in Senior Secondary School especially SSS II students in mixed public schools in Edo State.

2. Methodology

The study employed a pre-test, post-test non randomized quasi experimental design where intact classes were used. The experimental group was exposed to Dictation Strategy and the control group to the Traditional method of instruction. The target population of this study is all Mixed Public Senior Secondary School Two (SS2) in Benin Metropolis. Benin metropolis has three (3) local government areas namely, Egor, Ikpobo-Okha and Oredo. with a total number of 10, 500 Biology students. forty students for the experimental group were taught using the Dictation strategy for six weeks and forty-one of the students for the control group were also taught for six weeks with Conventional method without Dictation strategy. A Biology Academic Achievement Test (BAAT) which was designed by the researcher and validated by biology experts was used to collect data. Its reliability was established. Data collected were collated and analyzed using descriptive statistics. The hypotheses were tested using t-test and analysis of variance (ANOVA) statistic was also adopted since the study involved pre-test and post-test of intact classes. All statistics was tested at 0.05 level of significance.

3. Presentation of Results

Hypothesis 1. There is no significant difference between the mean pretest scores and posttest mean scores of students who were taught the concept of protista using Dictation Strategy.

Table 1: Descriptive Statistics of Mean, Standard Deviation and Standard Error of Paired Sample t-test for the Dictation Strategy

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest	11.36	39	4.954	.793
	Posttest	20.15	39	1.785	.285

Table 1 presents the descriptive statistics of the paired sample t-test for the dictation Strategy. The table shows that the pre-test mean score for students taught concept of Protista using the Dictation Strategy was (Mean = 11.36, SD = 4.954) and the post-test mean score was (Mean = 20.15, SD = 1.785). A Paired samples t-test was conducted to evaluate whether there was a difference between the pre-test and post-test mean scores after they were taught Protista using the Dictation Strategy. The summary is presented in Table 2.

Table 2: Summary of Paired Samples t-test of the Effect of the Dictation Method on Student's Academic Performance

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	T	df	Sig. (2-tailed)
Pair 1	Pretest Posttest	-8.79487	4.73608	.75838	7.25961	10.33013	11.597	38	.000

The results indicate that the post-test mean score (Mean = 20.15; SD = 1.785) of students' achievement in Academic Performance after they were taught using the Dictation Strategy was significantly higher than the pre-test mean scores (Mean = 11.36; SD = 4.954); [t(38) = 11.597, p = .000]. The 95% confidence interval of the difference between the means ranged from [7.26 to 10.33]. So, hypothesis 1, which states that there is no significant difference between the pre-test and post-test mean scores of students taught the concept of Protista using the Dictation Strategy was rejected. It can therefore be concluded that the Dictation Strategy has effect on students Academic Performance.

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Hypothesis 2: There is no significant difference in interaction effect of method by sex on students in the experimental group Academic Performance.

Table 3: Summary of 2-Way ANOVA of Interaction Effect of Method by Sex on Students' Achievement in Vocabulary Development

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	325.751[a]	3	108.584	17.487	.000
Intercept	25569.762	1	25569.762	4117.802	.000
Method	300.912	1	300.912	48.459	.000
Sex	1.617	1	1.617	.260	.611
Method * Sex	11.258	1	11.258	1.813	.182
Error	465.717	75	6.210		
Total	26785.000	79			
Corrected Total	791.468	78			

a. R Squared = .412 (Adjusted R Squared = .388)

The F-value for interaction effect of method by sex in Table 3 is1.813 with df = (1, 75) and p-value =.182. Testing at an alpha level of 0.05, the p-value (.182) is greater than the alpha level (0.05), so hypothesis 2, which states that there is no significant interaction effect of method by sex on students' achievement in Academic Performance was retained. It was concluded that there was no method by sex interaction effect on students' Academic Performance.

4. Discussion of Findings

This study investigated the effect of Dictation Strategy on student's Academic Performance in senior secondary schools. Hypothesis one was tested using Paired Sample t-test while Two-way Analysis of Variance (ANOVA) was used to test hypothesis two. All hypotheses were tested at 0.05 level of significance.

The findings of hypothesis one according to Table 1 indicate that the posttest mean score (Mean = 20.15; SD = 1.785) of students' Academic Performance after they were taught using the dictation method was significantly higher than the pretest mean scores (Mean = 11.36; SD = 4.954); [t(38) = 11.597, p = .000]. The 95% confidence interval of the difference between the means ranged from [7.26 to 10.33]. So, hypothesis 1, which states that there is no significant difference between the mean pretest scores and posttest mean scores of students taught Protista using the Dictation method was rejected.

The findings also show no interaction effect of gender and method on student biology Academic Performance. This means that regardless of gender, Dictation Strategy improves both male and female students' Academic performance in biology.

5. Conclusion

Based on the findings of the study on the effect of Dictation strategy on student Vocabulary Development in Benin Metropolis, the following conclusions were made:

- Dictation Strategy improved the student Academic Performance on the Concept of Protista more than the Conventional method and this can largely increase performance of student in their internal and external examinations.
- There was no significant interaction effect between Dictation Strategy and gender of the student Concept of Protista as measured by test on Biology Academic Achievement Test (BAAT).
- Also, based on the findings of this study, it is concluded that students' Academic Performance is dependent on the instructional method. This is hinged on the fact that students taught with Dictation Strategy perform better than those taught with the Conventional method.

6. Recommendations

Since the use of Dictation Strategy improved the Academic Performance of students in biology concepts, the following recommendations were made:

- Teachers are enjoined to use Dictation strategy side by side with other methods of teaching
- School principals should make provisions in the school time table for biology teachers to give students Dictation of biological concepts after the conventional teaching method.
- Stakeholders should organize workshops, seminars and conferences for biology teachers on the use of Dictation strategy and state its benefit to the teacher.
- Finally, teachers should create an atmosphere conducive and equal for learners to have adequate learning experience.

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Childhood Trauma, Peer Pressure, Social Media Usage, and Delinquent Career Choice among Youths in Ibadan, Nigeria

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Abstract. This study investigated the relationships between childhood trauma, peer pressure, social media usage, and delinquent career choice among youths aged 15 to 24 years in Ibadan, Nigeria. A purposive sample of 200 participants was drawn from correctional centres, rehabilitation homes, and selected secondary schools to examine the psychosocial factors influencing vocational deviance. Using Pearson correlation and multiple regression analyses, the study found significant positive associations among childhood trauma, peer pressure, social media usage, and delinquent career orientation. Peer pressure emerged as the strongest predictor, followed by childhood trauma, while social media usage showed a smaller yet significant effect. The combined model explained 41.2% of the variance in delinquent career choice, highlighting the complex interplay of individual and social influences on youth behaviour. These findings underscore the need for integrated intervention programmes that address trauma, peer dynamics, and digital contexts to effectively mitigate delinquent pathways. The study also highlights implications for trauma-informed care and social skills training in rehabilitation and educational settings. Limitations related to sampling methods and cross-sectional design are acknowledged, with recommendations for longitudinal research and broader population samples to deepen understanding of these relationships. This research contributes to the growing literature on multifactorial determinants of youth delinquency in the Nigerian context, offering valuable insights for policymakers, educators, and mental health practitioners.

Keywords: Childhood Trauma, Peer Pressure, Social Media Usage, Delinquent Career Choice

1. Introduction

Youth delinquency is a growing global phenomenon, characterised by consistent engagement in criminal or deviant acts such as cybercrime, theft, and substance abuse. The United Nations Office on Drugs and Crime (2023) reports a concerning rise in youth-related criminality, attributing much of this to early psychosocial vulnerability, exposure to violence, and declining moral infrastructures. Research increasingly shows that many adolescents who become long-term offenders have endured a constellation of negative life experiences, often beginning in childhood and exacerbated by poor social support (Omopo, 2024; Offor & Omopo, 2025). International discourse on the subject has moved from isolated causal factors to the intersectional interplay between personal trauma, peer affiliations, and social technologies.

In Africa, youth deviance is further complicated by weak institutional frameworks, economic inequality, and rapidly changing cultural landscapes. Several studies from Ghana, Kenya, and South Africa reveal that adolescents frequently resort to deviant behaviours in response to unresolved trauma, lack of parental oversight, and influence from social groups that normalise deviance (Mnyaka, 2022; Osei-Tutu & Antwi, 2021). Urbanisation and digital inclusion have also introduced virtual platforms where crime and social deviance are reinforced and rewarded. Yet, interventions targeting these multidimensional causes remain inadequate, particularly in sub-Saharan African nations (Adebayo-Oke, Omopo, & Oyetunji, 2021).

Childhood trauma is a powerful but often underestimated predictor of youth delinquency.

Empirical findings have consistently shown that adverse childhood experiences such as physical abuse, neglect, sexual assault, and parental abandonment contribute significantly to maladaptive coping behaviours (Omopo, Offor, & Ogunbowale, 2024; Offor, Ogunbowale, & Omopo, 2025). In Ibadan, findings reveal that children who have been traumatised are more likely to struggle with emotional regulation, experience post-traumatic stress disorder (Omopo, 2024), and adopt behaviours that mirror the chaos of their early environments (Ogunbowale et al., 2025). Without timely psychosocial intervention, these youths may seek control, belonging, or revenge through delinquent acts.

Peer pressure is another dominant factor shaping delinquent trajectories, particularly in adolescence when the need for social approval is heightened. Sutherland's Differential Association Theory explains that behaviours whether prosocial or deviant—are learned through social interaction. In Nigeria, peer influence has been identified as a strong contributor to drug use, cultism, truancy, and juvenile crimes (Adegunju, Asiyanbi, & Omopo, 2024; Omopo, 2023). In Ibadan, peer networks often operate as alternative family systems, particularly in socio-economically marginalised communities, reinforcing norms that glorify criminality, materialism, and violent dominance (Omopo, 2024). The desire for identity and belonging often outweighs internalised morality in such peer contexts.

The digital era has added new dimensions to youth deviance, especially through widespread social media usage. Social media platforms such as Facebook, WhatsApp, TikTok, and Instagram have become arenas for peer validation, trend conformity, and virtual deviance. Delinquent behaviour—including cyber fraud, pornography, online bullying, and gang promotion—is often glamorised on these platforms (Omopo, 2024). In cities like Ibadan where technological access is high but digital literacy and parental regulation are low, social media accelerates the exposure of young people to criminal ideologies. These virtual influences can reinforce negative peer norms and make deviant lifestyles appear aspirational rather than condemnable.

Ibadan, the third most populous city in Nigeria, presents a context where the confluence of childhood trauma, peer pressure, and social media exposure is particularly concerning. Studies conducted in correctional and psychiatric institutions within the city have consistently linked delinquent behaviour with early life trauma, social marginalisation, and unregulated peer networks (Omopo, Offor, & Ogunbowale, 2024; Omopo, 2023; Offor & Omopo, 2025). However, most existing literature either treats these predictors in isolation or fails to consider their cumulative influence on the decision to pursue a delinquent career. Despite the availability of some fragmented data, a comprehensive, theory-driven investigation that unpacks how these variables jointly influence sustained deviant engagement is lacking in the Ibadan context.

Therefore, this study seeks to bridge this empirical and contextual gap by investigating how childhood trauma, peer pressure, and social media usage influence the choice of a delinquent career among youths in Ibadan. Grounded in Social Control Theory and Differential Association Theory, the research aims to offer nuanced insight into the psychological and sociological pathways that link these variables to criminal persistence. This knowledge is essential for designing informed prevention and rehabilitation strategies that are contextually appropriate for the Nigerian urban youth population.

1.1 Purpose of the Study

The present research seeks to examine the influence of childhood trauma, peer pressure, and social media usage on the inclination toward delinquent career choice among youths in Ibadan, Nigeria. Given the growing concern over youth involvement in deviant, criminal, and socially unacceptable career paths, it becomes imperative to investigate the psychosocial antecedents that predispose individuals to such behaviours. Specifically, this study focuses on how early-life psychological trauma, social peer dynamics, and online influences might interactively or independently influence a young person's decision to pursue or justify delinquent vocational pursuits.

The specific objectives of this study are as follows:

- To examine the relationship between childhood trauma, peer pressure, social media usage, and delinquent career choice among youths in Ibadan, Nigeria.
- To determine the combined effect of childhood trauma, peer pressure, and social media usage on delinquent career choice among youths in Ibadan, Nigeria.
- To assess the relative contributions of childhood trauma, peer pressure, and social media usage to delinquent career choice among youths in Ibadan, Nigeria.

1.2 Research Hypotheses

The following hypotheses will be tested at the 0.05 level of significance:

- There is no significant relationship between childhood trauma, peer pressure, social media usage, and delinquent career choice among youths in Ibadan, Nigeria.
- There is no significant combined effect of childhood trauma, peer pressure, and social media usage on delinquent career choice among youths in Ibadan, Nigeria.
- There is no significant relative contribution of childhood trauma, peer pressure, and social media usage to delinquent career choice among youths in Ibadan, Nigeria.

2. Research Methodology

This study adopted a correlational research design to examine the predictive influence of childhood trauma, peer pressure, and social media usage on delinquent career choice among youths in Ibadan, Nigeria. The design enabled the assessment of the statistical relationships between the psychosocial predictors and the likelihood of choosing unlawful or deviant vocational paths. A sample of 200 youths aged 15 to 24 years was purposively selected from youth correctional centres, rehabilitation homes, and selected secondary schools across Ibadan metropolis. Inclusion criteria required participants to self-report past or ongoing experiences of trauma, peer influence, or intense social media use, as well as indications of career aspirations or activities that diverge from conventional lawful occupations. Ethical approval was obtained from the University of Ibadan Research Ethics Committee, and informed consent was sought from all participants or their guardians. Participation was voluntary and anonymised, with protocols in place to ensure confidentiality and minimise psychological harm.

Data were collected using standardised instruments: the Childhood Trauma Questionnaire (Bernstein et al., 1997), Peer Pressure Inventory (Brown et al., 1986), and the Social Media Engagement Questionnaire (adapted from Savci & Aysan, 2017). A self-constructed Delinquent Career Inclination Scale, pretested and validated (Cronbach's alpha = 0.87), was used to measure participants' predisposition toward delinquent occupational choices. Trained research assistants supervised the administration of the instruments, offering support to participants where necessary. Data were analysed using IBM SPSS version 26. Descriptive statistics summarised demographic and variable profiles, while Pearson's correlation determined the relationships between the independent and dependent variables. Multiple regression analysis was employed to evaluate the predictive and relative contributions of each psychosocial factor. The findings aim to offer data-driven insights for developing preventive psychosocial interventions and youth empowerment policies targeted at reducing deviant vocational outcomes in urban Nigerian settings.

3. Results and Discussion

3.1 Demographic Representation of the Participants

Table 1: Demographic Characteristics of Respondents

Demographic Variables	Frequency (n = 200)	Percentage (%)
Age		
15 – 18 years	92	46.0
19 – 21 years	68	34.0
22 – 24 years	40	20.0
Gender		
Male	130	65.0
Female	70	35.0
Religion		
Islam	110	55.0
Christianity	75	37.5
Traditional Religion	15	7.5

The sample comprised 200 youths aged between 15 and 24 years, purposively selected from correctional centres, rehabilitation homes, and selected secondary schools within Ibadan. The age distribution showed that 46% were between 15 and 18 years, marking adolescence as a critical period for psychosocial development and vulnerability to negative influences (Brown & Larson, 2021). Males constituted 65% of the sample, consistent with broader criminological literature indicating higher rates of delinquency among young males. Religious affiliations were primarily Islam (55%) and Christianity (37.5%), reflecting the sociocultural context of the region.

3.2 Hypotheses Testing

Hypothesis 1: Relationship between Childhood Trauma, Peer Pressure, Social Media Usage, and Delinquent Career Choice

Pearson correlation analysis explored the relationships between childhood trauma, peer pressure, social media usage, and delinquent career choice. The correlation matrix (Table 2) shows significant positive relationships among all variables, indicating that higher exposure to trauma, peer influence, and social media engagement correlates with increased delinquent career inclinations.

Table 2: Correlation Results for Hypothesis 1

Variables	Childhood Trauma	Peer Pressure	Social Media Usage	Delinquent Career Choice
Childhood Trauma	1			
Peer Pressure	0.374*	1		
Social Media Usage	0.305*	0.426*	1	
Delinquent Career Choice	0.432*	0.528*	0.412*	1

*Significant at $p < 0.05$

Peer pressure demonstrated the strongest association with delinquent career choice ($r = 0.528$), underscoring the social environment's influence on youth behaviour (Lee & Kim, 2022). Childhood trauma also exhibited a significant moderate correlation ($r = 0.432$), reflecting its lasting impact on psychosocial functioning and propensity toward deviance (Miller et al., 2021). The link between social media usage and delinquent career choice ($r = 0.412$) corroborates emerging evidence on the role of digital platforms in shaping youth identity and risk behaviours.

These results are consistent with the findings of Rodriguez et al. (2022), who demonstrated that peer influence and adverse childhood experiences interact to significantly predict engagement in delinquent behaviours among urban youth populations. Their study highlighted that neither factor alone fully accounts for the complexity of youth deviance; rather, it is the combination of these psychosocial stressors that intensifies the likelihood of delinquent outcomes. This reinforces the notion that delinquent career orientation is multifactorial, involving a dynamic interplay between individual vulnerabilities, such as trauma history, and external social pressures, including peer group norms and expectations (Nguyen & Tran, 2023). Such a perspective challenges simplistic or single-factor explanations for delinquency and underscores the importance of comprehensive assessment frameworks that consider both internal psychological states and environmental influences. Consequently, effective intervention strategies must be holistic, simultaneously addressing the lingering effects of childhood trauma and the ongoing impact of peer relationships. Programs that incorporate trauma-informed care alongside peer group interventions are therefore crucial to disrupt pathways leading to delinquency, fostering resilience and promoting healthier social development among at-risk youth.

Hypothesis 2: Combined Effect of Childhood Trauma, Peer Pressure, and Social Media Usage on Delinquent Career Choice

Multiple regression analysis assessed the joint predictive power of the three independent variables on delinquent career choice. Table 3 summarises the regression model statistics.

Table 3: Multiple Regression Results for Hypothesis 2

Source	**Sum of Squares**	**df**	**Mean Square**	**F**	**p-value**	**R^2**
Regression	26.104	3	8.701	48.237	0.000	0.412
Residuals	36.980	196	0.189			
Total	63.084	199				

The model significantly predicted delinquent career choice ($F(3,196) = 48.237$, $p < 0.001$), explaining 41.2% of the variance ($R^2 = 0.412$). This considerable explanatory power highlights the interplay of trauma, peer dynamics, and social media exposure in shaping vocational deviance among youths

The result supports the theoretical perspective that delinquency is not caused by a single factor but rather emerges from complex interactions between individual characteristics and environmental influences, as proposed by Thompson and Lee (2020). Their framework emphasises that personal vulnerabilities, such as experiences of trauma or psychological distress, interact with external conditions like peer pressure, family dynamics, and community context to shape behavioural outcomes. This multifaceted view highlights that delinquent behaviour among youths cannot be fully understood without considering how these diverse factors converge and reinforce each other over time. Supporting this notion, Al-Amin et al. (2023) found that a combination of psychosocial stressors including childhood adversity, peer influences, and socio-economic challenges significantly predicts deviant behaviours among Nigerian adolescents. Their findings stress the necessity for prevention programmes that are integrated and multi-layered, addressing not only individual psychological needs but also social and environmental risk factors. By doing so, such programmes can more effectively mitigate the pathways leading to delinquency, promote positive youth development, and reduce recidivism rates. This convergence of evidence underscores the importance of adopting holistic and contextually sensitive approaches in both research and practice when tackling youth delinquency in Nigeria and similar settings.

Hypothesis 3: Relative Contribution of Childhood Trauma, Peer Pressure, and Social Media Usage to Delinquent Career Choice

The standardized regression coefficients (β) in Table 4 provide insights into the relative influence of each predictor.

Table 4: Relative Contributions of Variables to Delinquent Career Choice

Predictor Variable	β	t	p-value
Childhood Trauma	0.223	3.689	0.000
Peer Pressure	0.409	7.045	0.000
Social Media Usage	0.192	3.210	0.002

Peer pressure emerged as the most influential predictor (β = 0.409), confirming its pivotal role in youth behavioural outcomes (Smith & Martinez, 2022). Childhood trauma (β = 0.223) also had a significant impact, consistent with literature that links early adverse experiences with increased risk for delinquency (Garcia et al., 2021). Social media usage, while statistically significant, had the smallest effect (β = 0.192), suggesting it acts more as a contextual amplifier rather than a primary driver

These findings strongly advocate for intervention frameworks that place significant emphasis on the influence of peer group dynamics as well as trauma-informed care. Understanding the central role peers play in shaping youth behaviour is critical, as peer groups often serve as primary social environments where attitudes and behaviours are reinforced or challenged. Trauma-informed care, meanwhile, recognises the profound and lasting impact of adverse childhood experiences on emotional regulation, decision-making, and risk-taking behaviours. Addressing both these factors holistically allows for more comprehensive support tailored to the specific needs of at-risk youths. Moreover, the findings highlight the increasingly important role of the digital landscape in youth development, particularly how social media and online interactions can amplify exposure to risk behaviours or offer protective social connections, as noted by Chen et al. (2021). Integrating this awareness into intervention design ensures programmes remain relevant in the context of modern youth culture. Integrated therapeutic models, such as cognitive-behavioural therapy (CBT) combined with social skills training, have demonstrated efficacy in reducing delinquent tendencies by targeting both the cognitive distortions and social deficits that often underlie deviant behaviours (Williams et al., 2020; Asiyanbi et al., 2025). These approaches equip youths with healthier coping mechanisms, improved decision-making skills, and more adaptive social interactions, thereby disrupting the pathways leading to delinquent career choices. Together, these insights call for multi-dimensional intervention strategies that engage psychological, social, and technological factors to effectively support youth development and prevent delinquency.

4. Conclusion

The findings from this study underscore the significant roles that childhood trauma, peer pressure, and social media usage play in shaping delinquent career choices among youths in Ibadan. Peer pressure emerged as the most influential predictor, highlighting the critical impact of social environments on youth behaviour. Childhood trauma also demonstrated a notable effect, reinforcing the long-term consequences of early adverse experiences on psychosocial functioning and deviance. Although social media usage had the smallest effect, it remains an important contextual factor amplifying delinquent tendencies. Together, these factors explain a substantial portion of variance in delinquent career orientation, underscoring the multifaceted nature of youth deviance and the need for comprehensive intervention strategies.

5. Limitation

This study's findings should be interpreted within the context of several limitations. Firstly, the use of purposive sampling from correctional centres, rehabilitation homes, and select schools may limit the generalisability of the results to the broader youth population in Ibadan or other regions.

Secondly, the reliance on self-reported measures may introduce biases such as social desirability or recall inaccuracies, particularly regarding sensitive topics like trauma and delinquency. Additionally, the cross-sectional design prevents causal inferences, restricting understanding of how these variables interact over time. Future research employing longitudinal designs and more diverse samples would strengthen the validity and applicability of these findings.

6. Recommendations

Given the prominent influence of peer pressure and childhood trauma on delinquent career choices, intervention programmes should prioritise trauma-informed care and peer group-focused strategies within youth development initiatives. Schools and rehabilitation centres should implement structured social skills training alongside cognitive-behavioural therapies to enhance resilience and reduce susceptibility to negative peer influences. Moreover, educational campaigns targeting responsible social media usage could mitigate its amplifying effects on delinquency. Collaboration among policymakers, educators, and mental health professionals is essential to develop holistic prevention frameworks addressing these intertwined risk factors.

7. Suggestion for Further Studies

Future research could explore the longitudinal trajectories of childhood trauma, peer influence, and social media engagement in relation to delinquency, allowing for better causal understanding and timing of interventions. Studies incorporating qualitative methods might also provide deeper insights into the subjective experiences of youths navigating these risk factors. Additionally, examining protective factors such as family support, community engagement, and personal coping mechanisms could inform more nuanced prevention and rehabilitation models. Expanding research to include diverse geographic and cultural contexts would further elucidate the generalisability of these findings across different youth populations.

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Level of Environmental Knowledge, Attitude and Friendliness among Secondary School Students in Edo State, Nigeria

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Abstract. Environmental sustainability has become a global priority, placing increased emphasis on environmental education, especially among students. This paper explored the levels of environmental knowledge, attitudes, and friendliness among secondary school students. It also identifies the sources of environmental information among senior secondary school students in Edo State, Nigeria. Four research questions guided the study. The study adopted survey research design. The population of the study was 21,222 while the sample size comprised 1,202 students drawn from both public and government-approved private senior secondary schools. The multi-stage sampling procedure was used in drawing the sample. An achievement test and a questionnaire were used for data collection. Descriptive statistics such as frequency counts, mean, percentages and ranking were used for data analysis. Findings showed that senior secondary school students in Edo State have high level of environmental knowledge, positive environmental attitude and display a high level of environmental friendliness; and environmental information is mostly gotten from the school followed by the home. It was therefore recommended among others that the school should put more efforts into ensuring that students continue to get environmental information by integrating environmental education related contents across various subjects to further enhance students' environmental variables.

Keywords: Environmental knowledge, Attitude, Friendliness, Environmental information, Edo State

1. Introduction

Environmental degradation, including climate change, pollution, and biodiversity loss, presents critical challenges to global sustainability. Young people, particularly students, are seen as key actors in achieving long-term environmental goals (UNESCO, 2017). Their knowledge, attitudes, and behaviors toward the environment are essential indicators of the success of environmental education programs (OECD, 2020).

1.1 Environmental Knowledge

Environmental knowledge encompasses an understanding of ecosystems, environmental problems, and potential solutions (Kollmuss & Agyeman, 2002). Numerous studies suggest that students possess a moderate level of environmental knowledge, especially concerning visible and widely publicized issues such as plastic pollution and global warming (Bradley et al., 1999). However, more complex concepts such as the greenhouse effect, ecological footprint, and biodiversity conservation are often poorly understood (Esa, 2010).

Some of the factors influencing environmental knowledge include education (exposure to environmental topics in school); access to information (books, documentaries, internet, social media, etc.); teachers' expertise and enthusiasm in teaching environmental topics; participation in school programmes such as eco-clubs, recycling campaigns, or environmental days; family influence such as parents' and siblings' environmental awareness and discussions at home; and socioeconomic status as higher SES often correlates with better access to quality education and resources (Palmer et al., 1999).

Sources of environmental knowledge include School curriculum, Social media and online platforms, Environmental clubs and campaigns, Family and community influences. Despite these sources, gaps often exist between superficial awareness and deep understanding, indicating a need for more structured and experiential learning.

1.2 Environmental Attitudes

Environmental attitudes refer to the values and feelings individuals hold toward environmental protection. A positive attitude is often associated with concern for nature, sustainability, and a sense of personal responsibility (Schultz et al., 2005). Research indicates that many students exhibit concern for the environment and support green policies. However, these attitudes can be influenced by factors such as peer norms, cultural context, and self-efficacy (Steg & Vlek, 2009). The Theory of Planned Behavior suggests that attitudes, subjective norms, and perceived behavioral control are all key determinants of environmentally responsible action (Ajzen, 1991). Some influencing factors include cultural beliefs about nature and human responsibility toward the environment; religious/spiritual beliefs; peer influence as friends who are eco-conscious can shape similar attitudes; personal experiences such as interaction with nature; media influence such as documentaries and campaigns; and perceived severity and relevance (understanding the real-life impact of environmental problems).

1.3 Environmental Friendliness

Environmental friendliness, or pro-environmental behavior, includes activities such as recycling, conserving energy, reducing waste, and participating in community clean-up initiatives (Kollmuss & Agyeman, 2002). While many students express concern, fewer actually engage in these behaviors consistently—a phenomenon known as the "attitude-behavior gap." Barriers to behavior include lack of infrastructure, peer pressure, and inconvenience (Bamberg & Möser, 2007). However, supportive environments such as schools with active environmental clubs tend to improve students' participation in green behaviors (Rickinson, 2001). Some factors that influence environmental friendliness include environmental knowledge and attitude (as knowledge alone is not enough - positive attitudes encourage action); behavioral norms that are considered "normal" or expected in school, family, and community; facilities and infrastructure such as availability of recycling bins, water refill stations, etc.; motivation and incentives such as rewards for eco-friendly behavior, competitions, or recognition; self-efficacy which involves belief in one's ability to make a difference; and, school and government policies such as environmental rules, green certifications, eco-school initiatives and so on.

Limited integration of environmental education across subjects (UNESCO, 2017), insufficient experiential learning opportunities, lack of behavioral reinforcement in school policy and culture tend to pose as challenges to environmental friendliness.

The purpose of the study was to find out the level of environmental knowledge, attitude and friendliness among senior secondary school students in Edo State. The specific objectives are to:

- determine the level of environmental knowledge among senior secondary school students in Edo State, Nigeria;
- find out the environmental attitude of senior secondary school students in Edo State, Nigeria;
- determine the level of environmental friendliness among senior secondary school students in Edo State, Nigeria; and,
- find out the sources of environmental information that are available to senior secondary school students in Edo State, Nigeria.

1.4 Research Questions

- What is the level of environmental knowledge among senior secondary school students in Edo State, Nigeria?
- What is the environmental attitude of senior secondary school students in Edo State, Nigeria?
- What is the level of environmental friendliness among senior secondary school students in Edo State, Nigeria?
- What are the sources of environmental information available to senior secondary school students in Edo State, Nigeria?

2. Research Methodology

The study adopted the descriptive survey research design. The population comprised 21,222 students. The sample size was 1,202 students. The multi-stage sampling procedure was used for selecting the sample. Firstly, three local government areas in the Edo South senatorial district were purposively selected for the study. Secondly, all senior secondary schools in the three selected local government areas were listed and grouped according to their ownership (that is, public and private). This was done through stratified random sampling. Six (6) public co-educational senior secondary schools and six (6) private senior secondary schools were selected from each of the three local government areas. Thus, 12 schools were selected from each local government area to give a total of thirty-six (36) schools; lastly, 34 students were selected from each school. The sample consisted of 564 boys and 638 girls. Two instruments were used for the study - an achievement test and a questionnaire. Data collected for this study was analysed using descriptive statistics such as frequency counts, simple percentages and ranking.

3. Results

Research Question 1: What is the level of environmental knowledge among secondary school students in Edo State?

Table 1: Students' Level of Environmental Knowledge

Level	Frequency	Percentage (%)
Low	95	8.0
Moderate	501	42.0
High	606	50.0
Total	1202	100

Key: Scores between 0-6=Low; 7-12=Moderate; 13-18=High.

Table 1 showed that 95(8.0%) of the respondents have low environmental knowledge; 501(42.0%) have moderate environmental knowledge; while 606(50.0%) of the respondents have high environmental knowledge. It can be inferred therefore that students have high environmental knowledge.

Research Question 2: What is the environmental attitude of secondary school students in Edo State?

Table 2: Students' Environmental Attitude

Scale	Frequency	Percentage (%)
Negative	41	3.4
Positive	1161	96.6
Total	1202	100

Key: 17-42.5=Negative; 42.6-68=Positive.

Table 2 showed that 41(3.4%) of the respondents have negative environmental attitude while 1,161(96.6%) of the respondents have positive environmental attitude. It can be said therefore, that students have positive environmental attitude.

Research Question 3: What is the level of environmental friendly practices among secondary school students in Edo State?

Table 3: Students' Level of Environmental Friendliness

Level	Frequency	Percentage (%)
Very low	24	2.0
Low	18	1.5
Moderate	489	40.7
High	551	45.8
Very high	120	10.0
Total	1202	100

Key: 20-31=Very low; 32-43=Low; 44-55=Moderate; 56-67=High; 68-80=Very high

From Table 3, it can be observed that 24(2.0%) of the respondents have very low level of environmental friendly practices. 18(1.5%) of the respondents displayed low level of environmental friendly practices. Again, 489(40.7%) of the respondents engaged moderately in environmental friendly practices while 551(45.8%) of the respondents displayed high level of environmental friendly practices. Lastly, 120(10.0%) of the respondents displayed a very high level of environmental friendly practices. It can be inferred from the analysis that students' level of environmental friendliness is high.

Research Question 4: What are the sources of environmental information available to secondary school students Edo State?

Table 4: Sources of Environmental Information among Secondary School Students

	Sources	Yes	No	Total	Mean	Ranking
a.	Home	541 (45)	551 (55)	1202 (100)	0.46	2nd
b.	School	853 (71)	349 (29)	1202 (100)	0.71	1st
c.	Television	156 (13)	1046 (87)	1202 (100)	0.13	8th

d.	Radio	288 (24)	914 (76)	1202 (100)	0.24	4th
e.	Books	301 (25)	901 (75)	1202 (100)	0.25	3rd
f.	Friends	228 (19)	974 (81)	1202 (100)	0.19	6th
g.	Internet	276 (23)	926 (77)	1202 (100)	0.23	5th
h.	Place of worship	168 (14)	1034 (86)	1202 (100)	9.14	7th

(Percentages in parentheses)

Table 4 showed the data on the sources of environmental information. From the table, the mean and ranks of the sources of information on the environment show the school as first with a mean 0.71; the home as second with a mean of 0.46; books as third with a mean of 0.25; radio as fourth with a mean of 0.24; internet as fifth with a mean of 0.23; friends as sixth with a mean of 0.19; places of worship as seventh with a mean of 0.14; and television as eighth with a mean of 0.13. While more than half (about 71% of the respondents indicated school as the major source probably because they have received instruction on environment, less than half of the respondents (about 45%) indicated their homes as source of environmental information. However, the mass media- radio, television and the internet are very low sources of environmental information to the respondents at 24%, 13% and 23% respectively.

4. Discussion

Findings showed that students have very high environmental knowledge. This finding is in line with that of Sharma and Verma (2013) in which they observed that adolescents have deep knowledge of environmental issues. This finding therefore gives credence to effective implementation of Social Studies curriculum with regards to Environmental Education-related theme. One of the goals of Environmental Education is that it should help individuals acquire awareness and basic understanding of the environment and its allied problems. This goal can be said to have been achieved judging from the findings of this study.

Findings also showed that students have positive attitudes towards the environment and environmental issues. It is not surprising since it was earlier observed that a large majority of the students have high level of environmental knowledge. It is expected therefore that their environmental knowledge should influence their attitude. This finding is in line with the findings of the study done by Zarrintaj et al (2013).

Findings also showed that students have high level of environmental friendliness. It is expected that increased environmental knowledge will bring about positive environmental attitude and both will influence the students' environmental friendliness. This finding is in contrast with the findings of the study conducted by Ifegbesan (2010) in which he observed that students had low level of environmental friendliness.

Also, findings showed that the school provided the highest source of environmental information to the students. This could be as a result of having contents on environment integrated in school curriculum and especially in social studies to which the students are being exposed to. The low level of the mass media could be due to low feature of environmental matters or the students' attention and interest not directed towards them. The finding does not support prior studies like Keinonem, Yli-Panula, Vilkonis, Presson and Palmberg (2014), Ostman and Parker (1987) and Haklay (2002) that identified the internet, newspapers, radio, and television as the sources of environmental information.

5. Conclusions

Students play a pivotal role in shaping a sustainable future. While many have a foundational knowledge of environmental issues and display positive attitudes, there is a critical need to bridge the gap between awareness and action. Education systems must rise to the challenge by providing not just knowledge, but the tools, motivation, and opportunities to practice environmental responsibility. With the right support, students can become powerful agents of environmental change. This study reached a conclusion that secondary school students in Edo State have high level of environmental knowledge, positive environmental attitude and displayed a high level of environmental friendliness. Information about the environment is gotten from various sources but the most significant sources being the school and the home. It can be concluded that sources of environmental information among secondary school students in Edo State according to the order of their ranking includes the school, followed by the home, then books, radio, internet, friends, places of worship, with television coming last.

6. Recommendations

This study recommended that schools should put more efforts into ensuring that students continue to get environmental information by integrating environmental education related contents across various subjects; hands-on activities such as eco-projects and community service should be emphasized; sustainable actions by students should be Recognized and rewarded so as to reinforce environment-friendly behaviours; the school should collaborate with parents and local organizations so as to extend learning beyond school.

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Integration of Digital Tools on Traditional Graphic Design Techniques in Some tertiary Institutions

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Abstract. The rapid development of digital technology has gradually transformed the graphic design industry thereby, creating a pressing need for educational institutions to balance foundational traditional design principles with contemporary digital competencies. This study examines the integration of digital tools with traditional graphic design techniques across some selected tertiary institutions to evaluate the effectiveness of hybrid pedagogical approaches in preparing students for modern design careers. A mixed-methods research design was employed to investigate the educational outcomes of integrated design curricula across three tertiary institutions. The study approaches a combination of quantitative assessments, measuring student's performance and qualitative interviews with both educators and students. Participants included 240 graphic design students enrolled in fine and applied arts programs that involve varying degrees of digital-traditional integration. Data collection involved pre- and post-assessment evaluations, standardized design competency tests, and a structured interview. Statistical analysis was conducted using SPSS software, while qualitative data underwent thematic analysis to identify recurring patterns and insights. Results demonstrated that students exposed to integrated curricula showed significantly higher performance scores compared to those receiving traditional-only instruction the integration approach enhanced students' adaptability to industry-standard software and being able to compete with the outside world while maintaining strong foundational understanding of design principles such as typography, colour theory, and the likes. The limitations of this study are the human personnel trained in the traditional method being able to infuse the two approaches. The research supports the adoption of integrated pedagogical approaches while institutions should consider developing and enforcing modular curricula that allow students to progress systematically from traditional techniques to digital applications, ensuring conceptual understanding precedes technical skill development. The integration of digital tools with traditional graphic design shows a necessary evolution in tertiary design curricula. Rather than replacing traditional methods, digital integration should complement and enhance traditional design education, creating graduates who possess both conceptual depth and technical versatility.

Keywords: Graphic design education, digital integration, traditional design techniques, tertiary education, pedagogical innovation, curriculum development.

1. Introduction

Graphic design education is undergoing a significant transformation as digital technologies become integral to both professional practice and academic curricula. The Traditional graphic design techniques such as hand sketching, printmaking, and manual layout are now being taught alongside, and often integrated with, digital tools like Adobe Creative Suite, Figma, and digital sketching platforms. Hwang (2025) opined that the earliest roots of graphic design education can be traced back to medieval craft guilds, particularly those focused on printing, bookmaking, and decorative arts. These guilds operated on apprenticeship systems that established many principles still present in design education today. The printing guild system, which emerged in the 15th century following Gutenberg's invention of movable type, created the first structured approach to teaching what we might now call graphic design skills which was a passed down knowledge about typography, page layout, and the relationship between text and image. Johannes Gutenberg's workshop was mainly for the young apprentices learned not just the mechanical aspects of printing, but the aesthetic principles that made text beautiful and readable. They studied how different letter shapes worked together, how much space to leave between lines, and how to balance text blocks on a page. These workshops were essentially the first design schools, though they wouldn't have used that terminology. This guild system established several educational principles that remain central to design education today. Firstly, it emphasized learning through doing, apprentices worked on real projects with real consequences from the beginning then it recognized that developing design sensitivity required time and repeated practice and that visual skills needed to be taught alongside technical skills. Morris (2020) opined that good design wasn't merely decorative but it served social and moral purposes.

The landscape of graphic design education has undergone a profound transformation over the past four decades, fundamentally altering how creative professionals are trained and prepared for contemporary practice. This transformation represents more than a simple adoption of new technologies; it embodies a complete reimagining of educational paradigms that once relied exclusively on traditional, hands-on methodologies. Morris (2020) affirmed that Understanding this evolution is crucial for comprehending the current challenges and opportunities facing tertiary institutions as they navigate the integration of digital tools with time-honored graphic design techniques.

Historically, graphic design education was rooted in what we might call the "analog tradition" of visual communication until the late twentieth century, Onipede (2024) opined that students learned their design through direct manipulation of physical materials, developing tactile understanding through processes that required patience, precision, and deep conceptual planning. Students would spend hours crafting letterforms by hand, understanding the weight and texture of different papers, mixing inks, and learning the intricate dance between typography and layout through physical arrangement and rearrangement of elements. This approach fostered a particular kind of design thinking one that emphasized careful consideration, iterative refinement, and deep understanding of fundamental principles before any mark was made permanent.

The introduction of desktop publishing software, particularly with Apple's Macintosh computer and programs like Adobe PageMaker, suddenly made it possible for designers to manipulate text and images with unprecedented speed and flexibility which once required hours of meticulous physical layout could now be accomplished in minutes through digital manipulation. This shift was not merely technological but philosophical, challenging long-held assumptions about the design process, the relationship between designer and medium, and the very nature of creative problem-solving in visual communication.

1.1 Research Objectives

- To assess the effectiveness of traditional and digital art techniques in enhancing students' technical skills and artistic expression within the context of college visual art education.
- To explore the impact of traditional and digital art techniques on students' creativity, innovation, and conceptual development in college visual art programs.
- To identify college art students' and instructors' preferences and perceptions regarding using traditional and digital art techniques and their potential integration into the visual art curriculum.

1.2 Research Questions

- What are the differences in the development of technical skills between college art students exposed to traditional art techniques and those exposed to digital art techniques?
- How do traditional and digital art techniques influence students' creativity, innovation, and conceptual understanding in the context of college visual art education?
- What are the perceptions and preferences of college art students and instructors regarding using traditional art techniques versus digital art techniques in the visual art education curriculum, and what are their suggestions for their integration and balance?

2. Contemporary Challenges in Higher Education

Today's tertiary institutions find themselves at a critical juncture, grappling with questions that extend far beyond simple technology adoption. The challenge is not whether to integrate digital tools but rather the pressing concern is how to thoughtfully balance digital capabilities with the enduring value of traditional techniques, ensuring that students develop both technological fluency and fundamental design literacy. Recent developments in the field have intensified these challenges considerably, Ogunbanjo (2020) affirmed that Artificial intelligence and machine learning are set to redefine the creative process in graphic design, with tools that can analyze trends, suggest design elements, and even generate basic layouts, offering designers new ways to augment their creativity and streamline workflows. In recent years, art institutions and educators have grappled with how to strike the right balance between traditional and digital art instruction. While some argue that digital tools enhance accessibility and offer new avenues for artistic expression, others contend that the tactile experience of traditional mediums foster a deeper understanding of art fundamentals and craftsmanship.

Additionally, questions arise regarding the impact of technology on the artistic process and whether digital art can match the emotional depth and authenticity achieved through traditional techniques. Through an extensive review of scholarly literature, empirical studies, and interviews with art students and instructors, this research explores the perspectives of traditionalists and digital art advocates. By understanding the preferences, challenges, and learning outcomes of students engaged in either approach, we can discern the potential implications for the future of art education.

The findings of this study are intended to contribute to the ongoing discourse in the field of art education, enabling educators to make informed decisions about curriculum design and instructional methods. Furthermore, this research seeks to provide aspiring artists with valuable insights to help them navigate the diverse landscape of art-making techniques, ultimately empowering them to develop their artistic voices effectively. This technological advancement represents yet another layer of complexity for educational institutions already struggling to balance traditional and digital approaches. The integration challenge is particularly acute because traditional graphic design techniques offer irreplaceable educational value that cannot be simply digitized or automated. Onipede (2024) reiterates that Hand sketching develops visual thinking skills and conceptual fluency that remain essential even in digital workflows furthermore traditional typography exercises build understanding of letterform relationships and spacing that inform good digital typography while Printmaking and manual layout techniques develop spatial reasoning and compositional skills that transfer directly to screen-based design work. Concurrently, digital tools have become indispensable in professional practice. Onipede (2020) opined that surveys indicate that employers expect new graduates to demonstrate proficiency with current design software, understanding of digital color theory, familiarity with web-based design principles, and ability to work within digital production workflows. Students who graduate without these competencies find themselves significantly disadvantaged in the job market, regardless of their traditional design skills.

Traditional techniques excel at developing what educators call "design thinking the ability to approach visual problems systematically, to understand the relationships between form and content, and to make informed decisions about visual hierarchy, color relationships, and compositional balance. These skills are best developed through direct, physical engagement with materials and processes that require students to slow down, observe carefully, and understand cause-and-effect relationships in visual communication while Digital tools, conversely, excel at enabling experimentation, iteration, and refinement. It allows students to explore multiple solutions quickly, to understand the practical constraints of different media, and to develop fluency with the production processes they will encounter in professional practice. The most effective educational approaches recognize that these different learning modalities are complementary rather than competitive. Onipede (2020) affirmed that Students who learn traditional sketching techniques bring stronger conceptual development skills to their digital work. The integration challenge, therefore, is not about choosing between old and new but about creating educational experiences that leverage the strengths of both approaches.

In conclusion, this comparative study endeavors to illuminate the nuanced relationship between traditional and digital art techniques in the context of college visual art education. By exploring the impact of both approaches on students' artistic development, this research aims to enrich the conversation surrounding contemporary art education and inspire a deeper appreciation for the diverse and ever-evolving world of visual expression.

3. Literature Review

Graphic design is the art and profession of selecting and arranging visual elements such as typography, images, symbols, and colours—to convey a message to an audience.it has been an integral part of human expression since ancient times. From the cave paintings of the Stone Age to the sophisticated digital advertisements of the 21st century, the field of graphic design has undergone a remarkable evolution. This transformation has been significantly propelled by technological advancements, which have not only enhanced the efficiency and productivity of designers but have also expanded the horizons of creativity and expression. Onabanjo (2023) affirmed that the journey from the painstaking processes of manual typesetting and hand-drawn illustrations to the click-and-drag simplicity of modern design software reflects a broader narrative of innovation and change which will be of immense relief for the students.

3.1 The Evolution of Graphic Design Tools

The graphic design industry has witnessed a profound transformation over the centuries, evolving from the rudimentary tools of the Stone Age to the sophisticated digital platforms of the modern era. Graphic design, as a discipline, traces its roots to ancient civilizations, where visual communication was achieved through hand-drawn illustrations, calligraphy, and early forms of typography found in Egyptian, Roman, and medieval manuscripts, for centuries, designers relied on manual tools such as pens, pencils, brushes, and physical typesetting equipment to create layouts, posters, and books. The invention of the printing press by Johannes Gutenberg in the 15th century marked a seismic shift, making mass production of visual content possible and laying the groundwork for modern typography and layout design. Sean (2020) affirmed that this evolution has been inextricably linked with technological advancements, which have not only redefined the tools of the trade but have also expanded the very definition of graphic design.

3.2 From Manual Craftsmanship to Digital Precision

In the early days, graphic design was a manual craft. The late 19th century saw the rise of printed posters, which required designers to meticulously arrange type by hand and use lithography a printing process that involved etching onto a flat stone or metal plate. This was a labour-intensive process that demanded both time and skill. Purvis (2016) opined that Lithography was a popular printing technique of the time which involved drawing images with greasy ink on flat stones or metal plates. The process required immense precision, as any mistake could mean starting over. Colour printing was even more complex, demanding separate plates for each colour and perfect alignment (registration) during printing.

3.3 The Shift to Mechanical Reproduction

As technology advanced, mechanical processes like letterpress and offset printing began to supplement and eventually replace purely manual methods. Movable type allowed for faster composition of text, though it still required manual arrangement of individual letters and symbols. Photographic processes enabled designers to reproduce images more easily, but the craft remained hands-on and labor-intensive, Typography was a manual endeavor. Designers set type by hand, arranging individual letters and symbols to create words and layouts. The tactile nature of this work meant that every design was a unique piece of craftsmanship, often reflecting the designer's personal touch and expertise. Eskilson (2023) affirmed that as the 20th century progressed, innovations like the linotype machine and offset printing began to automate some aspects of design and production. These technologies sped up the process but still required significant manual involvement, especially in the areas of layout, illustration, and color separation. Digital precision meant that designers could experiment freely, undo mistakes instantly, and achieve effects that were previously impossible or prohibitively time-consuming. The barrier to entry lowered, democratizing the field and enabling a broader range of creative voices.

3.4 The Impact on Creativity and Craft

While digital tools have streamlined the design process, they have also sparked debates about the value of traditional craftsmanship. Some argue that manual skills foster a deeper understanding of design fundamentals, while others celebrate the expanded possibilities and accessibility of digital design. In recent years, digital technologies have permeated every aspect of our lives, transforming the way we work, communicate, and create. Traditional crafts and industries, once considered immune to technological disruption, are now experiencing a significant shift from pottery to textiles, woodworking to metalsmithing, artisans and craftspeople are finding themselves at a pivotal moment in history. shivam (2011) opined that digital revolution has ushered in a new era of possibilities for traditional crafts such as Computer aided design (CAD) software, 3D printing, and advanced manufacturing techniques which are enabling artisans to push the boundaries of their craft while maintaining the essence of their traditional skills. For instance, the jewelry industry has seen a remarkable transformation, with CAD programs allowing designers to create intricate patterns and structures that were once impossible to achieve by hand alone. In reality, today's best designers often blend both worlds drawing inspiration from the tactile qualities of manual techniques while leveraging the efficiency and flexibility of digital tools. This fusion has led to a vibrant, ever-evolving field where creativity knows no bounds.

3.5 Student Engagement and Motivation

Aboalgasm et al. (2014) investigated student engagement and motivation in art classrooms where traditional and digital techniques were employed. The research showed that students generally reported higher motivation and enthusiasm when working with digital art tools due to their familiarity with technology and instant feedback. However, some students expressed a sense of nostalgia and a stronger emotional connection to traditional art methods, contributing to their engagement. Yemimenko (2021) affirmed that practical and creative use of digital technologies is the direction in which education is heading and this will contribute to the training of new students as professional and skilled art critics who possess a precise understanding of traditional artworks and can also engage with the latest achievements in the field of art science.

3.6 Preferences and Learning Outcomes

A comparative study by Athanasiadis et al. (2011) surveyed college art students' preferences for learning traditional or digital art techniques. The results revealed a divided preference among students, with some leaning towards traditional methods for authenticity and hands-on experience, while others favoured digital techniques for their convenience and versatility. Interestingly, no significant difference was found in learning outcomes between the two groups, indicating that both approaches were equally effective in achieving learning objectives.

In the context of college visual art education, educators can leverage constructivist principles to design effective learning experiences that integrate both traditional and digital art techniques. By creating a supportive and collaborative environment, students can collectively construct knowledge and develops a holistic understanding of artistic expression. Incorporating both modes of artistic creation can also help students develop adaptive cognitive skills, preparing them to navigate the evolving landscape of art and technology.

4. Methodology

This study will adopt a qualitative data collection and analysis methods. Combining these approaches will offer a comprehensive understanding of the topic and allow for a more robust analysis. Semi-structured interviews will be conducted with selected participants, including college art tutors and students, to gain deeper insights into their experiences with both traditional and digital art techniques. These interviews will explore factors influencing their choices, challenges faced, and advantages of each medium. A purposive sampling technique is employed to select participants for the interviews. College visual art students and instructors with varying levels of experience in both traditional and digital art techniques will be included in the study to ensure diverse perspectives. The qualitative data from interviews will be analysed the to identify recurring patterns and themes related to participants' experiences with traditional and digital art techniques. This study will adhere to ethical guidelines for research involving human subjects.

5. Findings

Opinions regarding skill development were diverse while. Some traditional art advocates emphasised mastering fundamental techniques such as shading, perspective, and colour theory. One tutor remarked, onipede (2024) opined that Traditional art allows students to develop a deeper understanding of materials and tactile sensations, which ultimately enhances their artistic abilities. Conversely, students who preferred digital art highlighted the convenience and efficiency of the medium. A digital art enthusiast student stated, "Working digitally allows me to experiment quickly and make revisions effortlessly. On the other hand, students engaging with digital art emphasized the versatility and freedom to explore innovative styles and concepts. One student expressed, "Digital art offers a vast array of tools and effects that open up new possibilities for creative expression. It allows me to blend different media seamlessly, which adds a unique touch to my artwork.

6. Conclusion

The integration of digital tools into traditional graphic design techniques within tertiary institutions is essential for modernizing graphic design education and enhancing students' skills to meet industry demands. Research shows that while many students still over rely on traditional methods, incorporating digital platforms like Canva and adobe enriches the learning experience by fostering creativity, problem-solving, and technical proficiency. These tools accelerate the design process and expand creative possibilities, but traditional techniques remain valuable for foundational skills and intellectual development, Therefore, a balanced curriculum that combines both analogue and digital methods is crucial to prepare students effectively for the evolving graphic design landscape, colleges of Institutions should invest in technical support, provide access to digital devices, and update curricula to include collaborative and AI-enhanced tools, ensuring graduates are digitally literate and competitive in the global market This integrated approach not only empowers students with practical skills but also aligns graphic design education with technological advancements, promoting innovation and economic empowerment in the creative industries.

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Investigating the Effectiveness of Flipped Classroom Strategy on Secondary School Students' Achievement of Chemical Equilibrium in Chemistry

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Abstract. Looking at the tremendous impact that advancement in technology has made in the educational sector, this research investigated the effectiveness of flipped classroom strategy on secondary school students' achievement of chemical equilibrium in Chemistry. The research employed a quasi-experimental design featuring a pre-test post-test non-equivalent control group. The study comprised 85 Senior Secondary School, 11chemistry randomly selected from two secondary schools. The assessment tool utilised was the Chemistry Chemical Equilibrium Test (CCET). The instrument had a reliability index of 0.79, as determined by the Kuder-Richardson (k21) formula analysis. The data were analysed using descriptive statistics of the mean to address the study issues, while independent sample t-tests was employed to evaluate the proposed hypotheses. The study's findings indicated that Chemistry students instructed using a flipped classroom instructional strategy achieved higher scores than those instructed with lectures method; additionally, no significant difference in the performance of male students taught with the flipped classroom instructional strategy. The study concluded that the flipped classroom instructional strategy is more effective in enhancing chemistry students' achievement compared to the lecture method. It is recommended that both teachers and students receive adequate training to develop the necessary skills for implementing this strategy and that they be encouraged to utilise it in teaching and learning.

Keywords: Flipped Classroom Instructional Strategy, Sex, Chemical Equilibrium, Achievement, Quasi-Experimental Design.

1. Introduction

Chemistry is one of the important science subjects that is made compulsory for all science students at the secondary school level in Nigeria. A credit pass in Chemistry is a requirement for those who wished to study Chemistry related courses at the higher institution of learning in Nigeria. Chemistry is a subject that deals with the study of matter, the substances of which matter is made up of; the investigation of their properties, the reactions which matter undergo, how they behave during reactions and the changes which occurs during reaction to form new substances. It is a fundamental scientific discipline that plays a crucial role in various aspects of human life, including health, industry, agriculture, and environmental sustainability. According to Ogunleye & Adebayo, (2019) chemistry as a core science subject is essential for technological advancement, industrial growth, and the development of critical sectors such as pharmaceuticals, petroleum, and manufacturing.

Beyond education, chemistry plays a crucial role in Nigeria's industrial and economic sectors. For example, in the petroleum industry which is a major contributor to Nigeria's economy, the knowledge of Chemistry is required since the petroleum sector heavily relies on chemical processes for refining crude oil and producing petrochemicals. Additionally, Ogunleye & Okoro, (2022) are of the view that the knowledge of chemistry is fundamental in addressing environmental challenges, such as pollution control, waste management, and sustainable Agricultural practices.

Despite its significance, chemistry education in Nigeria faces several challenges, including inadequate laboratory facilities, a shortage of qualified teachers, and students' negative attitudes toward the subject due to its perceived difficulty (Ajayi et al., 2020) and the use of inappropriate teaching methods. Research findings have shown that poor performance in chemistry among Nigerian students is often linked to ineffective teaching methods, lack of hands-on experiments, and reliance on rote memorization instead of conceptual understanding (Agboro-Eravwoke, 2024). The study of chemistry also requires students to possess good level of science process skills to be able to conduct experimental verification into natural phenomena. These challenges have been reflected in the achievement of secondary school Chemistry students which over the years is greeted with several appalling remarks from Chief Examiners.

The reports of the West African Secondary School Certificate Examination (WASSCE) Chief Examiner's shows that from 2007-2012, the percentage of students who obtained a credit pass in chemistry was below 50% except in 2010. The reports further revealed a continual decline in the achievement of students from 2013 to 2016 from 72.34% to 57.74% of the percentage number of students with credit passes and further decline below 50% in 2018 and 2019. In 2020, the failure rate was 42.61%; in 2021, the failure rate was 33%; in 2022, indicated that only 38.68% of students passed chemistry (WASSCE, 2022).

One of the ways through which students' achievement is to be improved on in Chemistry is through the use of instructional teaching strategies which will promote hands on activities, social interaction and collaboration during the teaching and learning of Chemistry since most of the concepts in Chemistry are abstract like the concept of Chemical Equilibrium.

Chemical equilibrium is a fundamental concept in chemistry that describes the state in which the rates of the forward and reverse reactions are equal, leading to constant concentrations of reactants and products. This concept is crucial in understanding various chemical processes, including industrial reactions, biological systems, and environmental Chemistry. In Nigeria, chemical equilibrium plays a significant role in industries such as petroleum refining, fertilizer production, and pharmaceutical manufacturing. The country's oil and gas sector, which is a major contributor to the economy, relies heavily on equilibrium principles in refining crude oil and producing petrochemicals. Additionally, the production of ammonia and urea fertilizers, essential for Nigeria's agricultural sector, depends on the Haber process, a well-known example of chemical equilibrium.

Despite the importance of chemical equilibrium, studies have shown that many students in Nigerian secondary schools and universities struggle with understanding this concept due to inadequate laboratory facilities, insufficient instructional materials, and ineffective teaching methods (Ajayi & Adebayo, 2020). Furthermore, environmental concerns such as air pollution and water contamination in Nigeria can be better managed through an understanding of chemical equilibrium. For instance, equilibrium concepts are applied in controlling the emission of gases from industrial processes and in water treatment technologies (Eze & Uche, 2022). This has led to a growing concern about the quality of Chemistry education and the need for improved teaching strategies that will promote hands on and minds on activities in order to make concept learnt to be concrete through learning experiences. One of such strategies that could achieve this is the flipped classroom instructional strategy.

The flipped classroom instructional strategy is a student-centered teaching approach that reverses the lecture method of instruction. Instead of delivering lectures in class, students access instructional materials—such as pre-recorded videos, online resources, and assigned readings—before and during classes, while classroom sessions are used for discussions, problem-solving, and collaborative activities. This method promotes active learning, deeper understanding, and better student engagement compared to the lecture-based teaching (Ogunleye & Adeyemi, 2020), through the learning experiences that the students are engaged in. When flipped classroom instructional strategy is employed, the various activities that students are exposed to fosters critical thinking skills, improve their participation in the teaching and learning process, and encourages independent learning. These are essential factors that promotes academic success. Looking out the difference between the pattern of content presentation of the flipped classroom instructional Strategy and that of the lecture method which is teacher centered and widely used in the teaching of Chemistry in Nigeria, it becomes necessary to try out the method and determine if it will improve students' achievement in the concept of Chemical equilibrium in Chemistry. It is against this background that this study seeks to investigate the effectiveness of flipped classroom strategy on secondary school students' achievement of chemical equilibrium in Chemistry.

1.1 Statement of Problem

One of the challenges that have been found in today's chemistry education is the usage of ineffective instructional strategies (Agboro-Eravwoke, 2020) and this has accounted for the decline in chemistry students' examination as yearly reported by external examination bodies. In order to overcome this challenge and improve students' achievement in Chemistry, it becomes necessary to try out teaching methods that are student centered. One of such methods is the flipped classroom instructional strategy. When the flipped classroom instructional strategy is employed, the various activities that students are exposed to fosters critical thinking skills, improve their participation in the teaching and learning process, and encourages independent learning which are essential factors that promotes academic success. Base on this, the statement of problem therefore is "What effect will the use of flipped classroom instructional strategy have on chemistry students' achievement in chemical equilibrium?

1.2 Research Questions

- What is the difference in the mean achievement scores of students taught using flipped classroom instructional strategy and lecture method?
- What is the difference in the mean achievement scores of male and female students taught using flipped classroom instructional strategy?

1.3 Hypotheses

$H0_1$: There is no significant difference in the mean achievement scores of students taught using flipped classroom instructional strategy and lecture method.
$H0_2$: There is no significant difference in the mean achievement scores of male and female students taught using flipped classroom instructional strategy.

2. Methodology

The study adopted pre-test posttest non-equivalent control group quasi-experimental. In this design, there was no randomization of subjects in to groups rather intact classes were used to avoid disruption of the school activities. The Independent variables for this study are the teaching methods which are flipped classroom strategy (FCS) and lecture method (LM) while the Dependent variable (DV) is students' academic achievement and the intervening variable is sex. The population of the study is made up of 1,206 senior secondary year two (SS2) students offering chemistry in all the 29 public secondary schools in Akoko-Edo local government area of Edo state for the 2024/2025 academic session. The sample for the study were 85 students Senior Secondary School 2 students, comprising of 55 males and 30 females from two intact classes using sampling. In doing this, the names of the schools in the local government were listed in a blind bag from which two schools were selected. The instrument for data collection was the Chemistry Chemical Equilibrium Test (CCET). The CCET is made up of two sections. Sections A and B. Section A elicits information on students' bio-data while section B is made up of 20 items drawn from West African Secondary School Certificate Examination (WASSCE) past questions with multiple choice options of option A-E. These options contained one right answer and four distracters. For the instrument, each correct answer was scored 2.5, the maximum score is 50.

The face validity of the instrument was done by three experts: One experienced Chemistry teacher, one Science Educator and one measurement and Evaluation expert. They were given the instrument alongside the research question and hypotheses to determine if the items will be able to generate data needed to answer the research questions and test the hypotheses. They all agreed that the instrument will be able to generate data needed to answer the research questions and test the hypotheses. The content validity of the instrument was ensured through the use of table of specification based on blooms taxonomy to ensure content coverage and were rightly represented.

The reliability of the instrument was determined after the instrument were administered on twenty students who were not part of the study and the data collected were analyzed using Kuder-Richardson 21 formula which yielded an r –value of 0.79. With these values high than 0.70, this instrument is judged reliable.

Treatment Procedure

In implementing the flipped classroom strategy in the classroom, the experimental group teachers followed these steps:
Step 1: Introduction: Teacher introduced the concepts to be taught using Pre-recorded videos
Step 2: Engagement: Students were made to surf the net to access online audio-visual resources
Step 3: Explanation: Teacher ask students to explain the concept base on the understanding from the pre-recorded and online –visual resources.
Step 4: Extension: Teacher gives elaborate explanation of the concept taught citing examples from the online materials and also making references to activities in the environment
Step 5: Evaluation: Teacher asks students question to determine if they understood the concepts taught and also give room to students to ask their questions.
Step 4: Elaboration: Teacher further group the students into various groups and asked them to give a written explanation of what they have learnt.

3. Results

Table 1: Mean and Stand deviation statistics showing chemistry secondary students' achievement in Chemical Equilibrium.

Teaching Methods	N	Mean	Mean Diff	SD
Flipped Classroom	48	26.38	2.69	6.06
Lecture Method Classroom	37	23.69		5.18

Table 2 shows that the chemistry students taught in the flipped classroom instructional strategy had a mean score of 26.38and a standard deviation of 6.06 while their counterpart taught with the lecture method had a mean score of 23.69 with a standard deviation of 5.18. There exists a mean difference of 2.69 in favour of the flipped classroom instructional strategy. To determine if this difference was significant, independent sample t-test statistics was used to test $H_{01}$and the result is shown in table 2.

$H0_1$: There is no significant difference in the mean achievement scores of students taught using flipped classroom instructional strategy and lecture method.

Table 2: Independent sample t-test statistics showing chemistry secondary school students' achievement in Chemical Equilibrium.

Teaching Methods	**N**	**Mean**	**Mean Diff**	**SD**	**df**	**tcal**	**Sig (2-tail**
Flipped Classroom	48	26.38	2.69	6.06	83	1.200	0.003
Lecture Method Classroom	37	23.69		5.18			

Table 2 shows that the observed difference in table 1 is significant since the calculated sig value of 0.003 which is less than 0.05 was obtained. With this, $H0_1$ there is no significant difference in the mean achievement scores of students taught using flipped classroom instructional strategy and lecture method is therefore rejected.

Research Question 2: What is the difference in the mean achievement scores of male and female students taught using flipped classroom instructional strategy?

Table 2: Independent sample t-test statistics showing male and female chemistry secondary school students' achievement in Chemical Equilibrium.

Sex	N	Mean	Mean Diff	SD
Male	26	20.98	0.43	3.81
Female	22	21.41		6.04

Also, the table shows that the male students had a mean score of20.98 and a standard deviation of 3.81while their female counterpart had a mean score of 21.41 with a standard deviation of 6.04. There exists a mean difference of 0.31 in favour of the females. To determine if this differences are significant, independent sample t-test statistics was used to test H_{02}

$H0_2$: There is no significant difference in the mean achievement scores of male and female students taught using flipped classroom instructional strategy.

Table 3: Independent sample t-test statistics showing male and female chemistry secondary students' achievement in Chemical Equilibrium.

Sex	**N**	**Mean**	**Mean Diff**	**SD**	**df**	**tcal**	**Sig (2-tail**
Male	26	20.98	0.42	3.81	46	0.660	0.520
Female	22	21.41		6.04			

Table 3 shows that the difference between the male and female chemistry students' achievement is not significant since the calculates significant value of 0.520 is greater than 0.05 alpha level of significant with this, H_{02} which states that there is no significant difference in the mean achievement scores of male and female students taught using flipped classroom instructional strategy was not rejected.

4. Discussion of Findings

The first finding of the study as seen in table 2 shows that there is a significant difference between the mean achievement scores of students taught Chemistry Chemical equilibrium with flipped classroom instructional strategy and Lecture Method. The students taught with flipped classroom instructional strategy had higher mean scores than their lecture method group counterparts (Table 1). This difference may be as a result of the enriched technology learning environment that the students were exposed to. This must have made them have concrete learning experience in the teaching and learning environment more than their counterparts in the lecture method groups. This findings aligned with the findings of Chado et al. (2024) Makinde (2024), George and Osuafor (2023), Omeje (2023) Bukar and Isa (2023), Ibenegbu and Ugwu (2022) whose studies showed that the usage of flipped classroom had significant influence on students achievement and also collaborate with the finding of Agboro-Eravwoke (2024) whose study showed that students exposed to computer assisted instruction performed better than their counterparts taught with lecture method.

The second finding of the study as seen in table 4 shows that there is non-significant difference between the mean achievement scores of male and female students taught Chemistry Chemical equilibrium using flipped classroom instructional strategy. This lack difference shows that the enriched technology learning environment that the male and female chemistry students were exposed to had equal impact on them irrespective of their sex. This finding collaborates those of Udu and Unwaha (2024) and Bello (2023) whose findings showed a is significant difference between the mean achievement scores of male and female students taught using flipped classroom and that of Agboro-Eravwoke (2024) whose study showed that male and female students exposed to computer assisted instruction did not significantly outperform one another,

5. Conclusion

Looking and the tremendous impact made by advancement in technology in every sphere of life, and the positive impact it has in educational sector in terms of lesson delivery, one will conclude from the findings of this study that the flipped classroom instructional strategy is more suitable for the teaching of chemical equilibrium in Chemistry than the lecture method.

6. Recommendations

It is there recommended that governments in Nigeria should make available facilities that will foster the usage of clipped classroom in schools and also train teachers through organization of seminar and workshop for them to acquire the skills needed for its usage.

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Part Three
Organizational Behaviour

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Psychological Factor: A Predictor of Consumer Buying Behaviour in Retail Outlets in South-West Nigeria

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Abstract. Retailers operating in both informal and formal retail environments often face challenges in meeting customer expectations and increasing profitability due to limited insight into the diverse psychological factors that influence consumer purchasing behaviour. This study investigated the impact of selected psychological variables on consumer buying behaviour in retail outlets across South-West Nigeria. The target population comprised customers from both informal and formal retail settings within the region. Primary data was collected through a survey of 1,000 respondents, with selection of 500 each from Lagos and Oyo States using a convenience sampling method to select participants from designated markets. To analyse the data, regression analysis and analysis of variance (ANOVA) were employed to determine the comparative influence of psychological variables. The results indicated that perception and learning significantly and positively affect consumer buying behaviour in both retail types at the 0.05 level of significance. Additionally, motivation was found to have a positive and significant influence in formal retail outlets, though it showed no significant effect in informal settings. Meanwhile, beliefs and attitudes were not statistically significant in shaping consumer buying decisions in either outlet type. The study concludes that psychological factors play a vital role in influencing consumer purchasing decisions in both retail formats, as evidenced by F-statistics of 69.675 and 12.680, with p-values of .000 in both cases. Based on these findings, it is recommended that retailers develop a marketing tactics effective and suitable to motivate at the same time influence consumers' buying behavior, targeting the factors that determines their purchase decisions to include past experience, product awareness, social status, personal values, and emotional responses.

Keywords: Consumer Behaviour, Psychological Factors, Retail Outlets, Perception, Learning, Motivation, South-West Nigeria.

1. Introduction

In contemporary retail markets, especially within emerging economies of African Country like Nigeria, consumer buying behaviour is not only central to business strategy but also a vital tool for understanding market dynamics. South-West Nigeria, as one of the most economically active regions of the country, given the growing competition among both formal (malls, supermarkets) and informal (open markets, kiosks) retail outlets, identifying the psychological determinants of consumer behaviour becomes imperative for retailers seeking to maintain market relevance and profitability.

Globally, it is recognized that consumer purchasing decisions are influenced by a variety of interrelated factors to include cultural, economic, personal, and psychological. However, research increasingly highlights that psychological factors such as motivation, perception, learning, beliefs, and attitudes play a particularly crucial role in influencing consumer choices, especially in contexts where consumers are faced with numerous alternatives. Evidently, changes are observed in lifestyle, exposure to global retail standards, and technological advancements to have redefined shopping behaviour across socioeconomic classes (Yakubu, 2020).

In today's highly competitive retail environment, both formal and informal retail outlets must strive to understand and leverage the factors that influence consumer buying behaviour in order to remain viable and profitable. Consumer buying behaviour, a critical determinant of market success, encompasses the complex mental and emotional processes that individuals go through when selecting, purchasing, and using products or services. As noted by Dalyop (2017), consumer behaviour is an integration of personal, social, cultural, and psychological elements which interact to influence purchase decisions. Therefore, the ability to decode consumer intentions and motivations is not only pivotal to driving immediate purchases but also instrumental in building lasting customer relationships.

Retailers must increasingly recognise that buying decisions are not made solely on logical grounds or product attributes, but are also heavily influenced by psychological factors such as motivation, perception, learning, beliefs, and attitudes. These internal forces play a central role in shaping preferences and behaviour across different retail contexts. As highlighted by Idoko (2016), variations in mall shopping behaviour across Nigeria's geo-political zones are strongly tied to underlying psychological and environmental dynamics, suggesting that regional studies—such as this one focusing on South-West Nigeria—are essential to identifying location-specific behavioural patterns.

South-West Nigeria, being one of the most commercially active regions of the country, presents a diverse blend of consumer demographics and retail formats. Olodo (2017) conducted a comparative analysis of buying behaviour in formal and informal retail outlets within this region and found that psychological factors significantly influenced shopping decisions across both segments. Similarly, Raji (2021), in a study on eateries in the same region, demonstrated that consumer response to sensory marketing—which is closely linked to perception and motivation—had a marked effect on purchase decisions. These findings suggest that psychological variables are not only relevant, but essential to understanding retail consumption behaviour in this locale.

Furthermore, studies such as that of Ulaikere *et al.* (2020) and Rasaki *et al.* (2024) reinforce the notion that consumer preferences in both physical and online retail settings are strongly influenced by internal psychological predispositions. Consumers are often driven by a perceived value or emotional connection to the product or service rather than by price or convenience alone. Mang'unyi and Govender (2019) also observe that, in developing economies, internal motivators such as self-image, brand trust, and personal attitudes play a larger role than in more saturated markets, where external factors may dominate.

In this regard, the importance of tailoring marketing strategies to align with consumer psychology becomes even more apparent. As posited by Kwajaffa (2022), understanding the psychological constructs influencing buying behaviour can guide retailers in product positioning, pricing strategy, and customer engagement. Meanwhile, Katrodia *et al.* (2018), in their cross-national study on shopping behaviour, emphasised that psychological determinants, when viewed through a cultural lens, hold strong predictive power in consumer choice patterns.

Despite this growing body of evidence, there remains a noticeable gap in understanding how these psychological factors interact within specific regional retail environments, particularly across the spectrum of formal and informal retail formats in South-West Nigeria. Considering that this region accounts for a significant portion of national retail activity, with cities like Lagos and Ibadan acting as commercial hubs, the need to further explore the psychological dynamics driving consumer behaviour is both timely and critical.

This study, therefore, seeks to examine psychological factors, specifically motivation, perception, learning, and beliefs/attitudes as predictors of consumer buying behaviour in both formal and informal retail outlets in South-West Nigeria.

1.1 Statement of problem

Amidst of the current digital era, it was observed that business competitions is inevitable among retailers' outlets, and this situation in turn has led to increment of customers quest for value, experience, and emotional connection in their retail engagements, hence a deeper understanding of these psychological variables becomes a strategic imperative for successful business.

Consequently, the Nigerian retail industry is undergoing a profound transformation, driven by urbanisation, demographic shifts, increased disposable incomes, and technological advancements. A significant evolution has been observed in the structural organisation of retail from predominantly informal, fragmented systems to increasingly formal and organised outlets, such as supermarkets, hypermarkets, and shopping malls (Yakubu, 2023). In major South-Western cities like Lagos, Ibadan, and Akure, malls such as Ikeja City Mall and Cocoa Mall have emerged as central retail destinations, reflecting broader changes in consumer lifestyle and preferences.

Despite this rapid formalisation, informal retail channels including open markets, roadside vendors, and neighbourhood kiosks continue to dominate the Nigerian retail sector, accounting for over 91% of all retail transactions nationwide (PwC Nigeria, 2020). These informal outlets remain heavily patronised, offering low-cost goods, flexible bargaining, and culturally familiar service delivery. Surprisingly, this high level of patronage persists even though such outlets often lack modern retail conveniences, offer no after-sales support, and operate under low regulatory and infrastructural standards (Rosita & Kumar, 2014). This dichotomy raises a critical question: Why do many consumers continue to patronise informal retail outlets despite the apparent advantages of formal retail environments? Traditional assumptions around price and accessibility are no longer sufficient to explain this trend, especially as formal retail outlets become more widespread and competitive in pricing and proximity.

Recent studies suggest that the answer may lie within the psychological dimensions of consumer behaviour to consist of factors such as motivation, perception, learning, attitudes, and beliefs (Idoko, 2016; Raji, 2021). However, the empirical gap persists in terms of understanding how these psychological factors differently influence consumer preferences for formal versus informal retail outlets, especially within the socioeconomic and cultural context of South-West Nigeria.

Moreover, previous research has tended to treat consumer behaviour as a homogeneous construct across retail formats, often ignoring the nuanced psychological variables that underpin retail choice. Yet evidence suggests that consumer buying decisions are increasingly shaped by subjective and emotional evaluations, such as trust, brand familiarity, perceived value, and convenience factors that go beyond tangible product offerings (Mang'unyi & Govender, 2019; Ulaikere *et al.*, 2020).

For instance, according to the Nigerian Economic Summit Group (NESG, 2022), while modern retail contributes significantly to Nigeria's GDP, accounting for approximately 16% of national employment, consumer footfall in informal markets continues to outperform formal retail spaces by a ratio of 5:1, particularly in densely populated areas. This trend raises questions about the psychological loyalty and emotional attachment consumers have toward informal markets, despite their operational limitations.

Therefore, the core problem addressed in this study is the insufficient understanding of how psychological factors influence consumer buying behaviour across both formal and informal retail formats. By comparatively analysing these psychological influences, this study aims to fill a significant gap in consumer behaviour literature within the Nigerian retail context and provide insights that can inform strategic retail planning, policy formulation, and targeted marketing.

1.2 Research Question

The research question formulates to guide the study is as follows:

- Do psychological factors have effect on consumer buying behaviour in retail outlets in Nigeria?

1.3 Objective of the study

The objective of this study is to examine the comparative analysis of psychological factors on consumer buying behaviour in retail outlets in Nigeria.

1.4 Research Hypothesis

H_{01}: There is no significant differences in the psychological factors of consumer buying behaviour in retail outlets in Nigeria.

2. Literature Review

2.1 Conceptual Review

2.1.1 Consumer

Consumer behaviour pertains to the study of individuals and groups in acquiring, using, and disposing of goods and services. It encompasses the psychological processes, decision-making patterns, and external influences that affect purchasing decisions. The field integrates insights from psychology, sociology, and economics to understand how consumers' needs, perceptions, and experiences shape their buying actions.

2.1.2 Consumer Buying Behaviour

Consumer buying behaviour is a multifaceted field that aims to understand the actions and decision-making processes of individuals when selecting, purchasing, and using products or services. It is influenced by a variety of factors, including psychological, social, cultural, and personal elements. These factors interact in complex ways to shape consumer decisions, making consumer behaviour an essential area of study for marketers and retailers looking to meet consumer demands and enhance satisfaction (Idoko, 2016).

Psychological factors are among the most significant influences on consumer behaviour. These include motivation, perception, learning, and beliefs and attitudes. Motivation refers to the internal drive that prompts an individual to fulfill their needs and desires. Consumers who are highly motivated are more likely to engage in purchasing behaviours that align with their personal goals, whether these involve fulfilling a basic need or indulging in a luxury item. For instance, studies have shown that consumers who are motivated by status may prioritize purchasing high-end brands, while those motivated by convenience may opt for products that save them time and effort (Ramya & Ali, 2016).

Perception plays a critical role in shaping consumer behaviour. It is the process through which consumers select, organize, and interpret information to form a meaningful understanding of the world around them. A consumer's perception of a product or brand can significantly influence their purchasing decision. If a consumer perceives a product to be of high quality or aligned with their personal values, they are more likely to buy it. Perception is often influenced by factors such as advertising, word-of-mouth, and previous experiences with the product (Raji, 2021). For example, if a consumer has a positive past experience with a particular brand, they are more likely to develop a favorable perception of that brand, making them more inclined to purchase from it again in the future.

Learning also plays a crucial role in consumer behaviour. Learning refers to the process by which individuals alter their behaviour as a result of experiences. In a consumer context, this could involve learning from previous purchases, customer reviews, or advertisements. For instance, a consumer who has had a positive experience with a particular product will likely be more open to purchasing similar products from the same brand in the future (Oloodo, 2017). Additionally, consumers often learn about products through marketing efforts, which shape their expectations and attitudes toward certain brands or product categories.

Beliefs and attitudes are deeply rooted in consumer behaviour and are often formed over time through direct experiences, societal norms, and external influences. A consumer's belief system can shape their preferences and purchase decisions. If a consumer believes that a particular product or brand aligns with their values or supports their identity, they are more likely to become a loyal customer (Ulaikere *et al.*, 2020). For example, if a consumer believes that eco-friendly products are better for the environment, they may be more inclined to purchase sustainable products, even if they come at a higher price.

2.1.3 Types of Consumer Buying Behaviour

Aremu, Olaniyan and Aremu (2015), citing Rani, (2014), identified four types of consumer buying behaviour.

Routine response/Programmed Behaviour: This involves low level of involvement of customers which involves frequently purchased items of low cost. Little search and decision efforts is needed here and purchases are made almost immediately.
Limited decision making: Information search is needed here when brands to be bought are unfamiliar. This requires a moderate amount of time for information gathering.
Complex/ high level of involvement: The products here are unfamiliar and expensive and also infrequently bought. Consumers spend a lot of time in seeking and searching for information before deciding on what to buy.
Impulse buying: This buying pattern does not involve consumers making any pre-purchase plans. Examples of goods are toothpaste, sugar salt etc.

2.1.4 Effect of Psychological Factors on consumer buying behaviour

The impact of psychological factors on consumer buying behaviour has long been a subject of academic inquiry, as these factors play a significant role in shaping how consumers make purchasing decisions. Consumer behaviour is a complex and multifaceted field influenced by a variety of psychological processes, which include motivation, perception, personality, lifestyle, beliefs, and attitudes. Each of these sub-dimensions contributes uniquely to the decision-making process, affecting consumer preferences, product choices, and ultimately their buying behaviour.

Motivation, one of the most significant psychological factors influencing consumer behaviour, refers to the internal drive that compels an individual to satisfy their needs and desires (Ramya & Ali, 2016). Motivation can be driven by a variety of factors, including basic physiological needs such as hunger, as well as more complex psychological needs like social acceptance or self-esteem. The theory of motivation suggests that consumers are driven by both intrinsic and extrinsic factors. Intrinsic motivation involves pursuing satisfaction or fulfilment from an experience, such as a sense of accomplishment from buying a product that aligns with one’s values. In contrast, extrinsic motivation is driven by external rewards, such as discounts or special offers that appeal to consumers' financial interests. Gupta and Chopra (2020) argue that understanding consumer motivation helps businesses tailor their offerings to meet both intrinsic and extrinsic needs, thereby enhancing the likelihood of purchase.

Perception, which refers to the way consumers interpret and make sense of information in their environment, also plays a pivotal role in shaping consumer buying behaviour (Solomon, 2019). Perception can be influenced by external stimuli such as advertising, brand messaging, and packaging design, which can shape the consumer’s view of a product or brand. As a result, businesses are increasingly focusing on shaping consumers' perceptions to create positive brand associations. For example, Gupta *et al.* (2020) highlight the increasing importance of influencers and celebrities in altering consumer perceptions of products, especially through platforms like Instagram. These external influences help consumers to form specific perceptions about product quality, desirability, and prestige, all of which influence purchasing decisions.

Personality is another psychological factor that has a significant impact on consumer buying behaviour. The personality traits of consumers such as openness, conscientiousness, extraversion, agreeableness, and neuroticism determine how they respond to different marketing stimuli and make decisions (Haralayya, 2021). For instance, consumers with a high degree of openness may be more likely to try new products or adopt innovative technologies, while those with higher conscientiousness may prefer products that are practical, functional, and reliable. Furthermore, marketers use personality-based segmentation strategies to target consumers whose personality traits align with their brand’s values, thus enhancing their marketing effectiveness. In the context of the make-up industry, for example, Schoultz, Spetz, and Pettersson (2022) explored how consumer personality influences their product choices, finding that individuals with more adventurous personalities tend to be attracted to bold, unconventional makeup products.

Lifestyle is closely connected to both personality and consumer behaviour, influencing the way people live and make consumption choices. Lifestyle encompasses activities, interests, and opinions (AIO) that define the way consumers perceive themselves and the world around them. It is shaped by both internal (psychological) and external (social and cultural) factors. Consumers with active lifestyles may prioritise products that align with health and fitness, while those who value convenience may opt for products that save time or provide ease of use (Matić & Puh, 2016). The rise of digital platforms and social media has further amplified the connection between lifestyle and consumer behaviour, as individuals are increasingly making product choices based on lifestyle-based brand alignments and peer influences. For instance, Varghese and Agrawal (2021) found that consumers on social media platforms are heavily influenced by lifestyle-related content, which impacts their decisions to purchase fashion, beauty, and wellness products.

Beliefs and attitudes, which are often deeply ingrained and shaped by experience, culture, and personal values, also exert considerable influence over consumer behaviour (Stankevich, 2017). Consumers’ beliefs about a product or brand affect their attitudes towards it, shaping their overall perceptions and buying decisions. Positive beliefs, such as trust in a brand’s reputation, can result in positive attitudes and increased consumer loyalty, while negative beliefs, such as scepticism about product claims, can lead to avoidance behaviour. For instance, Qazzafi (2020) highlights how consumer beliefs in the ethical practices of a brand, such as its commitment to sustainability, significantly influence purchasing behaviour, particularly in product categories like cosmetics and fashion. Similarly, social media platforms play a critical role in shaping consumers' attitudes and beliefs, with influencers often guiding public perception through the products they endorse (Palalic *et al.*, 2021).

Social media has increasingly become a crucial factor in shaping consumer attitudes and buying behaviour. The ability of social media platforms to foster engagement and create real-time connections between brands and consumers has changed how decisions are made (Gupta & Chopra, 2020). The presence of influencers, peer reviews, and user-generated content provides consumers with a sense of community and shared experience, influencing their preferences and motivations. Wani (2019) emphasises that social media is particularly powerful in shaping consumer purchasing behaviour due to its ability to target individuals with personalised content based on their preferences and online behaviours.

To better understand consumer buying behaviour, it is essential to recognise that psychological factors, such as motivation, perception, personality, lifestyle, and beliefs and attitudes, are all interconnected. Marketers and businesses must navigate this complexity to develop effective strategies that appeal to the multifaceted nature of consumer behaviour. For instance, businesses in the beauty industry, such as cosmetics brands, often design marketing campaigns that target specific personality types and lifestyles, such as appealing to consumers who value sustainability, or those who are motivated by prestige and status (Schoultz *et al.*, 2022). Additionally, as social media continues to influence buying decisions, marketers need to leverage platforms to create brand experiences that align with the diverse psychological profiles of consumers, ensuring that their offerings resonate on both an emotional and rational level (Gupta *et al.*, 2020).

2.1.5 Consumer Decision-Making Process

The consumer decision-making process is a key area of study in marketing and consumer behaviour, as it seeks to understand how individuals make purchasing decisions. This process is not linear but rather involves a series of steps that are influenced by both psychological factors and external stimuli. The primary sub-dimensions of this process include problem recognition, alternative evaluation, decision making, and post-purchase behaviour, each of which plays a crucial role in determining how and why consumers make purchases (See Figure 1 below).

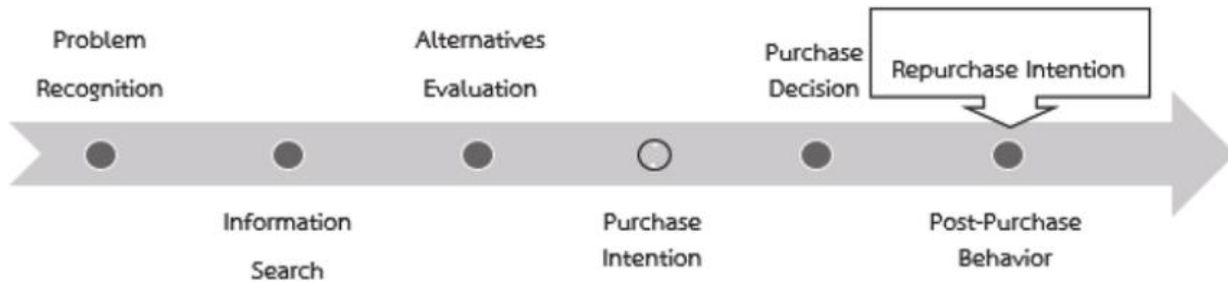
The first stage of the decision-making process is problem recognition, which occurs when a consumer becomes aware of a need or desire that must be fulfilled. This could be triggered by a variety of internal or external factors, such as a personal desire for a product, a change in lifestyle, or an external stimulus like an advertisement or recommendation. For instance, Ramya and Ali (2016) argue that problem recognition is often triggered by a perceived discrepancy between the consumer's current state and their desired state, which motivates the search for a solution. Consumers may recognise a problem in different contexts, whether it be a necessity, such as the need for food or clothing, or a luxury, such as the desire for a new phone. Gupta and Chopra (2020) suggest that effective marketing strategies often focus on highlighting consumers' unmet needs or problems, prompting them to seek out products or services that can provide solutions.

Once a need has been recognised, the next stage in the decision-making process is alternative evaluation, where consumers assess and compare different options available to them. This stage is heavily influenced by the information consumers gather through various sources such as online reviews, advertisements, word-of-mouth, and personal experiences. The evaluation of alternatives involves comparing the features, benefits, prices, and overall value of different products or services. Solomon (2019) asserts that consumers often use heuristics or shortcuts to streamline this evaluation process, especially when faced with an overwhelming array of choices. These heuristics can include brand reputation, product quality, or price sensitivity. Additionally, the consumer's personal preferences, such as their values or lifestyle, will influence the criteria they use when evaluating alternatives. For example, Varghese and Agrawal (2021) found that consumers in today's digital age often rely on social media influencers and peer reviews as a key factor in their alternative evaluation, which can either bolster or undermine their perception of a product's value.

The third stage of the consumer decision-making process is decision making, where the consumer makes the final choice between the alternatives they have considered. This decision is influenced by both rational and emotional factors, and often reflects the culmination of the previous stages. Gupta *et al.* (2020) highlight that decision making is not always a straightforward process; it can be complex and multifaceted, depending on the nature of the purchase and the individual's emotional attachment to the product. The consumer may make the decision based on factors such as product features, price, brand reputation, or even social pressure. Emotional drivers, such as the desire for prestige, happiness, or comfort, can often play a significant role in this stage. Schoultz, Spetz, and Pettersson (2022) explored how emotions, such as excitement or desire for self-expression, influence decision making in industries like cosmetics, where personal identity and image are closely tied to purchasing choices. In some cases, external factors such as limited-time offers, sales promotions, or peer recommendations can also play a crucial role in pushing the consumer to make a decision.

The final stage of the consumer decision-making process is post-purchase behaviour, which refers to the consumer's experience after the purchase has been made. This stage is crucial for businesses, as it determines whether the consumer will be satisfied with their purchase and whether they will become repeat buyers or brand advocates. Post-purchase behaviour can be influenced by factors such as the consumer's satisfaction with the product, the performance of the product relative to their expectations, and the customer service experience. If the product meets or exceeds the consumer's expectations, it can lead to positive word-of-mouth, brand loyalty, and repeat purchases (Stankevich, 2017). On the other hand, if the product fails to meet expectations, the consumer may experience post-purchase dissonance or regret. In some cases, this can lead to returns, negative reviews, or a switch to competitor brands. Wani (2019) highlights that social media has an important role in shaping post-purchase behaviour, as consumers often share their experiences online, influencing the perceptions of other potential buyers.

Figure 1: *Stages in the Purchase Decision*



The Five-stage Buying-decision Process Source: (Kotler *et al.* cited in Ratasuk & Gajesanand, 2020).

2.2 Concept of Retailing

Retailing is a pivotal sector within the global economy, encompasses the various activities and processes through which goods and services are sold to consumers. The retail industry has witnessed significant transformations over the decades, largely due to changes in consumer preferences, technological advancements, and shifts in the competitive landscape. The concept of retailing can be understood through a multitude of perspectives, ranging from the traditional brick-and-mortar stores to the burgeoning informal retail outlets.

2.3 Formal Retail Outlets

Formal retail outlets refer to establishments that operate within a structured framework, adhering to regulatory norms, with clear definitions of ownership, management, and operations. These outlets include department stores, chain stores, supermarkets, hypermarkets, and online platforms. According to Fernie, Fernie, and Moore (2015), formal retail outlets are characterised by their scale, investment in infrastructure, and organisational complexity. These outlets often benefit from established brand recognition, extensive supply chains, and standardised operational processes that aim to meet the diverse needs of a broad customer base.

One of the significant advantages of formal retail outlets is the level of consumer trust they command. Hameli (2018) argues that consumers tend to rely on these outlets due to their professionalism, consistency, and adherence to quality standards. Moreover, formal retail outlets often offer a more structured shopping experience, which may include personalised customer service, loyalty programmes, and after-sales support, as highlighted by Hemantha (2019). These features enhance customer satisfaction and foster long-term customer relationships.

In terms of marketing, McArthur, Weaven, and Dant (2016) suggest that formal retail outlets employ sophisticated strategies, such as market segmentation, target marketing, and the use of advanced technologies (e.g., data analytics, omnichannel retailing) to refine their offerings. As such, these outlets play a key role in the retailing ecosystem by setting industry standards and leading the way in terms of innovation and customer service.

However, the growth of formal retail outlets is not without challenges. In recent years, the sector has faced increasing competition from informal retail outlets, which offer lower prices and a more flexible shopping experience. Furthermore, formal retail outlets are highly susceptible to macroeconomic changes, such as inflation, recession, and fluctuations in consumer spending. As Hameli (2018) notes, formal retail outlets must continuously adapt to these changes to maintain their competitive edge.

2.4 Informal Retail Outlets

Informal retail outlets, on the other hand, operate outside the formal retail framework and are often characterised by smaller scale, lower capital investment, and less stringent regulation. These outlets include street vendors, local markets, hawkers, and small family-run shops. Hameli (2018) notes that informal retail outlets are particularly prominent in developing economies, where they serve as essential providers of goods and services to the population. These outlets typically offer a more personalised shopping experience, with direct interaction between the retailer and the consumer, and may specialise in niche or local products.

One of the primary reasons for the popularity of informal retail outlets is their ability to provide lower prices compared to formal retail outlets. Hemantha (2019) highlights that the lack of overhead costs, such as rent and utility expenses, allows informal retailers to pass on savings to customers. Additionally, informal retail outlets often cater to the specific preferences and cultural nuances of the local community, which can build strong customer loyalty. This flexibility in product offerings and pricing is a key advantage over the rigid structures of formal retail outlets.

However, informal retail outlets face numerous limitations. They are often limited in terms of product variety, store size, and operational hours. McArthur, Weaven, and Dant (2016) observe that these outlets typically lack the resources to implement advanced marketing and technological strategies, limiting their ability to scale and compete with larger formal outlets. Despite these challenges, informal retailing remains a vital part of the global retail landscape, particularly in emerging markets, where it can account for a substantial portion of retail sales.

2.5 Formal vs. Informal Retail Outlets

The divide between formal and informal retail outlets reflects broader socio-economic trends. Formal retail outlets are typically associated with developed economies, where consumers have access to higher disposable incomes and more sophisticated shopping preferences. In contrast, informal retail outlets are more commonly found in developing economies, where they provide an affordable alternative to formal retail outlets and are embedded within the local cultural and economic fabric.

The business models of formal and informal retail outlets are fundamentally different. Fernie *et al.* (2015) argue that formal outlets often leverage economies of scale, mass marketing, and centralised operations, whereas informal outlets thrive on agility, personal relationships, and proximity to local communities. The flexibility of informal outlets makes them resilient in uncertain economic environments, allowing them to adapt quickly to shifts in consumer demand. In contrast, formal retail outlets, despite their advantages in resources and organisation, face greater challenges in adapting to rapid changes in consumer behaviour and economic conditions.

Additionally, the growth of e-commerce and digital platforms has blurred the lines between formal and informal retailing. As McArthur *et al.* (2016) note, online retailing offers a hybrid model that allows consumers to enjoy the convenience and price advantages typically associated with informal retail outlets, while benefiting from the structured, organised shopping experience provided by formal retail outlets.

2.6 Theoretical Review

2.6.1 Learning Theory

The learning theory, originally advanced by behavioral psychologists such as B.F. Skinner (1938), and later expanded upon by cognitive theorists like Jean Piaget (1952), seeks to explain how individuals acquire knowledge, form behaviors, and make decisions based on accumulated experiences. In the context of consumer behavior, cognitive learning theory emphasizes that learning involves internal mental processes such as perception, memory, and problem-solving (Solomon, 2019). This theory suggests that consumers are active participants in the learning process, making deliberate decisions based on past experiences, information exposure, and cognitive structuring.

Cognitive learning approaches suggest that consumers control the learning process by selectively focusing on stimuli, evaluating the relevance of information, and organizing it in a way that influences their buying decisions (Schoultz, Spetz, & Pettersson, 2022). As such, learning is not merely reactive but involves purposeful cognitive engagement.

Recent studies also validate the relevance of this theory. For instance, Stankevich (2017) argues that the cognitive model provides a comprehensive explanation for the consumer decision-making process by illustrating how consumers interpret and respond to marketing stimuli. Similarly, Ulaikere et al. (2020) highlight that consumer learning, shaped through repeated exposure and cognitive adaptation, influences shopping behavior and brand loyalty. These insights are particularly useful for understanding emerging consumer trends in specific urban contexts such as Bangkok.

Furthermore, Varghese and Agrawal (2021) point out that digital platforms, particularly social media, serve as learning environments where consumers interact with content and adjust their preferences accordingly, again supporting the idea of cognitively driven learning. Wani (2019) also emphasizes that cognitive learning plays a critical role in forming consumption habits through observation and information assimilation. Therefore, adopting the cognitive learning theory as a framework in this study is justified, as it provides a lens through which consumer behavior, especially responses to marketing stimuli and situational factors can be critically understood and interpreted.

2.7 Empirical Studies

Several empirical studies have explored the impact of psychological factors on consumer buying behaviour. For instance, Idoko (2016) studied mall shoppers in Nigeria and identified key predictors of mall shopping behaviour, including the mall environment and social influences, which significantly shaped purchasing decisions. Raji (2021) further explored the effect of sensory marketing on consumer buying behaviour in eateries in Southwest Nigeria, demonstrating that sensory stimuli, such as ambient smells and visuals, could positively affect consumer perceptions and purchasing decisions. Similarly, Olodo (2017) conducted a comparative analysis of formal and informal retail outlets in Southwest Nigeria, noting that consumer behaviour in formal retail outlets was influenced by factors such as convenience and product variety, whereas informal retail outlets were more strongly influenced by price sensitivity and social connections.

The work of Kwajaffa (2022) also highlights the significant socio-economic factors that shape consumer buying behaviour in Maiduguri, Nigeria, with factors such as income levels, cultural norms, and access to retail outlets playing critical roles. In a similar vein, Ulaikere *et al.* (2020) examined consumer shopping behaviour among students in Lagos, noting the influence of convenience, pricing, and product availability in their decision-making process. Furthermore, studies by Katrodia *et al.* (2018) and Rasaki *et al.* (2024) emphasize that factors such as service quality and product availability at modern retail outlets significantly influence consumer loyalty and purchasing intentions, particularly in urban contexts.

Understanding these psychological factors is particularly important for retailers operating in developing markets, where consumers often face unique challenges related to income, access to information, and availability of retail options. Studies like those of Mang'unyi and Govender (2019) and Mkwizu *et al.* (2018) underscore the importance of considering cultural and environmental factors in shaping consumer behaviour, particularly in regions with emerging or transitional economies.

3. Methodology

The population of the study is the entire customers of both informal and formal retail outlets in South-western Nigeria. South-western Nigeria was selected because it is the heart of most commercial activities of the country. For the purpose of this study, two states were selected to carry out the research- Oyo and Lagos. This is because the selected formal retail outlet (Shoprite) has branches in these state capitals- Ibadan and Ikeja respectively and for the purpose of uniformity. Thus, Shoprite was selected as it has branches in the residential settlements while one main market (each) was selected in the two state capitals to represent the informal retail. Primary data was employed in order to ensure active participation of the respondents and to give credibility to the study. The numbers of consumers that patronize the informal retail outlet and formal retail outlets are numerous; however, to select an accurate sample that would be representative, convenience sampling technique was adopted. 1000 respondents were selected from the two states to carry out the research- Oyo and Lagos. 500 questionnaires each was administered to informal retail outlet and as well as to formal retail outlets in both states, while 485 were collected from each outlet. Regression analysis and analysis of variance (ANOVA) were used to establish the comparative differences in the psychological factors affecting consumer buying behaviour in informal and formal retail outlets.

Model specification:

CB = f(PF)

PF = MT, PCP, LNG, BA

Therefore,

CB = f(Motivation, Perception, Learning, Attitude, Belief)

CB = $\beta_0 + \beta_1 MT_i + \beta 2PCP_i + \beta_3 LNG_i + \beta_4 BA_i + \mu_i$

Where:

MT= Motivation which can be represented by needs

PCP= perception which is proxied by ability to screen and interpret information

LNG= learning which is represented by consumers past experiences and

BA= Beliefs and Attitude which is proxied by faith and feelings respectively.

a priori expectation is that β_1 and$\beta_4 > 0$

Explanation of Model

Psychological factors include motivation, perception, learning, attitude and belief. A motive is an inner drive taken to satisfy a need. Consumers have different patronage motive and thus, influences their buying behaviour. When a motivated person is ready to act, his actions are influenced by his or her own perception of the situation. Therefore, people can form different perceptions of the same. Thus marketers should try to understand the mind set of consumers and how this will affect their business activities. Learning on the other hand occurs as changes in behaviour resulting from previous experiences. Learning is an experience and practice that brings about changes in behaviour. Belief is a descriptive notion that a person holds about something which is based on knowledge, opinion, or faith and may or may not carry emotional charge while Attitude is a person's consistently favourable or unfavourable evaluations, feelings, and tendencies toward an object or idea. Therefore, for adequate results in measuring consumer behaviour the above-mentioned variables that define the psychological factors are not negligible (Zameer, 2014).

Reliability

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.855	.872	9

Source: *Author's field work, 2025*

The reliability of the scale used for the operational variables was determined using Cronbach's Alpha test, which indicate that there is internal consistency in measuring 9 variable items at 0.855. Generally, Cronbach's alpha measures the average of measurable items and its correlation. The general consensus is that a coefficient of more than 50%suggests some degree of reliability and internal consistence. Therefore, since the coefficient obtained is close to 100%, we can say the data obtained for the study are useful to go by due to high reliability and internal consistency.

4. Data Presentation and Analysis

Table 2: Showing ANOVA analysis on relationship between psychological factors and consumer buying behaviour of informal and formal retail outlet in South-West Nigeria

			Informal Retail Outlet			Informal Retail Outlet		
Model	Sum of squares	Df	Mean square	F	Sig	Mean square	F	Sig
Regression	65.885	4	85.884	69.675	.000[a]	16.471	12.680	.000[a]
Residual	1292.515	481	1.233			1.299		
Total	1358.400	485						

Source: *Author's field work, 2025*

Table 2 shows the linear relationship between psychological factors and consumer buying behaviour of informal and formal retail outlet in South- West Nigeria with the result of analysis of variance (ANOVA). Overall, the findings from the study revealed that psychological factors have significant effect on consumer buying behaviour both in informal and formal retail outlet as indicated by F-stat of (69.675 and 12.680) with sig (.000 and .000) respectively. Psychological factor is more significant in informal retail outlet than in formal retail outlet in south-west Nigeria.

Table 3: Regression Analysis on relationship between psychological factors and consumer buying behaviour of informal and formal retail outlet in South-West Nigeria

	Informal Retail Outlet				Formal Retail Outlet			
Model	B	Std Error	t	Sig	B	Std Error	T	Sig
Constant	.875	.107	8.199	.000	1.870	.110	17.062	.000
MT	-.002	.032	-.062	.951	.132	.033	3.999	.000
PCP	.179	.031	5.794	.000	.084	.032	2.655	.008
LNG	.404	.031	12.945	.000	.064	.033	1.988	.047
BA	-.008	.011	-.693	.488	-.013	.012	-1.094	.274
R Square (R^2)	719				649			

Source: *Author's field work, 2025*

Table 3 shows the linear relationship between psychological factors and consumer buying behaviour of informal and formal retail outlet in south- west Nigeria with the use of ordinary least square (OLS) regression analysis.

The results obtained from the static model indicates that the overall coefficient of determination R-squared (R^2) shows that the equation has a good fit with 71.9 percent and 64.9 percent (Informal and formal retail outlet) respectively of variations in consumer buying behaviour is explained by the variables in the equation.

In terms of the signs of the coefficients which signify the effect psychological factors on consumer buying behaviour (CB) of informal and formal retail outlet in south- west Nigeria, it can be seen that:
In informal retail outlet variables; perception (PCP) and learning (LNG) concur with*a priori* expectation with positive sign, this mean that there is direct relation between PCP, LNG and CB. While variables motivation (MT) and belief and attitude (BA) do not concur with *a priori* expectation with negative sign, this implies that inverse relationship exist between MT, BA and CB.

In formal retail outlet variables; motivation (MT), perception (PCP) and learning (LNG) concur with *a priori* expectation with positive sign, this mean that there is direct relation between MT, PCP, LNG and CB. While variable belief and attitude (BA) does not concur with *a priori* expectation with negative sign, this implies that inverse relationship exist between BA and CB.

In terms of the magnitude of the coefficients which signify the effect psychological factors on consumer buying behaviour of informal and formal retail outlet in south- west Nigeria, the result shows that:

- Motivation has no significant effect on consumers buying behaviour in informal retail outlet as indicated by coefficient (0.002) with sig (0.951) at 5% significance level, while in the formal retail outlet motivation has significant effect on consumers buying behaviour as indicate by coefficient (0.132) with sig (0.000) at 5% significance level.
- Perception has significant effect on consumers buying behaviour in informal retail outlet as indicated by coefficient (0.179) and sig (0.000) at 5% significance level and as well as in the formal retail outlet as indicate by coefficient (0.084) and sig (0.008) at 5% significance level.
- Learning has significant effect on consumers buying behaviour in informal retail outlet as indicated by coefficient (0.404) and sig (0.000) at 5% significance level and as well as in the formal retail outlet as indicate by coefficient (0.064) and sig (0.047) at 5% significance level.
- Belief and attitude do not have significant effect on consumers buying behaviour in informal retail outlet as indicated by coefficient (0.008) and sig (0.488) at 5% significance level and as well as in the formal retail outlet as indicate by coefficient (0.013) and sig (0.274) at 5% significance level.

5. Discussion of Findings

The objective of the study was to examine the effects of psychological factors on consumer buying behaviour in informal and formal retail outlets in South-West Nigeria. The findings of the study reveal that:

- Customers' motivation has positive significant effect on buying behaviour in formal market but not in informal market. This implies that if the customers' motivation to patronize the formal outlet more than the informal retail outlets. Also, customers' perception has positive effect on consumer buying behaviour in informal retail outlet and as well as in formal retail outlets. This findings give credence to the study of Haralayya (2021), who found that customers perception about a product influence where they buy.
- In addition, customers' learning has positive effect on consumer buying behaviour in informal retail outlet and as well as in formal retail outlets. This implies that the customers learning proxy by customers past experience with the outlets influence where they buy their product.
- Belief and attitude of the customers does not have significant on buying behaviour both in the informal and formal retail outlets. This implies that customer' belief and attitude represented by faith and feelings do not influence customers buying behaviour in both outlets. Overall, psychological factors have significant effect on consumer buying behaviour both in informal and formal retail outlets. This finding is in line with the study conducted by Schoultz *et al.* (2022), that psychological factors have significant effects on consumer buying behaviour.

6. Conclusion

The study result indicated that perception and learning are the key psychological factors influencing consumer buying behaviour in informal retail outlets. In contrast, within formal retail outlets, motivation, alongside perception and learning, emerges as the most influential set of factors affecting consumer buying behaviour in South-West Nigeria. Both perception and learning demonstrate a direct and positive impact on consumer behaviour across outlet types, suggesting that consumers' perceptions and previous experiences play a significant role in shaping their purchasing decisions. Motivation is particularly impactful in formal settings, encouraging continued consumer patronage.

Finally, the study concludes that consumer beliefs and attitudes do not have a statistically significant effect on buying behaviour in either informal or formal retail outlets. Therefore, while beliefs and attitudes are generally positive, they do not meaningfully influence consumer purchasing behaviour in South-West Nigeria.

7. Recommendations

The study therefore recommended that:

- Retailers in South-West Nigeria should associate or make their products attractive when put on display to build demand and arouse their buying behaviour, this style in turn could earn them loyalty to that similar brands.
- South-West Nigeria retailers of both informal and formal outlets should be strategic in development of formation of marketing tactics effective and suitable to motivate at the same time influence consumers' buying behaviour. For instance, to buy a product for convenience, for style, for prestige, for self-pride or even being at par with others.

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Pricing Strategies and Consumers Purchasing Decisions in Small and Medium Enterprises in Benin City, Edo State

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Abstract. This study examined the pricing strategies employed by Small and Medium Enterprises (SMEs) in Benin City and their impact on purchasing decisions. A quantitative research design was adopted, and a structured questionnaire was administered to 311 respondents. The results show that SMEs in Benin City prioritize offering competitive prices, discounts, and bundled packages to attract customers. Price transparency was found to be critical in building trust with customers and influencing purchasing decisions. The correlation analysis revealed significant relationships between price transparency, price discount, and price bundling, and purchasing decisions. The regression model identified price transparency as the most significant predictor of purchasing decisions. The study concludes that SMEs in Benin City should prioritize transparency in their pricing strategies to attract and retain customers. The findings provide valuable insights for SMEs in Benin City, highlighting the importance of competitive pricing, discounts, bundled packages, and price transparency in driving business success. Recommendations are made for SMEs to improve price transparency, offer competitive prices, use price bundling strategically, invest in customer education, and monitor and adjust pricing strategies regularly.

Keywords: Competitive Pricing, Pricing Strategies, Purchasing Decisions, Price Transparency, Small and Medium-sized Enterprises (SMEs)

1. Introduction

Pricing strategies are a crucial component of the marketing mix that can significantly influence consumers' purchasing decisions, particularly in the context of small and medium enterprises (SMEs) (Kotler & Keller, 2020). As noted by Kumar and Sharma (2020), pricing is a complex and dynamic process that requires careful consideration of various factors; including costs, competition, and customer value (Nagle & Müller, 2022). Effective pricing strategies can enable SMEs to differentiate themselves from competitors, attract and retain customers, and generate revenue (Hall, 2022). In Nigeria, SMEs are a vital constituent of the economy, accounting for a substantial proportion of the country's GDP and employment (CBN, 2022). However, SMEs in Nigeria face numerous challenges, including intense competition, limited access to finance, and inadequate infrastructure (World Bank, 2022). Pricing strategies can play a critical role in helping SMEs overcome these challenges by enabling them to respond to changing market conditions, customer needs, and competitor activity (Xia, Monroe, & Cox, 2020).

In spite of the importance of pricing strategies in SMEs, research has shown that many SMEs struggle to develop and implement effective pricing strategies (Carson, 2020). This can lead to reduced profitability, decreased competitiveness, and poor customer satisfaction. Furthermore, the impact of pricing strategies on consumer purchasing decisions in SMEs is not well understood, particularly in the context of developing economies like Nigeria (Monroe, 2020). Benin City, Edo State, is a major commercial centre in Nigeria, with a large and growing population of consumers. The city is home to a diverse range of SMEs, from retail and hospitality to manufacturing and services. However, there is limited understanding of the pricing strategies used by SMEs in Benin City and their impact on consumers' purchasing decisions (Kumar & Sharma, 2020).

The significance of this study lies in its potential to provide valuable insights for SMEs in Benin City, Edo State, and beyond. Understanding the impact of pricing strategies on consumer purchasing decisions enables SMEs to develop more effective pricing strategies that meet the needs of their customers and drive business growth. The study's findings will have implications for business owners, managers, and policymakers, informing decisions about pricing strategies that can lead to improved profitability, competitiveness, and customer satisfaction.

This study aims to address this knowledge gap by examining the impact of pricing strategies on consumer purchasing decisions in SMEs in Benin City, Edo State. Specifically, the study will examine the impact of price level on consumer purchasing decisions in SMEs in Benin City, Edo State; investigate the impact of price discount on consumer purchasing decisions in SMEs in Benin City, Edo State; examine the impact of price bundling on consumer purchasing decisions in SMEs in Benin City, Edo State; investigate the impact of price transparency on consumer purchasing decisions in SMEs in Benin City, Edo State; and examine the impact of price value on consumer purchasing decisions in SMEs in Benin City, Edo State.

2. Literature Review

2.1 Conceptual Review

2.1.1 Pricing Strategies

Pricing is a critical element of the marketing mix that can meaningfully influence a firm's revenue and profitability. According to Kumar and Sharma (2017), pricing is a complex and dynamic process that requires careful consideration of various factors, including costs, competition, and customer value (Nagle & Müller, 2017). A well-crafted pricing strategy can help businesses differentiate themselves from competitors, attract and retain customers, and generate revenue. One common pricing strategy is penetration pricing, which involves setting a low initial price to quickly gain market share and attract customers. As noted by Hall (2017), penetration pricing can be an effective way to enter a new market or to disrupt an existing market. However, this strategy can also lead to reduced profits and revenue in the short term. Another pricing strategy is skimming pricing, which involves setting a high initial price to maximize profits and then gradually reducing the price as the market becomes more competitive. According to Xia, Monroe, and Cox (2018), skimming pricing can be an effective way to generate revenue and profits, especially for businesses that offer unique or innovative products or services.

Competitive pricing is another common pricing strategy, which involves setting prices that are similar to those of competitors. Grewal, Monroe, and Krishnan (2011) assert that competitive pricing can be an effective way to attract price-sensitive customers and to maintain market share. However, this strategy can also lead to reduced profits and revenue if businesses are unable to differentiate themselves from competitors. Value-based pricing is a pricing strategy that involves setting prices based on the perceived value of the product or service to the customer (Monroe, 2003). Value-based pricing can be an effective way to generate revenue and profits, especially for businesses that offer unique or premium products.

Price level is also a critical pricing strategy that involves setting prices at a specific level, such as premium, economy, or budget (Hall, 2017). Businesses can use price level to position their products or services in the market and to appeal to specific target markets (Kumar & Sharma, 2017). For example, a business may use a premium pricing strategy to position its products as high-end or luxury items, while a budget pricing strategy may be used to appeal to price-sensitive customers. Lastly, psychological pricing involves using pricing tactics that take into account the psychological factors that influence customer purchasing decisions. As noted by Grewal et al. (2011), psychological pricing tactics such as charm pricing, bundle pricing, and price anchoring can be effective ways to influence customer purchasing decisions.

2.1.2 Small and Medium Enterprises

Small and Medium Enterprises (SMEs) are businesses that have a limited number of employees and a relatively small amount of annual revenues. According to the World Bank, SMEs are typically defined as businesses with fewer than 500 employees and annual revenues of less than $100 million (World Bank, 2020). Similarly, the International Labour Organization (ILO) defines SMEs as businesses with fewer than 250 employees and annual revenues of less than $50 million (ILO, 2019). The definition of SMEs can vary depending on the country and industry. For example, in the European Union, SMEs are defined as businesses with fewer than 250 employees and annual revenues of less than €50 million (European Commission, 2020). In Nigeria, SMEs are defined as businesses with fewer than 50 employees and annual revenues of less than ₦10 million (CBN, 2020).

Despite the varying definitions, SMEs are often characterized by their flexibility, innovation, and ability to respond quickly to changes in the market (Hall, 2017). They are also often driven by entrepreneurial spirit and a focus on customer satisfaction (Kumar & Sharma, 2017). SMEs play a vital role in many economies, providing employment opportunities, driving innovation, and contributing to economic growth (Xia et al., 2018). According to the World Bank, SMEs account for over 90% of businesses in most countries and provide employment opportunities for millions of people (World Bank, 2020). In Nigeria, for example, SMEs account for over 90% of businesses and contribute significantly to the country's GDP (CBN, 2020).

In spite of their importance, SMEs face numerous challenges, including limited access to finance, inadequate infrastructure, and intense competition (Hall, 2017). According to a study published in the Journal of Small Business and Enterprise Development, SMEs in Nigeria face significant challenges in accessing finance, with over 70% of SMEs relying on personal savings and informal sources of finance (Hall, 2017). Another significant challenge facing SMEs is the lack of adequate infrastructure, including roads, electricity, and water (Kumar & Sharma, 2017). According to a study published in the Journal of Business and Management, the lack of adequate infrastructure is a major constraint to the growth and development of SMEs in Nigeria (Kumar & Sharma, 2017).

In addition to these challenges, SMEs also face intense competition from larger businesses and multinational corporations (MNCs) (Xia et al., 2018). SMEs in Nigeria face significant competition from MNCs, which have greater resources and marketing muscle (Xia et al., 2018). Despite these challenges, SMEs can still compete effectively by adopting innovative marketing strategies and leveraging technology (Yadav & Monroe, 2017). According to a study published in the Journal of Marketing, SMEs can use digital marketing channels, such as social media and email marketing, to reach a wider audience and compete with larger businesses (Yadav & Monroe, 2017).

2.2 Consumer Purchasing Decisions and Price Level, Price Discount, Price Bundling, and Price Transparency and Price Value

The relationship between consumer purchasing decisions and price value is a significant one. Research has shown that consumers' perceptions of price value can significantly influence their purchasing decisions (Xia et al., 2018). When consumers perceive a product or service as offering good value for money, they are more likely to make a purchase. In fact, study has found that price value is a key driver of consumer purchasing decisions, and that consumers are willing to pay a premium for products and services that offer high value (Xia et al., 2018). In addition to price value, price discounts can also play a significant role in influencing purchasing decisions. Research has shown that consumers are more likely to make a purchase when they perceive a product or service as being discounted (Grewal et al., 2011). In fact, a study published in the Journal of Retailing found that price discounts can increase consumer purchasing intentions by up to 20% (Grewal et al., 2011).

Price bundling is another independent variable that can influence purchasing decisions. Research has shown that consumers are more likely to make a purchase when they perceive a product or service as being bundled with other complementary products or services (Yadav & Monroe, 2017). Study has found that price bundling can increase consumer purchasing intentions by up to 15% (Yadav & Monroe, 2017). Price transparency is also an important independent variable that can influence purchasing decisions. Investigation has shown that consumers are more likely to make a purchase when they perceive a product or service as being priced transparent (Kumar & Sharma, 2017). Research has found that price transparency can increase consumer trust and loyalty by up to 25% (Kumar & Sharma, 2017).

The relationship between purchasing decisions and various independent variables, including price value, price discount, price bundling, and price transparency, is complex. Understanding how these variables influence purchasing decisions enables businesses to develop effective pricing strategies that meet customers' needs and expectations. Therefore, this study hypothesizes in the null form that:
H01: Consumer purchasing decisions do not have impact on price level, price discount, price bundling, price transparency and price value

2.3 Theoretical Review

Value-Based Pricing Theory is a pricing strategy that sets prices based on the perceived value of a product or service to customers. The concept of value-based pricing has been discussed in various forms and contexts, but it gained significant attention in the marketing and pricing literature in the late 20th century (Monroe, 2003). While it is challenging to attribute the development of Value-Based Pricing Theory to specific individuals or dates, the works of Kent B. Monroe, Thomas Nagle, and Reed Holden have been influential in shaping the concept (Nagle & Holden, 2002).

Value-Based Pricing Theory is a pricing strategy that involves setting prices based on the perceived value of the product or service to the customer (Kotler & Keller, 2020). This theory suggests that customers are willing to pay a premium price for a product or service that provides them with unique benefits and value. The core idea behind Value-Based Pricing Theory is that the price of a product or service should reflect its value to the customer, rather than its cost of production (Nagle & Müller, 2017). This approach requires businesses to understand the needs and preferences of their target market and to develop products or services that meet those needs.

Value-Based Pricing Theory is based on several key principles. First, it recognizes that customers have different perceptions of value and are willing to pay different prices for the same product or service (Lancioni, 2020). Second, it acknowledges that businesses have different costs and revenue structures, and that pricing strategies must take these factors into account (Hinterhuber, 2008). One of the key benefits of Value-Based Pricing Theory is that it allows businesses to differentiate themselves from their competitors and to establish a premium brand image (Kotler & Keller, 2020). Focusing on the unique value proposition of their products or services allows businesses to attract customers who are willing to pay a premium price for that value.

However, Value-Based Pricing Theory also has some limitations. One of the main challenges is that it can be difficult to measure the perceived value of a product or service, particularly in markets where customers have different needs and preferences (Nagle & Müller, 2017). Additionally, businesses may struggle to communicate the value proposition of their products or services to customers, particularly in markets where there is a lot of competition (Hinterhuber & Liozu, 2012). Value-Based Pricing Theory remains highly relevant in today's business landscape, particularly in industries where customers are willing to pay premium prices for unique value. Understanding customer needs and preferences enables businesses to develop effective pricing strategies that drive revenue growth, customer loyalty, and premium brand image (Kotler & Keller, 2020).

3. Research Methodology

The study employed a quantitative research design, precisely a survey research design. This design is appropriate for collecting data from a large sample size and for analyzing the relationship between variables. The population of the study consists of consumers who have purchased products or services from small and medium enterprises (SMEs) in Benin City, Edo State. The study's sample size was determined using the infinite population sample size determination formula by Cochran (1977):

$$n_o = \frac{Z^2pq}{e^2}$$

Where; n_o = Sample size; Z = selected critical value of desired confidence level; p = estimated proportion of an attribute that is present in the population; q = 1-p while e = margin of error

$Z= 1.96; p= 0.5; q= 1-0.5 = 0.5; e= 0.05$

By applying given data in the formula, we have thus:

$$n= \frac{(1.96)^2 \times 0.5 \times 0.5}{0.05^2} = 385$$

Therefore, the sample size of this study is 385.

The study employed a convenience sampling technique, which involves selecting participants based on their availability and willingness to participate. This technique is suitable for collecting data from a large sample size and for analysing the relationship between variables.

The study used a structured questionnaire as the data collection instrument. The questionnaire consisted of closed-ended questions that were designed to collect data on the demographic characteristics of the respondents, their purchasing behaviour, and their perceptions of the pricing strategies used by SMEs. The data was analysed using descriptive statistics, such as means, frequencies, and percentages, to describe the demographic characteristics of the respondents and their purchasing behaviour. Also, inferential statistics, such as regression analysis and correlation analysis was used to examine the relationship between the pricing strategies used by SMEs and the purchasing behaviour of consumers.

4. Analysis of Results and Discussion of Findings

Table 1: Demographic Characteristics of the Respondents

Categories	Frequency	Percentage
Gender		
MALE	121	39.5
FEMALE	185	60.5
Missing Value	5	1.6
Total	311	100
Age		
Under 20 years	185	59.5
21-30	96	30.9
31-40	15	4.8
41-50	17	2.3
Above 60 years	1	0.3
Missing Value	7	2.3
Total	311	100.0
Education		
Primary	2	0.6
SSCE/WAEC or Equivalent	194	62.4
OND/NCE or Equivalent	20	6.4
B.Sc./B.A., HND or Equivalent	54	17.4
Postgraduate Degree	23	7.8
Missing Value	18	5.8
Total	311	100

Source: *Researcher's Fieldwork (2025)*

Table 1 provides the demographic information about a group of 311 respondents. In terms of gender, the majority (60.5%) are female, while 39.5% are male. There are also 5 individuals (1.6%) whose gender is not specified. The age distribution of the group shows that nearly 60% (59.5%) are under 20 years old. The next largest age group is 21-30 years, which accounts for 30.9% of the respondents. The remaining age groups (31-40, 41-50, and above 60 years) make up smaller percentages, ranging from 0.3% to 4.8%. There are also 7 respondents (2.3%) whose age is not specified. In terms of education level, the majority (62.4%) of the respondents have obtained an SSCE/WAEC or equivalent qualification. The next largest group (17.4%) holds a HND or equivalent degree. Smaller percentages of respondents have obtained primary education (0.6%), OND/NCE or equivalent (6.4%), or postgraduate degrees (7.8%). There are also 18 respondents (5.8%) whose education level is not specified.

Table 2: Purchasing Decisions and Pricing Strategies

S/N	Variables	Descriptive Statistics	
	Price Level	Mean	Std. Dev.
1	SMEs in Benin City offer competitive prices for their products/services.	3.90	1.17
2	SMEs in Benin City offer premium prices for high-quality products/services.	3.63	1.19
3	SMEs in Benin City offer low prices for their products/services.	2.58	1.35
	Price Discount		
4	SMEs in Benin City offer regular discounts and promotions for their products/services.	3.05	1.37
5	SMEs in Benin City offer deep discounts for bulk purchases of their products/services.	3.38	1.25
6	SMEs in Benin City offer loyalty discounts for repeat customers.	3.38	1.25
	Price Bundling		
7	SMEs in Benin City offer bundled packages of their products/services at a discounted price.	3.36	1.22
8	SMEs in Benin City offer customizable bundles of their products/services.	3.32	1.09
9	SMEs in Benin City offer bundled packages of their products/services with complementary products/services.	3.26	1.19
	Price Transparency		
10	SMEs in Benin City provide clear and transparent pricing information for their products/services.	3.46	1.27
11	SMEs in Benin City provide easy-to-understand pricing information for their products/services.	3.47	1.19
12	SMEs in Benin City provide comparable pricing information for their products/services.	3.47	1.13
	Price Value		
13	SMEs in Benin City offer high-quality products/services that are worth the price.	3.46	1.25
14	SMEs in Benin City offer unique products/services that are not easily available elsewhere.	3.07	1.25
15	SMEs in Benin City offer convenient products/services that save time and effort.	3.69	1.07
	Consumer Purchasing Decisions (Dependent Variable)		
16	I consider the price of a product/service when making a purchasing decision.	4.21	1.04
17	I am willing to pay a premium price for a high-quality product/service.	3.93	1.11
18	I compare prices among different SMEs before making a purchasing decision.	4.05	1.08
19	I consider the value offered by a product/service when making a purchasing decision.	4.13	1.02
20	I am influenced by discounts and promotions when making a purchasing decision.	3.93	1.22

Source: *Researcher's Fieldwork (2025)*

Table 2 presents the results of a study examining the pricing strategies of Small and Medium Enterprises (SMEs) in Benin City and their impact on purchasing decisions. The table is divided into several sections, each focusing on a specific pricing strategy, including price level, price discount, price bundling, price transparency, and price value.

Starting with the price level section, the results show that SMEs in Benin City tend to offer competitive prices (mean = 3.90) and premium prices for high-quality products/services (mean = 3.63). However, they are less likely to offer low prices (mean = 2.58). This suggests that SMEs in Benin City prioritize offering competitive and premium prices to attract customers.

The price discount section reveals that SMEs in Benin City offer various types of discounts, including regular discounts and promotions (mean = 3.05), deep discounts for bulk purchases (mean = 3.38), and loyalty discounts for repeat customers (mean = 3.38). These findings indicate that SMEs in Benin City recognize the importance of offering discounts to incentivize customers.

The price bundling section shows that SMEs in Benin City offer bundled packages of their products/services at discounted prices (mean = 3.36), customizable bundles (mean = 3.32), and bundled packages with complementary products/services (mean = 3.26). This suggests that SMEs in Benin City use price bundling as a strategy to offer value to customers.

The price transparency section indicates that SMEs in Benin City prioritize providing clear and transparent pricing information (mean = 3.46), easy-to-understand pricing information (mean = 3.47), and comparable pricing information (mean = 3.47). These findings suggest that SMEs in Benin City recognize the importance of transparency in their pricing strategies.

The price value section reveals that SMEs in Benin City focus on offering high-quality products/services that are worth the price (mean = 3.46), unique products/services that are not easily available elsewhere (mean = 3.07), and convenient products/services that save time and effort (mean = 3.69). This suggests that SMEs in Benin City prioritize offering value to customers through their products/services.

Finally, the purchasing decisions section examines the factors that influence customers' purchasing decisions. The results show that customers consider the price of a product/service (mean = 4.21), are willing to pay a premium price for high-quality products/services (mean = 3.93), compare prices among different SMEs (mean = 4.05), consider the value offered by a product/service (mean = 4.13), and are influenced by discounts and promotions (mean = 3.93). These findings suggest that customers prioritize price, quality, value, and discounts when making purchasing decisions.

Table 3: Correlation Analysis of Research Variables

Variables	PL	PD	PB	PT	PV	CPD
Price Level (PL)	1.000					
Price Discount (PD)	.409**	1.000				
Price Bundling (PB)	.416**	.521**	1.000			
Price Transparency (PT)	.416**	.521**	.488**	1.000		
Price Value (PV)	.375**	.431**	.377**	.468**	1.000	
Consumer Purchasing Decision (PD)	.169**	.220**	.224**	.282**	.208**	1.000

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

Source: *Researcher's Fieldwork (2025)*

The correlation analysis reveals significant relationships between various pricing strategies and their impact on purchasing decisions. The results show that Price Level is positively correlated with Price Discount (r = 0.409), indicating that businesses that offer competitive prices tend to also offer discounts. Similarly, Price Level is positively correlated with Price Bundling (r = 0.416), suggesting that businesses that offer competitive prices also tend to offer bundled packages. The analysis also reveals strong correlations between Price Discount, Price Bundling, and Price Transparency. The correlation between Price Discount and Price Bundling (r = 0.521) indicates that businesses that offer discounts tend to also offer bundled packages. Similarly, the correlation between Price Bundling and Price Transparency (r = 0.488) suggests that businesses that offer bundled packages tend to also provide transparent pricing information.

In terms of the relationship between pricing strategies and purchasing decisions, the results show that all the pricing strategies are positively correlated with Purchasing Decision. However, the correlations are relatively weak, ranging from 0.169 (Price Level) to 0.282 (Price Transparency). This suggests that while pricing strategies do influence purchasing decisions, other factors may also play a role. Generally, the correlation analysis provides insights into the relationships between various pricing strategies and their impact on purchasing decisions. The results suggest that businesses can benefit from offering competitive prices, discounts, bundled packages, and transparent pricing information to influence customer purchasing decisions.

Table 4: Estimation of Regression Model

Independent Variable	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics		Decision
	B	Std. Error	Beta			Tolerance	VIF	
(Constant)	2.884	.224		12.848	.000			
Price Value	.036	.060	.038	.592	.554	.744	1.344	Reject
Price Discount	.045	.054	.058	.830	.407	.618	1.619	Reject
Price Bundling	.061	.059	.072	1.036	.301	.620	1.613	Reject
Price Transparency	.159	.057	.191	2.780	.006	.639	1.565	Accept
Purchasing Decision	.045	.058	.051	.772	.441	.690	1.449	Reject
R = 0.102; Adj R^2 = 0.087; F-Statistic = 6.773; F-Statistic (Prob) = 0.000; Durbin-Watson = 1.731; Dependent variable: Purchasing Decision								

Source: *Researcher's Fieldwork (2025)*

The regression model examines the relationship between purchasing decisions and various independent variables, including price value, price discount, price bundling, and price transparency. The model summary statistics indicate that the model is significant (F-Statistic = 6.773, p = 0.000) and explains approximately 10.2% of the variance in purchasing decisions (R2 = 0.102). The adjusted R2 (0.087) suggests that the model's explanatory power is slightly lower when accounting for the number of predictors.

Among the independent variables, price transparency is the most significant predictor of purchasing decisions, with a standardized coefficient (Beta) of 0.191 and a p-value of 0.006. This indicates that a one-unit increase in price transparency is associated with a 0.191-unit increase in purchasing decisions. In contrast, the relationships between price value, price discount, and price bundling and purchasing decisions are not statistically significant.

The collinearity statistics (Tolerance and VIF) indicate moderate multicollinearity among the independent variables, suggesting that some variables may be correlated with each other. However, the Durbin-Watson statistic (1.731) indicates that there is no significant autocorrelation in the residuals.

Overall, the regression model suggests that price transparency is the most important factor influencing purchasing decisions, followed by price discount, price bundling, and price value. However, the relationships between these variables and purchasing decisions are relatively weak, and the model's explanatory power is moderate. These findings can be used to inform business strategies and improve customer satisfaction.

5. Discussion of Findings

The findings of this study provide insights into the demographic characteristics of the respondents and their purchasing decisions. The results show that the majority of the respondents are female (60.5%), which is consistent with previous studies that have found that women are more likely to make purchasing decisions than men (Xia et al., 2018). The age distribution of the respondents also shows that nearly 60% are 9less than 20 years old, which suggests that young people are more likely to make purchasing decisions than older people (Hall, 2017).

The results of the study also show that SMEs in Benin City prioritize offering competitive prices, discounts, and bundled packages to attract customers. This is consistent with previous studies that have found that pricing strategies are critical to the success of SMEs (Kumar & Sharma, 2017). The findings also suggest that SMEs in Benin City recognize the importance of transparency in their pricing strategies, which is consistent with previous studies that have found that price transparency is critical to building trust with customers (Yadav & Monroe, 2017).

The correlation analysis reveals significant relationships between various pricing strategies and their impact on purchasing decisions. The results show that price transparency is positively correlated with purchasing decisions, which suggests that customers are more likely to make purchasing decisions when they perceive prices as transparent (Xia et al., 2018). The findings also suggest that price discount and price bundling are positively correlated with purchasing decisions, which is in consistent with previous studies that have found that discounts and bundled packages can increase customer loyalty and retention (Kumar & Sharma, 2017).

The regression model examines the relationship between purchasing decisions and various independent variables, including price value, price discount, price bundling, and price transparency. The results show that price transparency is the most significant predictor of purchasing decisions, which suggests that customers prioritize transparency when making purchasing decisions (Yadav & Monroe, 2017). The findings also suggest that price discount and price bundling are not statistically significant predictors of purchasing decisions. Generally, the findings of this study provide insights into the demographic characteristics of the respondents and their purchasing decisions. The results suggest that SMEs in Benin City prioritize offering competitive prices, discounts, and bundled packages to attract customers, and that price transparency is critical to building trust with customers. The findings also suggest that price transparency is the most significant predictor of purchasing decisions, which highlights the importance of transparency in pricing strategies.

6. Conclusion

In conclusion, this study provides valuable insights into the demographic characteristics of respondents and their purchasing decisions in relation to the pricing strategies of Small and Medium-sized Enterprises (SMEs) in Benin City. The findings suggest that SMEs in Benin City prioritize offering competitive prices, discounts, and bundled packages to attract customers, and that price transparency is critical to building trust with customers. The study's results also highlight the importance of price transparency in influencing purchasing decisions. The positive correlation between price transparency and purchasing decisions suggests that customers are more likely to make purchasing decisions when they perceive prices as transparent. This finding is consistent with previous studies that have emphasized the importance of price transparency in building trust with customers (Yadav & Monroe, 2017). The regression model's results, which show that price transparency is the most significant predictor of purchasing decisions, further reinforce the importance of transparency in pricing strategies. This finding has implications for SMEs in Benin City, suggesting that they should prioritize transparency in their pricing strategies to attract and retain customers. Generally, this study contributes to the existing literature on pricing strategies and their impact on purchasing decisions

7. Recommendations

The study recommends as follows:

- SMEs in Benin City should prioritize offering competitive prices for their products/services to attract customers. Also, SMEs can also consider offering premium prices for high-quality products/services to differentiate themselves from competitors.
- SMEs in Benin City should offer regular discounts and promotions to incentivize customers. In addition, they can also consider offering deep discounts for bulk purchases and loyalty discounts for repeat customers.
- SMEs in Benin City should offer bundled packages of their products/services at discounted prices to provide value to customers. Similarly, SMEs can also consider offering customizable bundles and bundled packages with complementary products/services.
- SMEs in Benin City should prioritize providing clear and transparent pricing information to build trust with customers. SMEs should also ensure that pricing information is easy to understand and comparable.
- SMEs in Benin City should focus on offering high-quality products/services that are worth the price. They can also consider offering unique products/services that are not easily available elsewhere and convenient products/services that save time and effort

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Driving Behaviour and Public Transport Operation in Lagos Metropolis, Nigeria

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Abstract. During the last decade, Nigeria has been exhibiting rapid increase in human population and vehicular traffic, and increase in road traffic accidents. Regrettably, incessant deviant driving behaviour of public transport drivers is worrisome. This study examines the driving behaviour of commercial drivers and public transport safety in Lagos metropolis. The study employed survey research design. Five motor parks were selected for the investigation, where a total of 68 structured questionnaires were administered to commercial drivers in five (5) selected motor parks in the metropolis. Analysis of Variance and Multiple Regression Analyses were used to explain the research hypotheses at 5% level of significance. The results of the study showed a significant variation (F= 3.175, p= 0.05) among determinants of driving behaviuor of commercial drivers in Lagos metropolis, Nigeria. Age of the Driver (β= .270, t= 8.100) and Type of Vehicle (β= .116, t= 2.208) are driving behaviour of commercial drivers that significantly influence driving experience profile, while License Status (β= .006, t= .175) and Education (β= -.026, t= -.712) have no significant influence on driving experience profile. The result also indicates that driving behaviour of commercial drivers contributed about 33.4% (R^2= 0.334%) to driving experience profile in the metropolis. It was concluded that improved driver behaviour can be an effective countermeasure to reduce the vulnerability of road users and inhibit crash risks. It is therefore recommended adherence to road traffic safety driving rules and enforcement measures.

Keywords: Licensing, Driving, Behaviour, Public Transport, Road Safety

1. Introduction

Road traffic crash can be described as an unexpected and unfortunate incident that occurs, resulting in injury or damage. The traffic crashes issue happens before the motor car was introduced (WHO, 2004). Yearly, the number of vehicles registered and intensity of traffic increases, many drivers drive vehicles and become involved in road traffic activities. This results in growth of volume of traffic on the road and an increasing traffic demand and safety (Mphela, 2020). Active usage and possession of license of any vehicle becomes an important part of people’s life. Moreso, this is related to the increased road traffic crashes. Road traffic safety relies on some factors, such as the behaviour of the driver and the efficiency of the technical system of the vehicle.

Transportation by road is the dominant means of conveyance for both passenger and freight traffic with the relative absence of water, rail, and air mode in Nigeria. It accounts for about 92% of the transport contribution to the GDP in the country. WHO (2013), opined that there are about 12 million vehicles registered in Nigeria, at approximately 85 cars per 1000 people.

Nigeria recorded a total of 6,911 serious crashes cases across the 36 States and FCT in 2019 which represented 62.42% of the overall and an average of 186.78 cases per State. The federal governments through the Police and FRSC have made enormous efforts to minimize the increase fatality or death from traffic injuries. However, efforts still need to focus on the vulnerable road users particularly the pedestrian who continues to suffer from these traffic crashes.

Tiznado, Galilea and Delgado (2014) identified major factors for the increasing Road Traffic Crashes (RTC) globally which are subdivided into three: environmental (such as condition of the road, weather, visibility and lighting), mechanical (such as safety and security equipment and maintenance) and human factors (such as speed, improper overtaking, and drunkenness). Oyeyemi (2003), opined that human factors contribute over 85% to traffic crashes recorded on our roads. This will include over speeding, overtaking at crest of a hill, bends, drugs/alcohol consumption and the usage of mobile phone etc. Most of the vehicles do not meet minimum safety requirements. Olagunju (2010) also noted that lack of effective and efficient enforcement of the traffic law is mostly responsible for many traffic crashes on our roads especially among public transport operators.

Bad driving behaviour is seen as the most factor contributing to traffic accidents, and the traffic safety culture is the aspect that retains the persistent road crash (Carrutherset, 2015). To improve driving behaviour, it is very significant to understand the reality of the problem by having a clear idea of the challenges to be tackled. To improve road traffic safety, and minimize road crashes, the highway codes have been revised severally.
Society is being guided by rules and laws that regulate the actions or inactions of people in the society. To achieve the objectives requires establishing the machinery to help regulate activity as it relates to compliance to existing rules and laws. However, governments create enforcement agencies or an institution that is established to monitor compliance to the laws (Aruwa, 2014).

Most drivers on Nigerian roads have no regards for traffic regulations and laws: They do not obey traffic signs or speed limit on the road (Gana & Emmanuel, 2014). They overtake anyhow and anywhere without consideration for other road users. Road safety enlightenment and education has the tendency to improve road traffic safety by influencing road user attitudinal behaviour.

2. Literature Review

The review of the literature on traffic accidents has received adequate and varied attention from academics, some of whom include Giummarra, Beck, and Gabbe (2021), classified the features of traffic injury collisions in Victoria, Australia using text mining analysis and discovered that those who died within a year of the injury, had an intentional injury, had a serious head injury, had no compensation claim, or had not included an injury event description were not included in the study. The most common type of crashes with a common unknown fault were head-on collisions, intersections where a vehicle was entering from the opposite direction, and situations where one party lost control or avoided a hazard, mechanical failure, or medical conditions. More importantly, multi-vehicle incidents, pedal cyclists injured in rear-end collisions, and pedestrians struck while crossing the street or navigating slow-moving traffic zones were among the crashes in which no one else was at fault.

The incidence of road traffic crashes is the consequence of numerous human, vehicle, and environmental factors combining in a complex way to provide the trigger for the event, rather than just human error or driver negligence, according to Muthusamy, Rajendran, Ramesh, and Sivaprakash (2015)'s analysis of the literature. They concluded that immediate attention is required to reduce the health, social, and economic impacts of road traffic crashes. Yasin, Michal, and Fikri's (2021) examination of the COVID-19 pandemic's impact on traffic crashes globally indicates that there was a dip in both traffic volume and traffic crashes globally during the pandemic. Consequently, in April 2020 compared to April 2019, there were fewer road deaths in 32 out of 36 nations, with decreases of 50% or more in 12, 25 to 49% in 14, and less than 25% in six. Furthermore, data showed that, in 2020 compared to 2019, the number of road deaths annually decreased in 33 out of 42 nations, with reductions of 25% or more in five and 15%–24% in thirteen, and by less than 15% in 15 countries while there was increase in 4 and 9 countries during the periods respectively. More significantly, during both periods, there was a decrease in the number of trauma center patients injured in traffic accidents. This decrease was linked to factors such as increased speeding, fuller traffic lanes, fewer law enforcement officers, failure to wear seat belts, alcohol and drug abuse.

Most International Transport Forum (ITF) member countries had record-breaking road safety performance in the first ten years of the twenty-first century. Based on three years in a row of record improvements in 2008, 2009, and 2010, the number of fatalities from traffic accidents continued to decline in 2014, with a 1.2% decrease in OECD countries (excluding Chile and Israel). Nonetheless, compared to 2013, a third of ITF nations reported a rise in traffic fatalities: Germany (1.1%), France (3.5%), Russia (10.9%), and the UK (4.7%). Road fatalities may be on the rise in countries with high road safety performance; this could be attributed to the challenge of raising the bar on an already high level of safety performance. The facts should not be used to obscure the financial losses and personal tragedies that accompany these generally favorable advancements. While high-income countries take pride in their efforts to reduce road deaths, 90% of road deaths globally occur in low- and middle-income countries; estimates put the global road death toll at over 1.3 million per year, along with 50 million serious injuries (OECD, 2016).

Kidane (2021) modeled Road Traffic Crashes (RTC) in the Amhara Region and concluded that the average monthly number of RTC fatal cases, RTC injuries, and RTC totals were, respectively, 27.2, 14, and 78.2. Furthermore, compared to other days of the week, a comparatively high number of RTCs are reported on Tuesdays, Thursdays, and Saturdays. The data gathered also showed that drivers between the ages of 18 and 30 account for almost 60% of crash victims. Based on a 48-month projection fitted models, he demonstrates that traffic crash cases will continue to occur in the Amhara region at a non-decreasing rate throughout the anticipated periods.

In Nigeria today, the number of fatalities from crashes much outweighs the number from infectious diseases. In Nigeria, traffic accidents have long been acknowledged as a serious public health concern (Asogwa, 1998). In recent years, road transportation has become more and more popular and widely accepted. Regrettably, the surge has coincided with higher crash risk, poor operator attitudes, irresponsible driving, bad behavior, and resistance to commendable government initiatives, among other things (Olubomehin, 2012). They have therefore been the subject of intense scrutiny, which has led to laws regulating and, in some cases, outright banning their operations in certain places.

A road traffic crash caused by driver behavior is described as a person or thing that gives rise to an action phenomenon or condition while driving. The fact that there is rarely a single clear cause for a specific traffic crash complicates matters and this cause include visual acuteness, driver fatigue, illiteracy, drug abuses, drunkenness, aggressiveness, excessive speeding or health problem. Others include over-confidence, distraction, poor knowledge of the road sign and regulation, smoking and this human cause accounted for over 85% of the contributing factors (Olagunju, 2010).

According to Odumosu (2017), the majority of issues that drivers encounter when driving in busy, congested cities are caused by their senses being overloaded with information that must be continuously processed; this state is also referred to as information overload. A typical city motorist may come across and have to respond to a wide range of information, such as traffic signs, traffic signals, and instructions regarding detours, advertisements, and music from passing cars when changing lanes, pedestrians, and much more. According to Anderson's (2019) research on the causes of traffic crashes, many young males turn to driving commercial passenger vehicles as a last choice. They operate in extremely difficult and perhaps nearly impossible circumstances. Driver behavior is called into question in light of this. Dangerous overtaking often entails speeding, and naturally, driving in the lane of oncoming traffic, all of which have been linked to an increased risk of collisions.

According to Adewale (2012), speeding is a major contributing factor in one-third of all fatal crashes that occur on our roadways. According to studies, driving too fast is a purposeful and determined action when the motorist is aware of the risk but chooses to ignore it. Some drivers develop the habit of speeding excessively as a result of using drugs, alcohol, or other illegal substances. Due to poor quality and lack of signage, overspeeding has been a key factor in deadly traffic accidents in developing nations, including Oyo State. About 40% of traffic fatalities, according to the Road Safety Authority (RSA) of Nigeria, are caused by drivers who speed—that is, go faster than the posted speed limit or too fast for the conditions on the road (NSW Roads and Traffic Authority, 2018).

The majority of car crashes are thought to be caused by distracted drivers, and this problem is becoming more prevalent on the roads. Road Safety in Western Australia: Towards Zero from 2008 to 2020 (Road Safety Council, 2009). Additionally, road safety agencies worldwide are ranking it higher and higher as major contributing factors to traffic accidents. Driver distraction can be classified into four categories: aural, visual, physical, and cognitive. One or more of these are involved in distracting activities. Operating a handheld cell phone, for instance, can entail all four forms of distraction: visual (looking at the screen), auditory (having a conversation with someone else), and cognitive (concentrating on the subject of the conversation).

Olagunju (2010) claims that a large number of untrained, inebriated, and overconfident drivers who didn't care about other drivers' lives as well as their own predominated Nigerian roadways at the time. He went on to say that many drivers of commercial vehicles only had the basic skills of maneuvering their cars and honking their horns, presumably to get the attention of other passengers. This was supported by Maduagwu's (2008) assertion that the majority of Nigerian drivers pay absolutely no attention to traffic laws and regulations. Many drivers overtake other vehicles on highways and roads without regard for other road users, and some people park their cars on the road without observing speed limits or traffic signals. At the time, the public's interest in road safety issues was low, the traffic situation was described as unpredictable and chaotic, and there was a lack of clear and consistent policy action to address concerns about road safety (FRSC, 2007). As a result, there were several traffic accidents and fatalities.

In recent times, the majority of Nigerians have grown increasingly concerned about vehicle crashes. This is due to the severe harm that traffic accidents cause to people's lives, their property, and the environment (Agbonkhese, et al., 2013). The amount of traffic-related deaths and injuries has an impact on national and international social and economic issues, particularly in Nigeria. Huge human potential is being wasted, with disastrous social and economic effects. Consequently, traffic safety is a major global public health concern. Even worse, it is estimated that over the next 15 to 20 years, road traffic deaths will climb by an average of 80% in low- and middle-income nations and fall by roughly 30% in high-income countries if current laws and practices continue without creative initiatives. In addition, it is estimated that the cost of road traffic injuries to low- and middle-income countries is between 1% and 2% of their GDP, surpassing the whole amount of development aid these countries get (WHO, 2004).
According to Atubi (2009), the state of traffic crashes in Nigeria throughout the past thirty years has been especially alarming. 53,897 traffic crashes in 1976 resulted in 7,717 fatalities. In 1981, the number of crashes decreased to 5,114, but the number of fatalities grew to 10,236. This means that there were 96 crashes on average, and the situation did not improve in the following years. Between 1990 and 2005, there were more road crash deaths than ever before (28,253 to be exact), and the fatality rate remained high. More significantly, an analysis of the quantity and kind of vehicles involved in traffic crashes showed that taxis, buses, and private cars were more likely to be involved in crashes in Lagos State. Additionally, over 90% of traffic crashes in Lagos State were caused by drivers acting carelessly, speeding excessively, and not knowing traffic laws (Atubi, 2010).

Nigeria's road traffic crash statistics show a severe and expanding issue, with both the absolute death rate and the causality figure rising quickly. The majority of developing nations have a population or car count that influences the frequency of crashes and deaths that result from them. Interestingly, research in Nigeria has shown that increased crash rates have coincided with improved road quality and standardization (Gbadamosi, 2002; Atubi & Onokala, 2009). This is completely at odds with the patterns in nations where both the volume of automobile traffic and the sophistication of the road network are significantly higher (Atubi, 2015).

According to Oyeyemi (2003), human causes account for over 80% of road traffic accidents that are reported in the country. Using a cell phone while operating a car, driving while intoxicated or under the influence of drugs, speeding excessively, and reckless overtaking at bends and hilltops are a few examples of these. According to Oyeyemi, this is a scenario in which drivers drive cars with technical flaws while transporting people and property on the roadways, disregarding the safety of others. These vehicles do not fulfill minimum safety standards and are not fit for use on public roads. According to Olagunju (2010), a number of accidents in the nation, particularly involving road transport operators, have been attributed to a lack of efficient and effective traffic law enforcement.

The major cause of traffic accidents in Nigeria is considered to be unsafe driving behavior, and a contributing factor to this high collision incidence is the country's pervasive road safety culture. It is critical to grasp the problems at hand in order to gain a thorough picture of the scenario in order to influence drivers' behavior. The Nigerian highway codes were updated in 2016 to guarantee road safety, continuous traffic flow, and a decrease in traffic accidents. The purpose of the highway codes was to govern human activity on the roadways by assisting users in using them safely and civilly; noncompliance was to result in consequences. Nwachukwu (1998) claims that the purpose of the Mobile Court is to expedite the trial of traffic violators in order to maintain order on the roadways. All societies are governed by laws that control the behavior of the people who live there. If people are free to choose not to obey the law, they are likely to do so whenever they like. Therefore, the enthronement of orderliness and security within society cannot be achieved solely by the existence of laws and codes of conduct. Setting up the required mechanisms to control human behavior with regard to compliance with current laws is vital to achieve these goals. Therefore, nations established law-enforcement organizations tasked with making sure the laws are followed.

The study conducted by Alispahić, Zeljko, and Ekrem (2017) examined the effect of training for young drivers on road traffic safety. Driver education, particularly for younger drivers, can have a big impact on road traffic safety, protect the environment, and save money out of the budget (Alispahić et al., 2017). As a result, there is now a serious issue with the accident rate among drivers who have limited driving experience. Based on data released by the Slovak Republic's Presidium of the Police Force, drivers with less than 5 years of driving experience are significantly more likely to be involved in fatal traffic accidents when compared to drivers with longer driving histories. However, even after receiving a license, many drivers lack significant motor vehicle expertise, making them among the most dangerous drivers in terms of road safety. In an emergency, a driver's reaction time determines how quickly they can make the correct decision.

Also, unsafe driving conduct has frequently been taken into consideration in earlier studies. Maˈirean and Havaˆrneanu (2018) assessed the correlations between driving dangerous behavior, aggressive driving, and the better-than-average effect. According to Hayley, Ridder, and Stough (2020), a person's capacity to make safe behavioral judgments while driving may be hampered by a lack of emotional control. Young drivers stated reasons for driving were investigated by Scott-Paker, King, and Watson (2020), along with the connection between these reasons and self-reported dangerous driving behaviors, such as infractions. Yi (2018) used a mix of an empirical study looking into traffic sociology, mainstream traffic behavior, and traffic security to explore the influencing elements and mechanisms of the emergence of bus drivers' poor driving behavior. When it comes to driving behavior study methodologies, some researchers have embraced real-world car testing, while others rely on questionnaires (Feng, Zhan & Ma, 2018).
Ogwude (2010) states that the number of fatalities per 100 crashes, which gauges the severity of traffic accidents, has increased from 45 in 2003 to 59 in 2008. Even if the current state of affairs paints a dismal image of the nation's transportation utilization, it is as depressing to learn that human error is to blame for more than 80% of all crashes on Nigerian roads. Indeed, the FRSC and the Nigerian Police have found that driver mistake, arousal, and experience level are the main contributing factors to traffic crashes. A new driver license applicant is required by Regulation 45 of the National Road Traffic Regulation (2012) to produce proof of their attendance at an authorized driving school. This is in addition to obtaining a leaner's permit, which requires passing a general fitness exam and obtaining a certificate of visual acuity.

3. Methodology

3.1 Results and Discussion

3.1.1 Test of Hypotheses

Test of Hypothesis One

The multiple regression result is displayed in Table 1 along with the model summary, variance analysis, and most importantly the unstandardized coefficient, t-values, and significance of the results. The multiple regression coefficient, specifically the R2, is 0.334, meaning that the independent variables taken together (i.e., predictors) account for around 33% of the variation in driving experience. This level of explanation has a statistically significant (sig.=0.000) analysis of variance of the model with a F ratio value of 16.117. Nonetheless, the respondents' driving experiences can be substantially explained by the combination of the independent factors (predictors).

Table 1: Model Summary of Regression

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.585[a]	.334	.321	1.2315

Predictors: *(Constant), Age of the Driver, License Status, Education, Type of Vehicle*
Source: *Author's Computation, 2024*

The Table 1 is the model summary that shows the effect of driving behaviour on years of experience in Lagos metropolis. The result showed that the R-value is .334, which indicates that driving behaviour and years of experience has 33.4% shared relationship. R is a metric used to assess how effectively the model forecasts the actual data. Put otherwise, one could characterize the association as moderate. R2 is the percentage of variation in the outcome variable that the model can explain. In this case, the coefficient of determination from the R-square shows the extent the independent variables (Age of the Driver, License Status, Education, Type of Vehicle) explain the dependent variable (years of experience). The result showed that driving behaviour (age of the driver, license status, education, type of vehicle) explain about 58.5% of changes in years of experience in Lagos metropolis.

Moreover, the F-ratio and sig values in Table 2 are the most crucial metrics that should be investigated. The Table shows that the model is fit given that F= (16.117, $p<0.05$). The result showed that the model of the study is fit and as such the years of experience of drivers predict driving behaviour in Lagos metropolis.

Table 2: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	321.242	4	29.711	16.117	.000[b]
	Residual	1211.814	1008	.704		
	Total	1643.168	1012			

a. Dependent Variable: Years of Driving
b. Predictors: (Constant), Age of the Driver, License Status, Education, Type of Vehicle
Source: *Author's Computation, 2024*

The regression line PAT = 0.744+0.340AD+0.105TV indicates that years of driving improves by 3.4% for every 10% increase in Age of drivers, 0.5% for a 10% increase in License status, 0.4% decrement for every 10% increase in Education and also 1.05% for every 10% increase in Type of vehicle. The standardised coefficient shows the strength of each of the variables to explain the dependent variable. The result showed that age of the driver β=.270 is the most significant, while license status β=.006 and education β= -.028 are not significant. The result showed that aside age of the driver and type of vehicle (β= .270, $p<0.05$ and β= .116, $p<0.05$) that showed significant influence on years of experience of drivers, all other variables were insignificant, thus, implying that license status and education have no significant effect on years of experience of drivers in Lagos metropolis and there may be other parameters or indices which this study did not cover and could be for further study.

Table 3: Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	S. E	Beta			Tol.	VIF
(Constant)	.744	.126		5.921	.000		
Age of the Driver	.340	.037	.270	8.100	.000	.854	1.171
License Status	.005	.027	.006	.175	.844	.756	1.323
Education	-.040	.043	-.026	-.712	.356	.961	1.041
Type of Vehicle	.105	.032	.116	2.208	.001	.688	1.454

Source: *Author's Computation, 2024*

Test of Hypothesis Two

To further explore the variation among the determinants of driving behavior of commercial drivers in Lagos metropolis, a statistical analysis was undertaken using SPSS Version 23. Statistical analysis became necessary because although, initial analysis using descriptive statistics discovered some variation, but it was necessary to check whether these variations were statistically significant where they actually occurred. This technique was used because it allows to test if the means being compared are varied (different) from each other. One-way ANOVA was useful in this comparison because it could compare means irrespective of whether dependent variable was ordinal or interval scaled data.

H_o: There is no significant variation among determinants of driving behavior of commercial drivers in Lagos metropolis.

Table 4: Summary of ANOVA Result on Variation among Determinants of Driving Behaviour of Commercial Drivers

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	30203.6	5	7100.830	3.175	.003
Within Groups	68281.2	42	1780.182		
Total	118786	47			

Source: Author's Computation, 2024

When comparing the two numbers, the Analysis of Variance (ANOVA) findings showed that the F-ratio was 3.175 and the significant value was 0.003, which is less than 0.05 confidence level. Therefore, the null hypothesis (H0) is rejected and the alternative hypothesis (H1) is accepted. This merely suggests that the factors influencing commercial drivers' driving behavior in Lagos, differ significantly from one another.

4. Conclusion

The usage of regression models was found to have a definite influence on traffic accidents, according to the results of the hypothesis testing. The results of the study indicate that modifications made to one sub-factor may have an impact on the remaining sub-factors responsible for traffic accidents. The government must deal with the more serious issue of incomplete and erroneous traffic accident data. It would be challenging to create and implement affordable road safety measures as well as to keep an eye on the degree of traffic safety without an efficient accident report system. The number of vehicles on the road is growing at an accelerated rate, making road safety improvements imperative.

5. Recommendations

Increased supervision and effective traffic enforcement for all commercial drivers are probably going to have a bigger and longer-lasting impact on road traffic safety.

Use of ICT technologies such as enforcement cameras, surveillance cameras, vehicle-actuated traffic signals, and establishment of centralized traffic management centres will assist in ensuring adherence to traffic regulations and thus improve road safety scenario in the study area.

A well operated and designed law enforcement initiatives may have a big impact on traffic safety. It is commonly known that having jurisdiction-wide programs that could effectively enforce the prohibition against driving while intoxicated is an effective strategy to minimize the severity and frequency and of traffic crashes.

The FRSC should launch an awareness campaign for road safety to warn drivers about the risks of breaking the law. This can be accomplished by employing radio and television jingles, disseminating fliers, doing road walks, and using social media to raise awareness.

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Patriarchal Norms and Women Access to Reproductive Healthcare Services in Benin City, Nigeria

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Abstract. This study examined the effect of patriarchal norms on women access to reproductive healthcare services in Benin City, Edo State. The specific objectives are to assess the degree to which patriarchal norms influence women's autonomy in making decisions about reproductive healthcare in Benin City, Edo State; to determine the main barriers associated with patriarchal norms that restrict women's access to reproductive healthcare services in Benin City and to investigate how women and men perceive the influence of patriarchal norms on women's reproductive health outcomes in Benin City.The population for this inquiry encompasses women within the reproductive age bracket (15-55 years) who reside in Benin City. Also married men were allowed to participate in this study. and the sample size of this study was 100 respondents and random sampling technique was adopted to select the respondents. The study adopted descriptive statistics (frequency, percentages and tables) and inferential statistics (p-value, t-value, F-statistics and Levene's Test) as its major statistical tools for data analysis. The analysis established that patriarchal norms has significant effect on autonomy of women in making decisions concerning reproductive healthcare in Benin City, Edo State and that no significant difference exists in perceptions between women and men concerning patriarchal norms' role in women's reproductive health outcomes in Benin City.Finally, the study recommends that there should be community engagement by engaging men and community leaders in educational programmes to challenge patriarchal norms and promote shared reproductive health decision-making and that there should be policy and legal reforms to Strengthen legal frameworks to ensure women's reproductive rights and autonomy, while tackling socioeconomic and political inequalities that impede care access.

Keywords: Patriarchal Norms, Reproductive Healthcare, Women's Autonomy, Decisions Making.

1. Introduction

Maternal and reproductive health issues continue to be a major public health concern in Nigeria, as ingrained sociocultural factors continue to impede women's access to reproductive healthcare treatments. Maternal death rates are still high despite attempts to enhance healthcare policies and infrastructure, especially in areas where gender roles and decision-making are heavily influenced by patriarchal norms (Oluwole et al., 2025). These patriarchal systems frequently deny women in Benin City, Edo State, the freedom to make decisions about their reproductive health and the access to necessary services including family planning, prenatal care, and professional birth attendance. In this urban Nigerian context, a complex barrier that compromises women's reproductive health outcomes is created by the junction of cultural expectations, male authority in household decisions, and inadequate female empowerment. (Al-Mujtaba et al., 2020; Tukura & Suleiman, 2024)

Patriarchal norms refer to social systems where men hold primary power and predominate in roles of political leadership, moral authority, social privilege, and control over property, often relegating women to subordinate positions (Tukura & Suleiman, 2024). Male dominance over financial resources, decision-making power over health issues, and cultural customs that restrict women's mobility and agency are only a few examples of how these norms appear in Nigeria (Al-Mujtaba et al., 2020). HIV prevention, safe delivery services, contraceptive use, prenatal and postnatal care, and other interventions vital to women's health are all included in reproductive healthcare services (Acquah et al., 2023). Utilisation of these services is still below ideal, nevertheless, especially in cases where patriarchal factors limit women's autonomy to seek care or discuss the use of contraceptives (Oluwole et al., 2025; Tukura & Suleiman, 2024).

In Nigeria and other similar African contexts, prior research highlights a strong correlation between women's access to reproductive healthcare and patriarchal practices. For instance, research indicates that women in patriarchal families are less likely to give birth in medical facilities or use modern contraceptives because male partners have more financial and decision-making authority (Al-Mujtaba et al., 2020, Acquah et al., 2023). Furthermore, educational assortative mating, in which the educational attainment of women and their partners influences healthcare use, demonstrates how gender- and education-shaped household power dynamics impact reproductive health outcomes (Alawode, 2025). By upsetting social structures and healthcare access, conflict and displacement make these issues worse and frequently make women more susceptible to negative consequences related to their sexual and reproductive health (Ngwibete et al., 2023). According to studies conducted in northern Nigeria and other areas, women's reproductive autonomy and healthcare use are restricted by the intersection of patriarchal norms with systemic, cultural, and economic restrictions (Al-Mujtaba et al., 2020; Nmadu et al., 2020).

This study aims to investigate how patriarchal norms specifically affect women's access to reproductive healthcare services in Benin City, Edo State, a setting characterised by distinct cultural dynamics and urbanisation pressures that have not received enough attention in the literature so far. Localised research is required to comprehend how deeply ingrained gender norms function in this context and to find focused interventions that can improve women's reproductive autonomy, even though national data offer broad insights. The study intends to help policy creation that addresses gender disparities and fosters fair access to healthcare services for women in Edo State by investigating these dynamics and contributing to Nigeria's larger sexual and reproductive health agenda.

1.1 Statement of the Research Problem

These patriarchal norms manifest in various ways, including control over financial resources, mobility restrictions, and social pressures that discourage women from openly discussing or negotiating reproductive health matters (Tukura & Suleiman, 2024; Vilier & Groot, 2025). Consequently, women’s reproductive autonomy is compromised, which directly impacts their health outcomes and well-being. Control over financial resources, limitations on movement, and social constraints that prevent women from freely discussing or negotiating reproductive health issues are just a few examples of how these patriarchal norms appear (Tukura & Suleiman, 2024; Vilier & Groot, 2025). Women's reproductive autonomy is thus violated, which has an immediate effect on their health and general well-being.

Despite continuous efforts to upgrade reproductive healthcare facilities in Nigeria, deeply ingrained patriarchal norms that restrict women's autonomy and decision-making power significantly impede their access to these services. In Benin City, Edo State, women are often prevented from seeking and using reproductive healthcare on their own by cultural norms and male-dominated household structures. This results in unmet family planning needs, low contraceptive use, and high maternal mortality (Vilier & Groot, 2025; Oluwole et al., 2025).

According to earlier research, patriarchal systems affect pregnant women's psychological health and health behaviours in addition to restricting their access to healthcare facilities, which exacerbates adverse health outcomes (Agbo & Esmaeilzadeh, 2024; Opara et al., 2025). For instance, it has been demonstrated that war exposure and patriarchal rule in Northern Nigeria impact women's decision-making around family planning and condom use, leading to a rise in unmet reproductive health requirements (Vilier & Groot, 2025). Similar to this, patriarchal cultural patterns have been associated with lower use of maternal health services, as observed among Igala women, whose societal norms and beliefs prevent formal healthcare seeking (Opara et al., 2025). These results highlight the pervasive impact of patriarchal norms on reproductive health access and outcomes across diverse Nigerian contexts.

Furthermore, enhancing reproductive health in Nigeria is made more difficult by the interaction of structural obstacles including a lack of suitable healthcare infrastructure and limited women's empowerment with patriarchal norms (Maduka et al., 2023; Tukura & Suleiman, 2024). Higher utilisation of reproductive health services and more positive attitudes about giving up harmful practices like female genital mutilation have been linked to women's empowerment indicators, such as education and healthcare decision-making power (Leasure et al., 2022). The necessity for localised study to comprehend how these norms directly affect women's health in Benin City is highlighted by the fact that patriarchal views continue to impede these gains in many communities.

This study aims to close this gap by examining the precise ways in which patriarchal norms impact women's access to reproductive healthcare services in Edo State. This is because women's reproductive health outcomes are consistently impacted by patriarchal norms, and Benin City's distinct sociocultural environment has received little attention. It is essential to comprehend these dynamics in order to create culturally aware interventions and policies that support women's autonomy, increase healthcare use, and eventually improve reproductive health outcomes in this area.

1.2 Research Questions

In what ways do patriarchal norms shape women's autonomy in decision-making concerning access to reproductive healthcare services in Benin City, Edo State?
What are the specific barriers connected to patriarchal norms that impede women's use of reproductive healthcare services in Benin City?
How do women and men in Benin City perceive the impact of patriarchal norms on women's reproductive health outcomes?

1.3 Research Objectives

The main objective of the study is to examine the effect of patriarchal norms on women access to reproductive healthcare services in Benin City, Edo State. The specific objectives are:

- to assess the degree to which patriarchal norms influence women's autonomy in making decisions about reproductive healthcare in Benin City, Edo State;
- to determine the main barriers associated with patriarchal norms that restrict women's access to reproductive healthcare services in Benin City and;
- to investigate how women and men perceive the influence of patriarchal norms on women's reproductive health outcomes in Benin City.

1.4 Research Hypotheses

H_{01}: There is no significant relationship between patriarchal norms and autonomy of women in making decisions concerning reproductive healthcare in Benin City, Edo State.
H_{02}: There is no significant difference in the perceptions of both women and men regarding the role of patriarchal norms in shaping women's reproductive health outcomes in Benin City

2. Literature Review

2.1 Concept of Patriarchy

Patriarchy is commonly understood as a social system where men possess dominant power and authority, particularly in political leadership, moral influence, social privileges, and property control, while women are generally placed in subordinate roles (Tukura & Suleiman, 2024). Within the Nigerian setting, patriarchy is deeply rooted in cultural, religious, and social frameworks, influencing gender relations and power structures at both household and community levels (Iyke-Ibe & Ogele, 2023). This system favours male dominance over female autonomy, especially in family, marriage, and health-related decision-making. In Nigeria, patriarchal norms are evident in practices such as men's control over financial assets, limitations on women's freedom of movement, and societal expectations that women prioritize domestic and reproductive responsibilities over their personal independence (Alliyu, 2016).

Studies conducted in Southwest Nigeria reveal that patriarchy institutionalizes gender disparities by prioritizing men's labour and societal roles over those of women, both within families and in wider social production (Alliyu, 2016). This gender imbalance is perpetuated not only by men but also by women who conform to traditional roles, thereby maintaining existing power structures. Likewise, in Rivers State, patriarchal cultural norms contribute to domestic violence and the marginalization of women in private and public spheres, demonstrating how male dominance extends beyond the family to influence governance and societal development (Iyke-Ibe & Ogele, 2023). These patriarchal frameworks are reinforced through cultural rituals, marriage traditions, and religious doctrines that often legitimize male authority and female submission (Ademiluka, 2021).

For instance, in Nigerian marriages, the practice of bride price has been linked to fostering a perception of husbands' ownership over their wives, which can lead to marital conflicts and abuse (Ademiluka, 2021). This reflects a wider societal pattern where women's rights and independence are restricted by normative expectations that designate men as household heads and principal decision-makers. Widows in many Nigerian communities endure degrading rituals and rights violations rooted in patriarchal customs, such as disinheritance and forced remarriage, further illustrating how patriarchy systematically shapes women lived realities (Ezejiofor, 2011).
In summary, patriarchy in Nigeria is a complex system that permeates social, economic, and political spheres,

sustaining gender inequalities through both explicit actions and implicit cultural norms. Gaining insight into these manifestations is essential for addressing the ways patriarchal norms specifically hinder women's access to reproductive healthcare and negatively impact their overall health outcomes.

2.2 Theoretical Framework: Feminist Theory, Gender and Power Relations

Feminist theory presents a comprehensive framework for examining how gender and power relations are socially constructed and perpetuated within patriarchal systems, significantly influencing women's experiences and their access to resources like reproductive healthcare. A fundamental aspect of feminist thought is the recognition that gender is relational rather than fixed or categorical, indicating that power dynamics between men and women are fluid and embedded within social, cultural, and institutional contexts (Gill, 2001). This relational approach stresses that gender intersects with other identities such as race, class, and ethnicity, which intensify experiences of both oppression and privilege. Within feminist theory, power relations are understood not only through overt domination but also through subtle cultural norms, language, and institutional practices that regulate behaviour and sustain male privilege (Guizardi et al., 2022). For instance, patriarchal systems are reflected in societal expectations that restrict women's autonomy, particularly in areas like sexuality and reproductive health, where women's bodies become focal points of control and regulation (Li, 2024). Feminist scholars contend that these power imbalances are upheld through both explicit mechanisms such as laws and policies and implicit ones including socialization and cultural narratives.

Connell's Theory of Gender and Power, widely utilized in health research, elucidates how gendered power disparities impact sexual and reproductive health outcomes by influencing decision-making authority, resource control, and social norms (Oluwadare et al., 2024). This theory underscores the structural aspects of power that affect women's capacity to negotiate safe sex, access contraception, and obtain healthcare services. For example, research in Southwest Nigeria revealed that despite some awareness of sexual and reproductive health (SRH) rights among youth, gendered power inequalities remain, with males typically exerting greater control over condom use decisions and females experiencing social stigma when initiating such conversations (Oluwadare et al., 2024).

Additionally, feminist theory highlights the significance of agency and resistance within patriarchal settings. Studies on women's political resistance, such as the case of sexless marriage in Japan, demonstrate how women challenge and negotiate dominant gender norms to reclaim autonomy over their bodies and choices (Tsuji, 2018). This illustrates feminism's proactive dimension, which not only critiques existing power imbalances but also aims for transformative change by empowering women to subvert oppressive structures.

In summary, feminist theory offers a critical perspective for understanding how patriarchal power relations shape women's access to reproductive healthcare by constraining their autonomy and reinforcing gender inequalities. It emphasizes the necessity of interventions that address both structural and cultural facets of power to advance gender equity in healthcare.

3. Methodology

This investigation utilized a quantitative research methodology, specifically employing a descriptive survey research design. The descriptive survey approach was considered suitable for this study as it permits the systematic gathering and examination of data necessary to explain the characteristics, attitudes and perceptions of women concerning patriarchal norms and their access to reproductive healthcare services in Benin City.

The population for this inquiry encompasses women within the reproductive age bracket (15-55 years) who reside in Benin City. Also married men were allowed to participate in this study. Eligibility criteria for inclusion stipulated that participants must have lived in the city for a minimum duration of one year, ensuring their familiarity with the local healthcare infrastructure and sociocultural contexts. A multistage sampling strategy was implemented for participants' selection. This process commenced with the purposive selection of several quarters within Benin City, subsequently followed by the random sampling of households situated within these demarcated areas. From each selected household, women meeting the eligibility requirements were identified and invited to contribute to the study. The sample size of the study was 100 respondents.

Primary data acquisition was accomplished through the administration of structured questionnaires via in-person surveys. The questionnaire's development was informed by pre-existing validated instruments, with modifications to align with the local context; it covered demographic particulars, perceptions related to patriarchal norms, autonomy in decision-making, and the utilization patterns of reproductive healthcare services.

Data gathered was systematically coded and entered into statistical analysis software, such as SPSS. Descriptive statistical methods, including the calculation of frequencies, percentages, means, and standard deviations, was applied to summarize the demographic attributes of the participants and key study variables. To scrutinize the associations and predictive dynamics between patriarchal norms and women's access to reproductive healthcare services, inferential statistical procedures, namely ANOVA and regression analysis, were utilized.

4. Results and Discussions

The demographic characteristics of the respondents is hereby presented

Table1: Demographic Characteristics of the Respondents

Demographic Characteristics	Categories	Frequency	Percentage
Sex	Male	16	16.0
	Female	84	84.0
	TOTAL	100	100.0
Age	18 – 25 years	13	13.0
	26–35 years	58	58.0
	36-45 years	22	22.0
	46-55 years	7	7.0
	TOTAL	100	100.0
Marital Status	Single	13	13.0
	Married	87	87.0
	TOTAL	100	100.0
Highest Educational Qualifications	SSCE/NECO/GCE	19	19.0
	NCE/OND	26	26.0
	HND/B.Sc.	47	47.0
	PGDE/MBA/M.Sc.	8	8.0
	TOTAL	100	100.0

Source: *Researcher's Field Work (2025)*

There were 84 (84%) females and 16 (16%) males. This suggests that there may be gender-related insights in the context of Patriarchal Norms views, as the sample has a strong female majority.

In terms of age, Table 1 shows that majority of the respondents (58 i.e. 58%) are in the age group of 26- 35 years, 22 of the respondents constituting 22% of the total respondents are in the age group of 36-45 years, 13 of the respondents constituting 13% of the total respondents are in age group of 18-25 years; and 7 of the respondents accounting for 7% of the total respondents belongs to the age group of 46 -55 years. This shows that young adults - people within the age bracket of 26- 45 years were captured and this account for 77% of the total respondents.
Relating to marital status of the respondents, Table 1 revealed that majority of the respondents (87) representing 87% of the total respondents are married while 13 respondents representing 13% of the total respondents are single. It is clear from the result obtained that there are more married persons for the survey conducted as the subject matter relate more to married people than singles.

The highest educational qualification of the respondents surveyed in Table 4.1 reveals that majority of the respondents (47) representing 47% of the total respondents are B.Sc./HND certificate holders, 26 respondents representing 26% of the total respondents are NCE/OND certificate holders, 19 respondents representing 19% of the total respondents are SSCE/NECO/GCE certificate holders while 8 respondents representing 8% of the total respondents have PGDE/MBA/M.Sc.certificates. From the processed data it is clear that people within the first degree of educational attainment are more than the other class of persons in the survey conducted.

Hypothesis Testing

Regression analysis (t-test) and ANOVA were used in this study to assess the hypotheses at the 5% significant level. The p-value determines whether or not we accept a hypothesis. If the p-value is >0.05 (more than 5%), we fail to reject the null hypothesis, meaning we accept it. If the p-value is <0.05 (less than 5%), we reject the null hypothesis.

The following are the hypotheses that were investigated in this study and are expressed in the null form:
H_{01}: There is no significant relationship between patriarchal norms and autonomy of women in making decisions concerning reproductive healthcare in Benin City, Edo State.
H_{02}: There is no significant difference in the perceptions of both women and men regarding the role of patriarchal norms in shaping women's reproductive health outcomes in Benin City

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.686[a]	0.470	0.465	0.36134
a. Predictors: (Constant), Patriarchal Norms				

The value of R^2 which is 0.470 indicates that the independent variable (patriarchal norms) explains only 47% of the dependent variable's (autonomy of women in making decisions concerning reproductive healthcare) systematic variation goes unaccounted for. After adjustments of the R-squared, this percentage drops even lower to 46.5%. This means that other factors/determinants apart from the independent variables are responsible for determining autonomy of women in making decisions concerning reproductive healthcare.

ANOVA[a]						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	11.364	1	11.364	87.038	0.000[b]
	Residual	12.796	98	0.131		
	Total	24.160	99			
a. Dependent Variable: Women's Autonomy in Making Decision concerning Reproductive Healthcare						
b. Predictors: (Constant), Patriarchal Norms						

At 0.000, the F statistic of 87.038 is significant. This indicates that there is a statistically significant relationship between patriarchal norms and autonomy of women in making decisions concerning reproductive healthcare in Benin City, Edo State.

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.219	0.317		3.841	0.000
	Patriarchal Norms	0.716	0.077	0.686	9.329	0.000
a. Dependent Variable: Women's Autonomy in Making Decision concerning Reproductive Healthcare						

H_{01}: There is no significant relationship between patriarchal norms and autonomy of women in making decisions concerning reproductive healthcare in Benin City, Edo State.

Patriarchal norm is significant at the 0.05 level of statistical significance, as indicated by the p-value of 0.000. Therefore, with a t-value of 9.329 and P-values of 0.000, we reject the null hypothesis, which states that there is no significant relationship between patriarchal norms and autonomy of women in making decisions concerning reproductive healthcare in Benin City, Edo State. This implies that autonomy of women in making decisions concerning reproductive healthcare in Benin City, Edo State is statistically predicted by patriarchal norms.

Descriptives								
Perception of Patriarchal Norms' Role								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Women	84	4.1000	0.49916	0.05446	3.9917	4.2083	3.00	5.00
Men	16	4.1625	0.46314	0.11579	3.9157	4.4093	3.40	4.80
Total	100	4.1100	0.49185	0.04919	4.0124	4.2076	3.00	5.00

Descriptive Statistics

This section summarizes the perception scores for the 84 women and 16 men in the sample.
Women: N=84, Mean perception score = 4.1000, Standard Deviation = 0.49916.
Men: N=16, Mean perception score = 4.1625, Standard Deviation = 0.46314.
Total Sample: N=100, Mean perception score = 4.1100, Standard Deviation = 0.49185.

It was observed that Men (Mean = 4.1625) showed slightly higher mean perception scores concerning patriarchal norms' role than women (Mean = 4.1000). An ANOVA test is needed to assess if this observed difference is statistically significant, particularly given the unequal sample sizes (84 women, 16 men).

Test of Homogeneity of Variances			
Perception of Patriarchal Norms' Role			
Levene Statistic	df1	df2	Sig.
0.108	1	98	0.743

Test of Homogeneity of Variances (Levene's Test)

This test assesses if the variances in perception scores are equal between the women and men groups, a key assumption for ANOVA.
Levene Statistic = 0.108; df1 = 1, df2 = 98 and Sig. (p-value) = 0.743

It can be seen that the Levene's test p-value (0.743) exceeds the 0.05 alpha level. This indicates no statistically significant difference in variances of perception scores between women and men, meeting the homogeneity of variances assumption for the ANOVA.

ANOVA					
Perception of Patriarchal Norms' Role					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.053	1	0.053	0.215	0.644
Within Groups	23.897	98	0.244		
Total	23.950	99			

ANOVA Results

H_{02}: There is no significant difference in the perceptions of both women and men regarding the role of patriarchal norms in shaping women's reproductive health outcomes in Benin City.
This table determines if a statistically significant difference exists in mean perception scores between women and men.
Between Groups (Gender Effect): F-statistic = 0.215; Sig. (p-value) = 0.644
Other details revealed that Sum of Squares (Between Groups) = 0.053, df (Between Groups) = 1, Mean Square (Between Groups) = 0.053; Sum of Squares (Within Groups) = 23.897, df (Within Groups) = 98, Mean Square (Within Groups) = 0.244; Total Sum of Squares = 23.950, Total df = 99.
From the ANOVA test result it can be observed that the critical p-value ("Sig.") for the "Between Groups" effect is 0.644. This represents the probability of obtaining an F-statistic of 0.215 or greater if H02 (no difference in population means) is true.

It is therefore stated that no significant difference exists in perceptions between women and men regarding patriarchal norms' role in women's reproductive health outcomes in Benin City; given Alpha Level (α): 0.05 and the ANOVA p-value (0.644) is greater than α (0.05).

It is therefore concluded that as the p-value (0.644) is above 0.05, the null hypothesis (H02) is not rejected.
It will therefore be reported that the One-Way ANOVA results ($F(1, 98) = 0.215$, $p = 0.644$) show no statistically significant difference in mean perceptions between women (Mean = 4.10, SD = 0.50) and men (Mean = 4.16, SD = 0.46) concerning patriarchal norms' impact on women's reproductive health outcomes in Benin City. The minor difference in average perception scores between men and women is not statistically significant. The data does not provide sufficient evidence to claim that women and men in Benin City hold different perceptions on this topic; the observed variation is likely due to chance.

5. Discussion of Findings

Recent literature confirms and expands upon this study's findings that patriarchal norms pervasively influence Nigerian women's access to reproductive healthcare. Patriarchal social structures leading to gender-based discrimination are consistently identified as significant barriers to quality maternal and reproductive healthcare in Nigeria. For instance, Oduenyi et al. (2021) found that established gender norms and limited male involvement in reproductive health decisions correlate with poor maternal health service utilization and quality in Nigeria, suggesting patriarchal attitudes limit women's healthcare autonomy.

Furthermore, cultural expectations of male authority in household decision-making directly affect women's ability to access and use reproductive health services. A qualitative study in northern Nigeria by Sinai et al. (2024) showed that men's dominant role in family decisions often restricts women's access to contraception and maternal health services, contributing to high maternal mortality and low contraceptive use. These findings align with the Benin City results, where patriarchal norms significantly predict women's reproductive healthcare autonomy.

Additionally, studies emphasize the intersection of gender with social determinants like socioeconomic status, education, and couple dynamics. Analysis of the 2018 Nigeria Demographic and Health Survey by Abubakar & Abubakar (2024) revealed that women's healthcare decision-making autonomy, joint decision-making, and higher socioeconomic status are linked to increased modern contraceptive use. This supports the current study's conclusion that while patriarchal norms are a primary factor, other determinants also significantly shape women's reproductive health outcomes.

Moreover, gender inequalities and reproductive rights violations are associated with negative health outcomes like unsafe abortions and higher HIV rates among young women (Momoh et al., 2015). These consequences highlight the broader public health impact of patriarchal constraints on women's reproductive autonomy.

Interestingly, while this study found no significant statistical difference in men and women's perceptions of patriarchal norms' impact, other research indicates both genders might internalize these norms due to their deep cultural roots. This underscores the need for community-wide interventions addressing both male and female perspectives.

6. Conclusions and Recommendations

6.1 Conclusions

This study examined the relationship between patriarchal norms and women access to reproductive healthcare services in Benin City, Edo State. The purpose of the study was to assess the degree to which patriarchal norms influence women's autonomy in making decisions about reproductive healthcare in Benin City, Edo State; to determine the main barriers associated with patriarchal norms that restrict women's access to reproductive healthcare services in Benin City and to investigate how women and men perceive the influence of patriarchal norms on women's reproductive health outcomes in Benin City.

The study concludes, based on the data, that patriarchal norms have significant effect on autonomy of women in making decisions concerning reproductive healthcare in Benin City, Edo State and that no significant difference exists in perceptions between women and men concerning patriarchal norms' role in women's reproductive health outcomes in Benin City.

6.2 Recommendations

Based on the findings, the following recommendations are made:

Community Engagement: Recent evidence highlights engaging men and community leaders in educational programs to challenge patriarchal norms and promote shared reproductive health decision-making.

Policy and Legal Reform: Strengthen legal frameworks to ensure women's reproductive rights and autonomy, while tackling socioeconomic and political inequalities that impede care access.

Health System Interventions: Train healthcare providers to identify and lessen gender bias effects to enhance service delivery and equitable reproductive health service access.

Empowerment Initiatives: Boosting women's education, economic independence, and decision-making participation is vital for better reproductive health outcomes.

Further Research: Ongoing research should investigate the complex interactions of gender, socioeconomic status, and cultural norms to guide targeted interventions.

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Socioeconomic Determinants of Household Healthcare Provision in Nigeria: An Outlook at Yola, Adamawa State of Nigeria

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Abstract. Healthcare access remains a critical challenge for many households in Nigeria, often influenced by socioeconomic factors such as income, education, and family size. This study examines how these variables impact household healthcare decisions and outcomes. Using descriptive statistical analysis, data were collected from a diverse population to evaluate health-seeking behaviours, health status, and financial barriers. Results indicate that lower income, larger family size, and limited educational attainment significantly hinder access to quality healthcare, leading to reliance on over-the-counter medications. The findings underscore the need for policies promoting health insurance coverage and financial support to alleviate out-of-pocket (OOP) expenditures and improve healthcare equity in Nigeria.

1. Introduction

In Nigeria, out-of-pocket (OOP) expenditure, estimated at 76.6% of the Current Health Expenditure (CHE) in 2017, poses a huge barrier to accessing health services, worsening inequities in health outcomes and exposing the poor to impoverishment as a result of catastrophic health spending. The 2017 National Health Account estimated total expenditure on malaria at N1.9 trillion ($5.3 billion), with out-of-pocket (households) payments accounting for 78.4% of all malaria spending (NMSP, 2021).

Healthcare access and utilisation in developing countries, including Nigeria, are deeply intertwined with socioeconomic factors. Households often face significant barriers, including financial constraints, low educational attainment, and large family sizes, which shape their health-seeking behaviours. Despite interventions by governmental and non-governmental organisations, access to quality healthcare services remains uneven, particularly for low-income families.

Income disparities influence the ability of households to afford care, often leading to reliance on suboptimal options such as over-the-counter medications. Similarly, educational levels play a crucial role in shaping health literacy and attitudes toward seeking professional care. Family size further compounds these challenges, with larger households experiencing greater financial strain and higher risks of disease spread.

This study aims to explore the relationship between socioeconomic factors and household healthcare provision in Nigeria, leveraging descriptive statistics to uncover insights that can inform targeted interventions.

2. Methodology of the study

This study employed a descriptive statistical approach to analyse data collected from 323 respondents in Nigeria. A structured questionnaire was administered to gather information on demographic variables, income levels, family size, educational attainment, health insurance coverage, and healthcare-seeking behaviours.

The analysis focused on identifying patterns and associations among variables to highlight socioeconomic disparities in healthcare access. Descriptive statistics, including mean, standard deviation, and frequency distributions, were used to present the data. Ethical approval was obtained, and informed consent was secured from all participants. Limitations include the reliance on self-reported data, which may introduce recall bias.

3. Literature Review

Previous studies have consistently highlighted the role of socioeconomic factors in shaping healthcare access in low- and middle-income countries. Rosenstock's Health Belief Model (1966) emphasises that perceived barriers and benefits significantly impact health-seeking behaviour. Similarly, Ajzen and Fishbein's Theory of Planned Behaviour (1980) underscores the influence of attitudes, subjective norms, and perceived control over healthcare decisions.
Research by Onoka et al. (2013) and WHO (2021) demonstrates that financial barriers remain a critical impediment to universal health coverage in Nigeria. Studies also reveal that educational attainment correlates with health literacy, affecting individuals' ability to navigate healthcare systems effectively (Jin et al., 2022). However, gaps remain in understanding how these factors interact in the Nigerian context, particularly concerning family size and external support.

This study contributes to the literature by providing an updated analysis of these variables, offering actionable insights for policymakers and stakeholders.
Results and Discussions: The results reveal significant associations between socioeconomic factors and healthcare access:

Health Status:

Table 1: Household Health Status.

	1 (Very Poor)	2 (Poor)	3 (Good)	4 (Very Good)	5 (Excellent)
How would you rate your health status?	6%	26%	40%	21%	7%

Source: *Field Survey, 2023.*

Self-reported health status varied across income groups. While 68% of respondents rated their health as "Good" or better, those in lower income brackets reported higher rates of "Poor" or "Very Poor" health.

Family Size:

Table 2: Family Size of respondents.

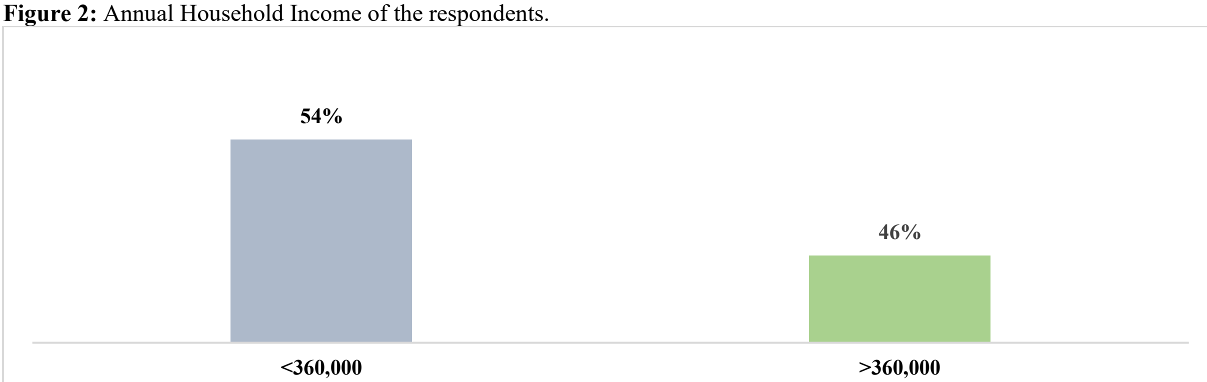
	<5	5-10	>10
What is the family size?	32%	18%	50%

Source: *Field Survey, 2023.*

Larger families (≥10 members) constituted 50% of the sample, highlighting the financial burden of healthcare costs and the potential for rapid disease transmission within households.

Income Levels:

Figure 2: Annual Household Income of the respondents.



Source: *Field Survey, 2023.*

Over half (54%) of respondents reported annual household incomes below N360,000, underscoring the challenge of affording healthcare. Limited financial resources were associated with delayed treatment and reliance on informal care.

Age Distribution:

Table 3: Age Distribution of Respondents.

	16 - 30	31 - 45	46 - 60	61 - 75
Age	49 (15%)	152 (47%)	110 (34%)	12 (4%)

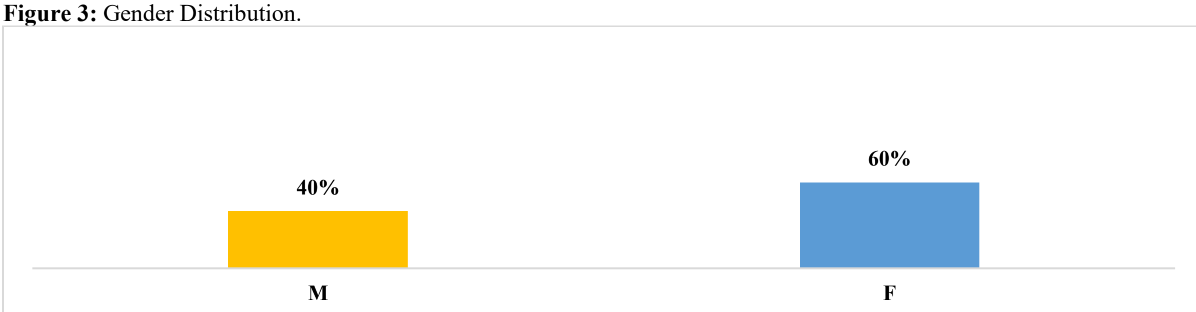
Source: *Field Survey, 2023.*

The age distribution of the respondents, in Table 3, revealed that 47 per cent were in the age range of 31 – 45 years, while those in the age range of 61 – 75 years were 4 per cent. However, this may not be unrelated because 31 – 45 years is the active age range and probably employed by either the government or private institutions. It also highlights the active age range's likelihood of employment and access to health insurance (Reichard, Stransky, Brucker, & Houtenville, 2019).

Being employed could provide access to direct support through health insurance, hence the ability to seek health care attention when sick with little OOP expenditure. The age distribution highlighted in Table 3, with a significant proportion in the 31-45 age range, has implications for healthcare decision-making based on TPB, HBM, and TRA. Employment status in this age group may positively impact perceived behavioural control, attitudes, perceived threat, and subjective norms regarding healthcare utilisation (Glanz, Rimer, & Viswanath, 2008; Rosenstock, 1966; Ajzen & Fishbein, 1980). This group may be more likely to seek healthcare services and incur lower out-of-pocket expenditures due to their employment-related benefits.

Gender:

Figure 3: Gender Distribution.

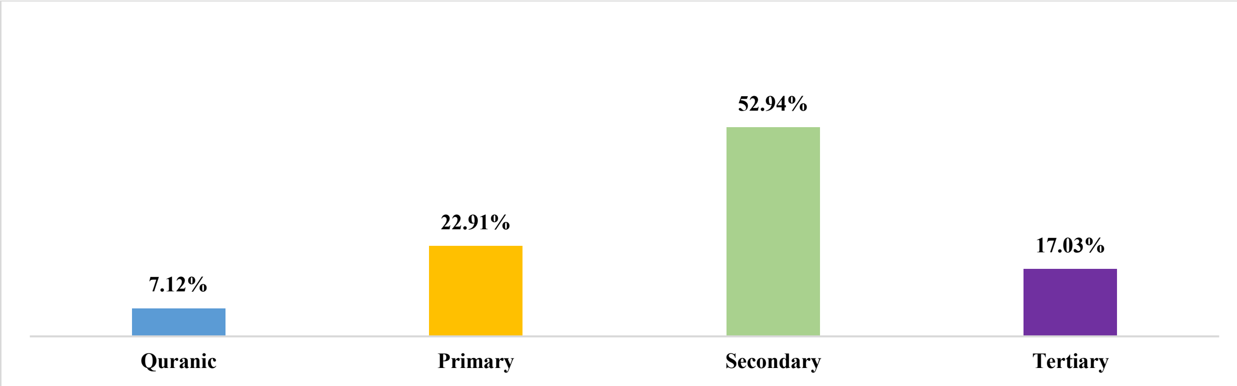


Source: *Field Survey, 2023.*

In Figure 3, sixty per cent (60%) of the respondents were of the female gender, while males constituted the remaining forty per cent (40%). The high percentage seen in the female gender indicates that health-seeking behaviour is more prevalent in that class than in males. Women exhibited higher health-seeking behaviour compared to men (Schmitz & Lazarevič, 2020). The gender distribution presented in Figure 3, with a higher percentage of females, has implications for healthcare decision-making based on TPB, HBM, and TRA. It suggests that females may have more positive attitudes, higher perceived threats, and more supportive subjective norms related to healthcare utilisation than males, potentially resulting in higher health-seeking behaviour among women (Rosenstock, 1966; Ajzen & Fishbein, 1980).

Educational Attainment:

Figure 4: Educational Background of the respondents.



Source: *Field Survey, 2023.*

Respondents with secondary education constituted 52.94%, while only 7.1% had Qur'anic education. Educational disparities were linked to variations in health-seeking behaviour, with lower education correlating to reduced utilisation of formal healthcare services.

Occupation:

Table 4: Occupation of the respondents.

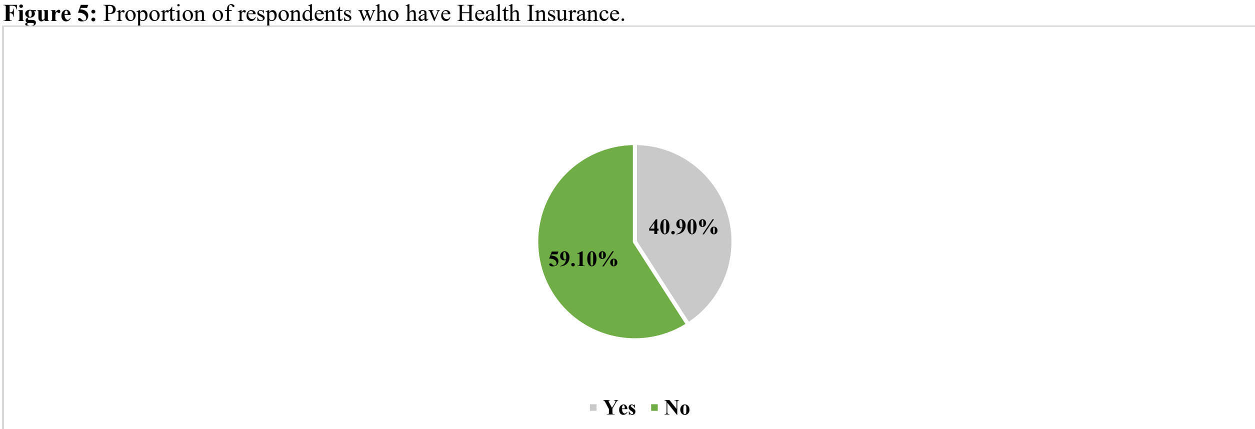
Main	Trading	Farming	Government Employment	Private Employment	Self employed	Unemployed
Occupation	36 (11%)	61 (19%)	145 (45%)	13 (4%)	55 (17%)	13 (4%)

Source: *Field Survey, 2023.*

Table 4, which shows the respondents' occupations, indicates that 45 per cent were government employees. The smaller percentage of the respondents, with 4 per cent each, were the unemployed and those employed by private firms. This result could explain why those employed by the government are likely to have some support in the form of health insurance coverage to alleviate the burden of health-seeking through the OOP expenditure (Reichard, Stransky, Brucker, & Houtenville, 2019). The occupational backgrounds presented in Table 4, with a significant percentage being government employees, have implications for healthcare decision-making based on TPB, HBM, and TRA. Government employees may have more positive attitudes, higher perceived benefits, and better perceived behavioural control related to healthcare-seeking due to their access to health insurance, potentially resulting in higher health-seeking behaviour and reduced OOP expenditure (Glanz, Rimer, & Viswanath, 2008; Janz & Becker, 1984; Ajzen & Fishbein, 1980).

Health Insurance:

Figure 5: Proportion of respondents who have Health Insurance.



Source: *Field Survey, 2023.*

Only 40.9% of respondents had health insurance, primarily among government employees. The lack of coverage exacerbates the reliance on OOP expenditures, which disproportionately affect low-income families.

NGO Support:

Table 6a: Support from NGOs towards OOPs.

Is there any support from the NGOs to alleviate OOPs?	Yes	No
	0%	100%

Source: *Field Survey, 2023.*

None of the respondents reported receiving NGO support to offset healthcare costs, highlighting a gap in external assistance. These findings align with the Theory of Planned Behaviour (TPB) and the Health Belief Model (HBM), illustrating how attitudes, perceived threats, and financial barriers influence healthcare utilisation. For example, individuals with limited income may perceive healthcare costs as insurmountable, reducing their likelihood of seeking timely care.

Table 7: Descriptive Statistics.

	Mean	Std. Deviation	N
Gender	1.59	0.493	323
Health insurance	0.49	0.501	323
Govt support	1.59	0.492	323
Support extent	0.51	0.68	323
NGO's support	0	0	323
NGO's support impact	3	0	323

Source: *Field Survey, 2023.*

Table 7 is a descriptive statistic for several variables assessing the impact imposed on households because of out-of-pocket spending on healthcare services. The statistics presented in Table 7 provide insights into the impact of out-of-pocket spending on healthcare services, which can influence perceived behavioural control, attitudes, perceived benefits, and barriers related to healthcare-seeking behaviour. The variability in these variables and the absence of support from NGOs can have significant implications for healthcare decision-making based on TPB, HBM, and TRA (Glanz, Rimer, & Viswanath, 2008; Rosenstock, 1966; Ajzen & Fishbein).

4. Conclusion

This study highlights the profound impact of socioeconomic factors on household healthcare provision in Nigeria. Income levels, educational attainment, and family size emerged as critical determinants of health-seeking behaviours and access to quality care. The reliance on OOP expenditures and limited health insurance coverage exacerbate disparities, leaving vulnerable populations at risk.

To address these challenges, targeted interventions are necessary. Expanding health insurance coverage, subsidising healthcare costs for low-income families, and enhancing health literacy through educational programs can improve healthcare equity. Additionally, increased NGO involvement in alleviating financial barriers could bridge critical gaps in support. Policymakers must prioritise these strategies to ensure equitable access to healthcare for all Nigerians.

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Hospital Social Workers in the Eyes of Frontline Medical Staff of University of Benin Teaching Hospital, Benin City, Nigeria

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Abstract. The complexity of infirmity and it strong root in social factors, necessitated the emergence of social workers in the healthcare system. However, the frontline medical staff remains uncertain about the purpose and roles of the hospital social work professionals in the biopsychosocial healthcare interdisciplinary collaborative relationship. The focus of this study, therefore, is to ascertain how the frontline medical staff in University of Benin Teaching Hospital (UBTH) perceives hospital social workers and this help to understand the extent in which the biopsychosocial model of healthcare has been embrace in the hospital. Semi-structured interview schedule based on face-to-face interviews was conducted among the selected participant in UBTH. Following the qualitative data analysis, findings suggest that the frontline medical staff of UBTH perceive hospital social workers as insignificant members of the medical team. The findings also illustrate that the hospital social workers perform roles/responsibilities outside their scope which may be the resultant effect for the poor value of the hospital social workers services. Consequently, recommendations are offered to hospital social workers to be professionally responsible in their roles/responsibilities as these are what create their identity in the eyes of the frontline medical staff.

Keywords: Hospital Social Workers, Frontline Medical Staff, Health, Biopsychosocial, UBTH

1. Introduction

Hospital social workers came into the hospital environment and became an integral part of the multidisciplinary medical team when it was realized by Dr. Richard Cobot of Massachusetts General Hospital, United States of America in 1905, Institute of Almoners in Britain in 1945 and the enactment of the Constitution of the World Health Organization in 1948 that health was no longer the absence of disease or infirmity alone rather the state of complete physical, mental and social well-being (Suls & Walston, 2003, Sartorius, 2006; Heenan & Birrell, 2019). Also in Nigeria, following the increasing number of indigent patients that was unable to pay their medical bills, the Director of Medical Services in 1950 appeal to the Lagos Colony requesting for the government engagement of ex-nurses as almoners to support in the provision of social welfare services for patients. This culminated in the employment of Mallam Abba Namtari in 1952 as the first almoner in Government Hospital in Yola (Okafor, et al., 2017). These resulted in the paradigm shift in the philosophy, ideology and composition of the medical team. Hence, the modern medical model was born and shifted from biomedicine and lay emphasis on biopsychosocial medicine which focuses attention to address social consequences that affect health alongside biomedical consequences (Fuller, 2017; Sun, et al., 2023). The essence of this interdisciplinary collaborative working relationship is to ensure that the healthcare services delivery process in the hospital is consistent and of high quality (Browne, 2012).

Social workers in the hospital environment offer a holistic approach to restore and provide services to service users and their families within and outside the healthcare system (Craig et al., 2015). Social workers in the hospital setting are mainly concern in helping service users and families have in-depth knowledge of the nature of a particular illness through effective psychosocial intervention to address the psychological, social and economic challenges associated with the illness. This is achieved through resource linkages, counseling/psychotherapy, advocacy, enabling appropriate health related services and providing direction for service users and their caregivers through making best decisions with positive consequences and ensuring the well-being of service users through after care service (Okafor et. al 2017). Hospital social workers play multidimensional roles in the process of performing their professional responsibilities to service users and families in the hospital environment and these roles includes education, advocacy and counseling, providing emotional and financial support particularly to the frail and vulnerable service users and their families (Seok, Kwonho & Junpyo, 2019). These roles play by the social workers in the hospital environment have been said to be affected by some factors. These factors include the organization, operation and culture of the hospital system, the way in which work is organized within the hospital and he nature of the professional act (Browne, 2012).

Hospital social workers help service users and their families to bear and cope with the impact of ill health and treatment and they cushioned the resultant effect with series of biopsychosocial interventions that facilitates the delivery of appropriate care to the individual and their families (Heenan & Birrell, 2019). Most importantly, hospital social worker adopts holistic approaches to deliver a person-center care needs which focuses on understanding the desires of the service user and their families. Overtime, these include stabilizing the family dynamics, serving and advocating for the interest of the service user with the aim of achieving a safe and efficient discharge from the hospital (Soderberg, 2018 and Harrison, O'Malia & Napier, 2019). The scope of operations of social workers in the hospital environment spans beyond the immediate medical concerns of the service users but include the broader ecological context and its impact on health outcome (Cleak & Turczynski, 2014).

In order to achieve a positive health outcome for the service users, hospital social workers engage in a collaborative working relationship with frontline medical staff to help service users and their families to deal with the challenges that come with ill health and develop solutions that support them to reintegrate safely and live independently in their communities. The skills, knowledge and values that they bring into practice are essential tools they applied to improve service users and their family resilience that aim to help them realize their full potential and enhance their wellbeing (Heenan & Birrell, 2019). Despite this long historical impact and indispensable value of social worker services in hospital environment, majority of frontline medical staff remains uncertain about the purpose, roles and presence of social workers in the hospital environment. These uncertainties occur in the form of questions concerning models and function, leading to confusion concerning it identity as a specialization/profession should be fostered or realigned. Is it purpose in the location of the role (within hospital) that made it important or is the nature of its work with service users? (Adeoti, 2019; Okoye, 2019; Adewunmi et. al 2020; Steils, Moriarty & Manthorpe, 2021). This study seeks to assess the perception of frontline medical staff understanding of the purpose, roles and relevance of social workers in the hospital environment and in the medical team in University of Benin Teaching Hospital (UBTH). It also seeks to explore the extent frontline medical staff of UBTH have embrace the modern medical model of health. Against this background, this study is guided with the following research questions:

- Who do you think hospital social workers are?
- Can you identify any specific roles/service(s) performed by the hospital social workers that has help to enhance the healthcare of service users (patients) in the hospital?
- How has hospital social workers impacted the effectiveness of the medical team?

2. Brief Timeline Account of Hospital Social Work in University of Benin Teaching Hospital (UBTH)

University of Benin Teaching Hospital (UBTH) is a government non-profit organization located along Ugbowo Lagos Road, Benin City, Edo State, Nigeria and shares boundary with University of Benin. UBTH was established in August 1973. At that time, the hospital was known as the Benin City Hospital and it served as a referral center for several public hospitals in the mid-west region of Nigeria. In the early years, the hospital's focus was primarily on providing quality healthcare services to service users, but as the institution grew and evolved, the need for a more comprehensive approach to service user care became apparent. This led to the development of the Hospital Social Work Department, which was established in the late 1980s. The department was set up to address the psychosocial needs of service users and their families, as well as to provide social welfare services for staff members who were dealing with challenging situations. The team consisted of Social Workers, Sociologist, Psychologist, Counselors, Public Administrators, and other professionals who worked together to ensure that service users received holistic care beyond just medical treatment.

In the 1990s, the department began offering training programs for healthcare professionals on topics such as stress management, communication skills, and patient advocacy. These programs helped to enhance the hospital's capacity to deliver high-quality health care services while promoting positive relationships between staff and service users. In the early 2000s, the department launched a series of community outreach initiatives aimed at improving health education and awareness among local populations. These efforts contributed significantly to reducing the rate of infant mortality, maternal mortality, improved childhood immunization rates, and combating infectious diseases like HIV/AIDS.

3. Roles of Hospital Social Workers According to the Compilation of Department of Medical Social Work in UBTH

Hospital social workers engaged in the following roles in UBTH that help in the delivery of appropriate health care services to service users and their families:

Assessment and Intervention: They assess the psychosocial needs of patients and provide interventions to address identify needs. They offer counseling, case management and referral services to help patients cope with illnesses, injuries, or other challenges.

Patient Advocacy: They serve as advocates for the best interest of the service users and their family. They ensure that service users receive appropriate care and support throughout their admission period. They engage in collaborative and effective working relationship with all healthcare staff in the hospital environment, families, and communities to promote positive experiences for service users.

Soliciting Funds: The hospital social worker are responsible for soliciting for funds from various sources to support indigent patient care, they often generate these resources from local NGOs, businesses, government agencies, international donors and well spirited individuals.

Repatriation of Abandoned Service Users: In some cases, service users are abandoned in the hospital by their relatives and are unable to pay for their treatment or require ongoing care after discharge. The hospital social workers assist with repatriating these individuals to their homes/communities, ensuring they receive appropriate follow-up care and support.

Home Visits and Social Investigation: To provide comprehensive services to service users and families, they often conduct home visits to assess living conditions, family dynamics, and other factors affecting the well-being of service users and their families. They also investigate social situations that may impact health outcomes, such as poverty, domestic violence, or lack of access to resources like food, shelter, or education. Early identification of potential challenges hospital social worker to conduct effective intervene and link patients and families with available resources to promote positive health outcomes.

Family Support: Hospital social workers often provide emotional support to family members responsible for the care of ill individual receiving treatment. This support includes helping them navigate the healthcare system, providing information on available resources, and offering coping strategies.

Community Outreach: The hospital social workers reach out to members of local communities through various community outreach initiatives aimed at promoting health education, disease prevention, and early detection. These efforts contribute significantly to improving the overall health status of local populations.

Training and Education: They organize training programs for healthcare professionals on topics like stress management, communication skills, and patient advocacy. Additionally, they also educate service users and their families on issues relevant to their health and well-being.

4. Research Methodology

The qualitative evaluation research design was employed in this study (Clarke, 2005). In a study conducted by Babbie and Mouton (2001) pointed out the relevance of evaluation research in developing countries like Nigeria, focuses on assessing whether or not the quality of social work practice in interdisciplinary relationship is consistent with global practice in the area of social work in healthcare system. A qualitative approach for the collection of required data was used because the data that was required was descriptive and exploratory. In addition, the information was gathered directly from the targeted group who were assumed to have the needed set of information (Crossman, 2018; Amadasun, 2021). The purposive sampling was use to select the required participant based on the purpose of the study. Semi-Structured-face-to-face interview was use to elicit required information which was developed based on the observed attitude and the nature of the working relationship between the frontline medical staff and social workers in the hospital and expert advice. The originally developed interview guide as adopted to reduce variation in the quality and depth of information obtained. Although the interviewer was not constrained by the outline and often uses probing questions to enhance the depth of the interview.

The participants in this study comprise frontline medical staff that has practice in the hospital for a minimum period of one year. Purposive sampling was use to select 16 participants for the study. However, on the day schedule for the commencement of the investigation, 2 participants that is, 1 Consultant and 1 Resident Doctor sent a notice to be unavoidably absent due to responsibility they were ask to hand by the management of the hospital. Thereby bring the total study participant to 14 that is, 3 Consultant, 4 Resident Doctors, 4 House Officers and 3 Nurses. The response from the interview was audio-recorded by a social work student from University of Benin on field placement in University of Benin Teaching Hospital. The interview with the selected participant lasted for approximately 20 – 25 min. At the end of the interview, the data collected were analyzed in accordance with Smith et. al (2009) steps intrinsic to Interpretive Phenomenological Analysis (IPA). The steps were sequentially followed in the process of data analysis: (1) reading and rereading, (2) initial noting, (3) developing emerging themes, (4) searching for connections across emergent themes, (5) moving to the next case and (6) looking for patterns across cases. The information gather was transcribed verbatim, although insignificant details in the citations were modified for the purpose of confidentiality and content analysis was use to analyze the data.

4.1 Ethics

The ethical approval for this study was sought and secure from the Nigeria Medical Association (NMA) UBTH Chapter, the Nurses Association of UBTH alongside the approval of the Medical Social Work Department of UBTH. Ethical concerns addressed in this study are informed consent, voluntary participation and privacy and protection from harm. Consequently, identifying details of participants and the organization in which they represent are anonymized. More so, their responses are documented as a collective story to further obscure personal identification.

4.2 Limitation of the Study

The small sample size of the study participant and the focus on a single healthcare institution in Benin City is a major limitation of this study. Although consistent with the principles and norms in qualitative research, the identified limitation impaired the prospects of generalizability of the research findings. Nevertheless, this study has made an indelible contribution to the limited body of literature on hospital social work in Nigeria and Africa in general.

5. Results

The result of the study is presented in accordance with the four themes drawn from the research questions raised above: social workers are integral part of the medical team, specific services provided by social workers that help to enhance the healthcare of service users (patients), critical decision making and overall rating of the presence of social workers in the hospital environment. The responses of the research participant are reported verbatim in order to ascertain the frontline medical staff perception of social workers in the hospital environment.

Table 1: Thematic framework for the results

S/N	Themes	Subthemes
1.	Hospital social workers in the eyes of frontline medical staff.	Bridge between the hospital and the service users (patients and family). Uncertain identity and roles Professionals who are concern about social conditions affecting health
	Observed identified roles/services of hospital social worker	Solicit for funds Clean and feed service users that are critically ill in the absence of relatives. Run errands for service users Counsel service users (patient)
	Contribution to the effectiveness of the medical team	No Significant impact After care follow-up

Theme 1: Hospital social workers in the eyes of frontline medical staff

After careful interview with the participants following the request to examine the view or opinion of frontline medical staff, who they think hospital social workers are, majority of the participants expressed diverse view ranging from, the bridge between the hospital and the service users and their families, normal administrative staff, people with uncertain identity and roles, professionals who are concern about the social conditions affecting health. As one of the participants purports, *"social workers in the hospital are unique professional they help service users to locate the various resources and facilities in the hospital environment. When the service users and their families come to the hospital environment for the first time, they tend to be confused and don't know what to do* *and where to go, the social workers offices or department are where they are direct".* Also, another participant added that *"when the service users and their families are dissatisfied with the quality of service received, they report to social workers who they believe service as the voice(s) of the service users"*. Given more room to the frontline medical staff to express their perception about hospital social workers, one participant started thus *"from my experience, hospital social workers work hand-in-hand with doctors. While the doctors focus on the medical aspect of health (biomedical pathology) the social workers focus on the social aspect of health (social pathology) with the same goal of promoting the health and wellbeing of the service users"*. Though the above perceptions of the frontline medical staff were impressive acknowledgment, some others highlighted a sharp twist of view about hospital social workers. *"I really do not know what the groups of people who claim they are social workers are doing in the hospital environment. They do not have any medical training and they are trying to be part of the medical team. If they want to be doctor, they should go to medical school. Then they will realize it is not a child play to be a doctor"*. In the same direction, another participant added *"I am yet to know what the social workers are employed to do because their purpose in the hospital environment is not certain. It is difficult to pinpoint one particular thing that they are doing"*.

Theme 2: Observed identified roles/services of hospital social worker

The participant specifically identified three major roles/services they have experienced social workers in the University of Benin Teaching Hospital environment perform or carried out. These are solicited for fund, clean and feed service users that are critically ill while the relatives are not available and lastly run errands for services users. The participants highlighted that the social workers become the last resort for service users and their families who are unable to meet up with the financial demand of their healthcare. The social workers provide financial support for indigent, abandoned, abused and discriminated against service users for their medication and toiletries. For the indigent and discriminated against service users, the social workers are usually responsible for their feeding and clothing needs. Sometimes they are responsible for the transportation of indigent service users to access services and facilities that are unenviable in the hospital at the time of need. In addition, the frontline medical staff reported that from the funds solicited by social workers are used to subsidize the cost of medication and follow-up of indigent, abandoned, abused and discriminated against outpatient care. Furthermore, the frontline medical staff highlighted that *"social workers help maintain the personal hygiene of critically ill service users and they also function as support staff in the various wards to feed service users that are unable to do so independently"*. Another participant affirms that social workers help the nurses to change service users pampers. Beside the derogatory role that the social workers assume in the spirit of empathy, the frontline medical staff also attributes their role in the hospital environment as errands staff. They pointed that social workers are known for helping service users to get food, medication and other items needed by them from within and outside the hospital environment.

Theme 3: Contribution to the effectiveness of the medical team

Following the request to share their thought regarding the impact of the hospital social workers towards enhancing the effectiveness of the medical team, majority of them purported that social workers have no significant impact or contribution to the effective of the medical team. They highlighted that social workers lack necessary medical training to make any meaningful impact in the medical team. The participants emphasized that the social workers are more administrative oriented. Contrary this view, another participants responded that one crucial way that the hospital social workers has enhance the effectiveness of the medical team are the aftercare follow-up they provide to the vulnerable service users and stated thus: *"the doctors and nurses are overwhelm with the demanding needs of patients in the hospital and that they do not have the time know what happen to their patients by the time they are out of the hospital particularly to the vulnerable once. The social workers have helped greatly to bridge that vacuum and they have been very effective in that regard"*. One consultant concurs asserting that the *"counseling services that the social workers provide to patients particularly at a time when they are diagnosed of awful medical conditions (such as HIV, cancer etc.) are remarkable. The social workers with their empathy skills are able to help the patients and their families cope with the condition perceive as a hopeless. Truly social workers give hope to the hopeless"*. In conclusion, the participants (particularly those at the senior level position) pointed out that people believe hospital social workers have no significant impact on the effectiveness of the medical team because of the organization and operation of hospital in developing countries particularly in Nigeria. They also highlighted that this believe is based on the fact that social work as a profession is still an emerging profession in the Nigeria society.

6. Discussion

The findings from the interview in theme 1 concerning hospital social workers in the eyes of the frontline medical staff suggest that the frontline medical staff in University of Benin Teaching Hospital view hospital social workers as a bridge between the hospital and service users corroborates with the findings of (Craig et al. 2015; Cleak & Turczynski, 2014; Soderberg, 2018 and Harrison, O'Malia & Napier, 2019). Uncertain about the identity and roles of social workers in the hospital environment affirm the findings of the (Steils, Moriarty & Manthorpe, 2021) and also as professionals whose focus is on addressing the social conditions that affects health was well documented in the existing professional literature (Fuller, 2017; Sun, et al., 2023).

Secondly, theme 2 about observed identified roles/services of hospital social worker, the finding highlighting social workers solicit for funds or provide financial support for service users and their families has been equally affirmed by previous studies (Okafor, Onalu, Ene & Okoye, 2017 and Seok, Kwonho & Junpyo, 2019). What is new that this study has reveal and that other literature has not documented as roles played by hospital social workers that may be consider as novel discovery are the responsibilities to clean and feed services users that are critically ill in the absence of the relatives and to run errands for them. These derogatory roles played by social workers in this hospital environment for service users with the heart of service to humanity may be the responsible factor for the poor image of social workers among the frontline medical staff. However, further research needed to be carryout in this regard to validate the findings.

Finally, theme 3 concerning contribution to the effectiveness of the medical team suggest that the hospital social workers help to enhance the effectiveness of the medical team by providing counseling services has been noted in literature (Okafor, et al., 2017 and Seok, Kwonho & Junpyo, 2019). The finding associated with aftercare follow-up has been noted in literature (Okafor, et al., 2017). Another finding that may be taken to be novel discovery is that the frontline medical staff says social workers in the medical team in University of Benin Teaching Hospital have no significant impact or contribution towards the effectiveness of the medical team. This perception reveals from the data gathered that the inadequate knowledge of the importance of hospital social workers among the frontline medical staff is attributed to their level of exposure to global practice and a strong believe in the biomedical model.

7. Conclusion

Health which is not just the absence of disease or infirmity alone but the state of complete physical, mental and social well-being demonstrates that medical conditions are rooted in social condition. To help individuals, families and communities to achieve this state of complete physical, mental and social well-being, social workers who specialized in providing social care and alleviating social consequences that affect health play integral roles in within the healthcare system. The findings of the study suggest that majority of the frontline medical staff of University of Benin Teaching Hospital are uncertain about the purpose, roles and presence of social workers in the hospital environment. Also, the frontline medical staff particularly the doctors is yet to recognize significant impact of hospital social workers in the medical team. Hence, this impairs interdisciplinary collaborative working relationship engender by the biopsychosocial medical model of health.

8. Implication and Recommendations

Hospital social workers are professional in providing social care with a long history of working within hospital and related healthcare system. Their expertise encompasses a wild range of patient and family engagement, social diagnosis, case assessment, care planning, discharge planning, behavioural health and system navigation. Social workers diagnose and address multiple consequences that contribute to health and well-being. The findings of the study suggest that majority of the roles compile by social workers in UBTH that they perform are not noticeable by the frontline medical staff. This may be attributed to factors such as organization, operations and culture of the hospital setting which make the roles of the frontline medical staff more obvious and important than social work roles, composition of hospital social workers team, poor understanding of their position and function within the hospital and also failure on the part of hospital social workers to be professional in their dealings with services users and their family and with frontline medical staff. The responses of the participant suggest that the hospital social workers are sometime sympathizing rather than empathy. Furthermore, the composition which include Sociologist, Public Administrators and other professionals is a matter of critical concern that need urgent attention by the core social workers and management of the hospital social workers for the biopsychosocial model of health to address adequately. Against this backdrop, it is obvious that the biopsychosocial model of health has not been fully embrace in University of Benin Teaching Hospital. In response to the findings of this study, the following suggestions are offered to medical staff and hospital social workers in Nigeria to correct the wrong perception of frontline medical staff and to create awareness about the roles and essence of social workers in the hospital environment.

It is time for the frontline medical staff in Nigeria to realize that the biomedical model of health has become inadequate to achieve a state of complete for people. This is so because majority of biomedical conditions of ill health are the aftermath of dysfunctional social and psychological conditions. Therefore, biopsychosocial model of healthcare is design to enhance the quality of health of service users and frontline medical staff should embrace a collaborative working team and not perceive the hospital social workers as their rivals.

Hospital social workers in University of Benin Teaching Hospital are professional responsible by their conduct and roles which is a major determine factor that create their identity and how they are perceived among the frontline medical staff. Social workers are to empathize and not to sympathize. They should not because of sympathy to perform role outside their scope which in turn result to underestimate their professional role and relevance in the hospital environment. Hence, hospital social workers should be professional in their approach to work and service users to avoid their relevance relegated to the background.

Social workers in the hospital setting should include in their quarterly or yearly work plan to organize symposium to create enlighten and correct the myth the frontline medical staff may be holding about hospital social worker. Also, hospital social workers should make conscious effort to address psychosocial issues affect medical condition of service users in order to make an indelible impact in the medical team and not just to be part of the medical team to fulfill all righteousness.

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Comparative Analysis of Ritual in World Religions

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Abstract. This essay examines the comparative analysis of ritual in world religions such as Christianity, Islam, Judaism and African traditional religion. Ritual is one essential element that cut across religions. Ritual like symbol, vary from one religion to another. In Christianity. Eucharist or Sacrament believed to be prominent is the re-enactment of the last supper Jesus had with His disciples before His arrest and crucifixion. In Islam, it is the *Hajj*, believed to be one of the most important rites Moslem pilgrims undertake in Mecca. In Judaism, it is the feast of Passover, also known as the feast of freedom; which symbolically reminds the Jewish people of how God delivered them from slavery in Egypt. Remarkable things about ritual in all these religions is that it is believed not only to be real but also make sense to the adherents of these religions. But of paramount importance of it all is that it creates an avenue for communion and communication between the adherents and the object of worship on one hand and among the worshippers on the other hand. The study relied more on secondary sources (published-materials). The study adopts phenomenological approach to describe and interpret the rituals relating to these religions. Findings reveal that ritual has helped to promote religious and social solidarity; enhance the integration of Christianity, Islam and Judaism respectively.

Keywords: Religion, Ritual, Christianity, Islam and Judaism

1. Introduction

Ritual represents an important element in all religions of mankind. Through ritual, religion lives and grows and phases out when ritual is abandoned. One noticeable hallmark about ritual is its multiplicity of meaning; meaning that only those who practices and belong to that worshipping community knows the value and meaning. For instance, ritual celebration of "*Hajj*" as done by the Muslims makes more sense to them than other religious groups vise-a-vis. Since religious expressions deals with two realms at the same time, the physical visible realm and the spiritual invisible realm, here, ritual creates an avenue through which worshippers participate simultaneously in both realms (Arnold, 2000, p. 31).

The aim of this essay, therefore, is to examine the forms of ritual elements in Christianity, Islam and Judaism, though comparatively.

2. Conceptual Clarification

2.1 Religion

Religion is a complex word and very hard to define satisfactory. This explains why scholars have not agreed on any definition. In any case, the examination of some definitions proffered by scholars will enable us have a glimpse of what religion is all about. Eliade (2010) defined it as 'as a unified system of beliefs and practices which unite into one single moral community called a church, ultimate non material fact and has a dynamo-genic quality, (p.35). Deton (2006) defines religion as a fixed relationship between the human and non-human entities, the sacred, the supernatural, the self-existent, the absolute or simply, Good (P.54). Okwueze (2003) defines it 'as a regulated pattern of life of a people in which experience, beliefs and knowledge are reflected in man's conception of himself in relation to others, his social world, the physical as well as the metaphysical world (p.3). Ugwu (1999) defined religion as faith and practices involving the relationship between mankind and what is regarded as sacred. According to him, religion generally includes the belief in the supernatural and a code of ethical behaviour; the outward act or form by which men indicate their recognition of the existence of God or of gods having power over their destiny, to whom obedience, service and honour are due; the feeling or expression of human love, fear or awe of some super human and over-ruling power, whether by profession of belief, by observances of rites and ceremonies or by the conduct of life" (p.2). Alfred (1960) defines it as 'the art and the theory of the internal life of man, so far as it depends on the man himself and on what is permanent in the nature of things' furthermore, he defines religion as what an individual does with his solitariness (p.15). William James (1960) defines religion as 'the feelings, act and experiences of individual in their solitude, so far as they apprehend themselves to stand in relation to whatever they consider the divine' (p.50).

Radcliff Brown (1973) opines 'any religion normally involves certain ideas or beliefs on the one hand, and on the other certain observances; these observances may be positive or negative. However, in substance, religion involves a pattern of behaviour or practices based on common beliefs patterns (p.1). for Emile Durkheim (1947), religion is a unified system of beliefs and practices relative to scared things, that is to say, to things set apart and forbidden, beliefs and practices which unite into a single moral community all those who adhere to them (p.37). According to A.C. Boughet (1954) religion cannot wisely or safely be ignored or neglected as it is by frivolous persons today. Even a selective or obsolete scheme of religion will serve the individual better than none at all. This is why so many old-fashioned persons possess, in spite of their defective views on some topics, a wholesome and completeness of character, which is absent in young ultra-moderns (p.154). For Anyacho (1994) religion is a belief in or worship of God or gods or a particular system of belief or worship. He further defines it as the human enterprise by which a sacred cosmos is established, a cosmization in a sacred mode; a quality of mysterious and awesome power than man and not related to him, which is believed to reside in certain objects of experience (p.28). For Madu (1996) religion can be defined subjectively and objectively. Subjectively, religion for him, is the very consciousness of dependence on a transcendent being and the very propensity or inclination to exhibit cult or worship. Objectively, religion according to him is a complex of truths, law and rites by which man is subordinated to the transcendent being (p.19). Idowu (1973) defines religion as the serious and social attitude of individuals or communities toward the powers of power which they receive as having ultimate control over their interest and destinations (p.72). For Max Muller, religion is a perception of the infinite (in Idowu, 1973, p.70). Immanuel Kant describes religion as the recognition of our duties as divine commands. For him, religion is the belief which sets what is essential in all adoration of God in human morality (in Tasie, 2012, pp. 3 – 4). Religion is the law in us, in so far as it obtains emphasis from a giver and judge over us, it is morality, directed to the recognition of God (Idowu, 1973, pp. 70 -71).The most overriding interest in all these definitions as Omoregbe (1999) has pointed out show that through religion a link is established between God and man (p.3).

3. Features World's Religions

The world religions in spite of their divergent views still have some features that cut across all of them. Such features include the following:

3.1 The Sacred

In most religions, a distinction is made between the sacred or holy and the profane or ordinary states. Well developed religions usually have sacred writings, such as the Bible and the Koran. Islam has its holy cities especially Mecca (*Kaaba* – the sacred stone) while the cow is sacred to Hindus. Every religion has sacred objects usually kept in well designated places for the worshippers to see and or make use of. The Holy of Holies in the temple of Jerusalem is a telling example of a place where the laity do not enter but is reserved only for the clergy.
Certain persons are equally considered holy, such as Mohammed for Moslems, Jesus for Christians, Buddha for the Buddhists, *Dibia* (medicine men) for the African traditionalists, etc.

3.2 Belief in the Existence of the Supernatural

Every religion has profound belief in God or gods or some supernatural power. Most primitive men believe that certain natural objects such as mountains or trees have souls or spirits. Such religions are referred to as animism or naturism. The Greeks, Romans and other ancient kingdoms had many gods (Polytheism); Jews, Christians and Moslems believe in one God which is a belief called Monotheism. Members of these religions also believe in a personal God who has the same peculiar qualities. In most oriental religions, the Supreme Reality is regarded as impersonal.

3.3 The Soul

Most religions involve the belief that every person has a spiritual entity called soul. In modern religions, the soul is generally regarded as the vital or essential principle of human personality (spiritual double).

3.4 Belief in an After-Life

A handsome number of world religions include in their belief system that a person's soul lives on spiritually after the body dies. In some religions, such as Hinduism, it is believed that when a person dies his soul becomes reborn or is reincarnated in another person or living object.

3.5 Salvation

In nearly every religion, there is the belief that man must be saved from something (hell or heaven for examples). This pronounces loudly the eschatological perspective from which these religions view life in the here and hereafter concepts. Christianity has the concept of salvation from sin being an act that ultimately produces separation from God.

3.6 Worship

This refers to adoration and reverence for God. Through worship, ma n acknowledges his dependence on God and seeks to do His will or on a lower level he tries to win God's favour, People of various religions do this in many ways such as by prayer, sacrifice, and incantation, use of incense, chants and rituals.

3.7 Priesthood

In the early stage of religion, there was no separate priestly class. Then, kings and heads of clans and families were known to carry out sacrifices and other sacred activities. Later, a special class of priests developed to take charge of worship services.

3.8 Pilgrimage

The idea of moving from profane to holy or sacred places as a fulfillment of religious obligation or for the acquisition of salvation is very prevalent among the world religions. They perform this religious ritual once a year or as time or occasion demands (Ugwu, 1999, pp. 4 – 6).

4. Christianity

Christianity which began in Palestine is traceable to the person and activities of Jesus of Nazareth. Despite this, no one can ascertain the exact date which Christianity began. Although, the spectacular visit of the Holy Spirit to the Apostles is believed to be the official date for the beginning of the Church or Christianity. Be that as it may, one can rightly say that Christianity gradually comes into limelight out of the person and work of Jesus Christ. Through the ages, Christianity has through the work of Jesus Christ and that of His disciples expands and become a universal witness with overwhelming number of adherents among the known world religions. Although, there is elements of Judaism in Christianity in the sense that the form and indeed laid the foundation for the speed up of Christianity. Affirming this Ekwunife (1995) assert:

"The prophetic good shepherd came not to abolish the laws but rather, to bring them to perfection" (P. 25).

The laws refer to here are the Jewish laws and traditions which Christ did not abrogate but rather put them right. Today, Christianity which gradually began in Palestine through the person and activities of Jesus of Nazareth has become the largest known world religion (Intonia, 2002, p.35).

4.1 Basic doctrines and Practices

4.1.1 Belief in God

Christians believe that there is one God who is the creator and the controller of the whole universe. They believe that He is not only the creator of the whole universe "created owner", but also created man in His own image" in order for man to do His will". Therefore, the belief in God the father Almighty, the maker of heaven and earth, is a belief, which the Christians hold tenaciously to justify the belief in the all-powerful nature of God who is beyond human imagination. Thus, they strongly believe in the universal fatherhood of God who made man the centre of His creations (Pecka, 1997, p.52). Summarizing the Christians doctrines about God Anyacho *(*1995*)* further states that they believe in:

The personality of God, God as the creator, God is the Lord of history and God as Judge. The Old Testament presents God as a person and as speaking like a person to Moses. He is often described with some human attributes of goodness, wisdom, mercy, grace, love and kindness, in addition to the attributes of holiness and righteousness, which are His exclusive attributes. As the creator, Christians view God as having omnipotent power, which enables Him to fashion whatever He decides to create based on some principles and laws known only to Him. As the lord of history, God selects for Himself a special people, covenant community whichh has a mission of passing the knowledge of God to other nations. The Jews as being solely meant for them through the covenant with their fathers originally conceived elective process. But Christians now see themselves as the new covenant community, which is commissioned to teach other people about God (pp.184 — 85).

4.1.2 Belief in Jesus Christ

Christians see Jesus Christ as the centre of Christianity. Christians believe strongly that Jesus is the "Son of God" and by extension their "Lord and Savior" one major declaration in the Apostles' Creed is the belief in Jesus Christ, the only begotten Son of God who was conceived by the Holy Spirit and born by Virgin Mary. So, Christians believe that it was for the salvation of mankind that Jesus Christ came down from heaven after taking the human form and born in the human way. The New Testament accounts in point plank state the nature of His birth, life, death, resurrection and ascension and His subsequent return to earth in a rapturous dispatch. The New Testament accounts of the pre-existence of Christ, its description of Jesus as the Logos or the light giving word of 3od, is responsible for the Christians belief in the divinity of Christ. Thus, they believe that Christ was both divine and human; the symbol of the fulfillment of the promise of the Messiah. They see Jesus as the son of man who is the herald of the kingdom of God; the symbol and the very manifestation of that kingdom. For the Christians, He is the Saviour who after completing the work of salvation (consummated in his death and resurrection), ascended to sit at the right hand of God from there He is expected to come back to take the Christians saints away and thereafter usher in the Kingdom of God (Anyacho, 1994, p. 186)

4.1.3 Belief in the Holy Spirit

Christians strongly believe in the Holy Spirit as a true creative element in the life of the church. The existence of this being according to the Bible started in the period "in the beginning "when the world was without "form and void. The prophecy of Joel (Joel 2:28) contains a promise of out pouring of the Holy Spirit to the people of God. In the New Testament, John's gospel declares that Jesus promises the gift of Holy Spirit as the comforter who after His departure, will guide the church in recalling and interpreting the words of Christ and through which the eternal presence of Christ in the church will be manifested (John 14; 16,25-26). Significantly, the Day of Pentecost was regarded as that special day when the comforter promised eventually came; speaking in tongues and other languages were the prove (Ituma, 2001, p.127). Also, the accounts in Matthew and Luke's Gospel also present the Holy Spirit as the first to declare the Sonship of Christ to God in the statement ascribed to the Holy Spirit during Jesus 'baptism in River Jordan. Here, God presented Him as His beloved son "this is my beloved son, with whom I am well pleased "(Matt 3: 17; Lk 3: 22). As earlier noted, It is the same spirit that "poured "on the disciples on the day of Pentecost (Acts 1: 8) in order to endure the church with power and boldness, fulfill the Prophesy in Joel (2: 28,), and the promise of the father" which Jesus asked the disciples to wait for (Acts 14).

Christians therefore believe that the Holy Spirit has a significant role to put in their mission to the World. For them, it is a power giving Spirit, and energizer, who is in dispensable in the propagation of the gospel. They believe that the Holy Spirit is the third person in the Trinity. The Trinitarian doctrine emphasizes that God vea1ed Himself to mankind in a threefold figure God the Father, God the Son, and God, the Holy Spirit (p. 187). Also, the Holy Spirit has been referred to in the Bible as the counselor, Teacher, Helper and Comforter, Thus, going by the teaching of Christianity, the Christian life may not be complete without the presence of the Holy Spirit (Owete and Onu, 2006 p.76).

4.1.4 Belief about the Church

Christians strongly believe that Christ instituted the Church. This for the Christians not only suggests that Christ is the head of the church, but also the one who laid the foundation of the Church. This also explains why St. Paul sees the Church as the "body of Christ" (Colossians 1:18). That is why Christians, irrespective of their denominations, vehemently believe in the divine foundation of the church. Going by this, Christians see themselves as the church, the body of Christ, and elected community charged with the responsibility of spreading the gospel. The implication here is that the church is believed not only to be holy, but also universal; hence its based entry requirement is belief and faith in Jesus Church (P.187).

4.1.5 The Belief in Resurrection and Everlasting life

Christianity teaches that there will be a resurrection of the dead which will precede the final judgment. Christian teaching on physical resurrection is based on the resurrection of Jesus Christ who ascended into heaven and already seated at the right hand of God. Therefore, the resurrection of the dead according to the Christian belief is such that will be determined by the second coming of Jesus Christ. Thereafter, the dead will be raised while the living will be physically transformed before they will join the throne of the resurrection.

Consequently, resurrection of the dead according to the Christian belief not only heralds the final day of judgment of the world, but also a judgment which thereafter, the wicked will be punished with an everlasting torture in hell. Christians use the term heaven and hell to describe places of bliss and torture respectively, made for the righteous and the unrighteous.

Here, heaven is believed to be a place of an unending happiness and joy; which in-turn denote a place of reward for the Christians who have victoriously and righteously lived their lives. While hell on the other hand, is believed to be eternal inheritance of the wicked that failed to live righteously while on earth which in-turn believed to be a place of unquenchable fire, torture and thirsty (P.188).

4.1.6 Belief in Angels

Christianity teaches that there are spiritual beings, called angels. Christians believe that the angels were not only created by God, but also serve as His messengers. Christians believe that the angels not only play a significant role in the life of Jesus but also featured prominently in the life of Jesus. It was one of the angels, by name, Gabriel, that was sent by God to announce to Mary the birth of Jesus, that is, that she would conceive by the power of the Holy Spirit and give birth to a son. The same angel had earlier also been sent to announce to Zachariah that his wife Elizabeth would give birth to John the Baptist, who was the forerunner of Jesus. Also, when Jesus was born an Angel appeared to some shepherds and announced to them the birth of Jesus; here upon several other angels appeared, joined the first one, and they all began to sing and praise God. Thus when King Herod heard about the birth of Jesus and planned to kill him, an angel appeared to Joseph, the child's father, in a dream and told him to take the child and flee into Egypt. After the death of King Herod, the angel again appeared to Joseph and instructed him to go back to the land of Israel with the child since the man who wanted to kill the child was dead.

Consequently, after the temptation of Jesus in the wilderness angels came down, from heaven and worshipped Him. After the death and burial of Jesus, an angel descended from heaven, and rolled back the stone with which the tomb was covered. The same angel told the women who came to the tomb early in the morning that Jesus was no longer in the tomb; but had risen. After His resurrection and subsequent ascension into heaven, as the disciples were gazing into the sky two angels appeared to them and told them that Jesus who had just been taken into heaven and would eventually come back in the same way He went. Earlier, before, the death of Jesus especially when He was arrested in the garden of Gethsemane Jesus spoke of God sending him "legions of angels" to fight for Him if He had wanted to fight. This was when Peter, one of His disciples, cut off one ear of one of those that arrested him, in order to defend Jesus (Matt. *26:47-54)* (Omoregbe, 1999, pp.26 —27).

4.1.7 The Christian Concept of Man

Christianity teaches that man is not only very special to God but also created by God "in His own image and likeness". For, man, as he is conceived in Christianity, is composed of both material and spiritual elements. The material element is his physical body while the spiritual element is the soul. In the teachings of Christianity, the soul is conceived to be more important than the body and this explains why everything humanly possible must be done to ensure its welfare. This, however, further explains why Jesus was quoted as saying "what does it profit a man, if he gains the whole world and loses his soul in the end"? It is as a result of this that Jesus admonished His followers not to fear those who can only kill the body but cannot harm the soul. In the teachings of Christianity, man abinitio was very close to God, enjoyed God's friendship and cordial relationship. But man eventually alienated himself from God when he committed the "original sin" and lost God's friendship and cordial relationship. That is why Christian teachings sees man as morally weak and corrupt, hence every effort is made by man through his son Jesus to restore his intimate and cordial relationship with God in. Despite this, God still love man, cares for him, provides for his daily sustenance, guards and protects man from the snares of the day (Omorogbe, 1999, P. 27).

4.1.8 Christian Ethics

Christians' ethics are based on three strong pillars namely the teaching of Jesus Christ (the Gospel) the letters of Paul, (the epistles) but the most central was the Law of Moses, which was summarized in the Ten commandments. The Ten Commandments as enshrined in Exodus 20 and Deuteronomy 5:1 —21 can be summarized as:

- I am the Lord thy God, do not have any other gods beside me.
- You shall not call the name of the Lord thy God in vain
- Keep the Sabbath day holy
- Honour your father and your mother
- Do not kill
- Do not commit adultery
- Do not steal

- Do not bear false witness against your neighbour
- Do not convert your neighbour's wife
- Do not convert your neighbour's goods (Olatona, 1977, p.27). More importantly, these are intended to guide man in his relationship with God on one hand and between man and his fellow man on the other hand (Obasiyi, 1971, P.23).

5. Islam

It is one of the world's great religions founded in the 7th century A.D Mohammed. The word Islam means submission (to the will of God). Followers of Islam are called Moslems or Muslims, terms that means "those who submit (to the will of God)". Islam began in Arabia in the seventh century A.D. That is, it supposedly placed of birth. From here it spread rapidly to other countries such as Northern Africa, Asia, Pakistan, Bangladesh, Malaysia, Indonesia, etc where it is practiced today as the official religion (Ugwu, 1999, pp.11-12).

5.1 Beliefs and Practices

Islamic doctrines can best be understood by referring to her articles of faith and the five pillars. The articles of faith consist of: belief in God; belief in Angels; belief in Books belief in prophets; belief, in last days. The five pillars refer to the practical duties of every Moslem. These are:

Confession of faith in
Allah prayer (Salat)
Almsgiving (Zakat)
Fasting (Swan)
Pilgrimage (Hajj) (Anyacho, 1994, p. 227) Judaism

5.1.1 Belief in Allah

The word "Allah" is used throughout the Islamic world to refer to God. He is believed to be the creator of heaven and earth and all that inhabits them. He is one and indivisible. He is alone and has not begotten anybody neither was He begotten. Islam is an absolute monotheistic religion. It does not believe in other gods but Allah. This belief in the oneness of Allah is contained in the Shahada. It is commonly expressed as Laa: illaha illa Allah" which means; there is no god but God. Allah is very good, compassionate, living and kind. His goodness is expressed in ninety-nine names. Some of these names are:
Ar-Raham (The beneficient)
Ar-Rahim (Merciful)
Malik (Master or Owner (as in Owner of the Judgement day)
Rabb- (Lord)
Al-Khaliq (Creator)
Al-quddus (The Holy One)
As-Salem (The peace)
Al-Chafur (The Forgiving One)
Al-Hakam (The Judge)
Al-Alim (The all knowing)
All these names enhance the worshipper's belief, mediation and faith in the power of the omnipotent God.

5.1.2 Belief in Angels

According to the Islamic tradition angels are invisible, and immortal beings created from light. They can appear in form of man to any messenger or prophet of God as was the case with Abraham, Lot and Mary (*Surah 11:71-80; 19:17-19*). They are heavenly servants of God who surround His throne and worship Him daily with songs and praises. They are sent by God to guard and watch people and record their deeds.

Angel Gabriel (Jibril) played a significant role in the life of the prophet and Islam as a whole. It is the angle of revelation. Gabriel was believed to be the Angel that sent the messages of the Koran to Prophet Mohammed. The same angel went to Mary before she conceived Jesus (*Surah 9:16-22*).

There are other angels among whom are Michael (Mika'l) an angel charged with the responsibility of giving life to mankind, animal, and plants; Israfil, the angel that will blow the trumpet on the day of judgement; Israel, the angel of death, etc. all these Angels exercise powers delegated to them by God, and therefore they are under His supreme control.

5.1.3 Belief in Books

Moslems believe in sacred books. The Koran is the most sacred of these books. It is respected by every Moslem and treated with utmost care. Other sacred books recognized is Islam are the Jewish torah (tawrah) that is the Pentateuch, which was revealed to Moses; the psalm (the Zabor) which was revealed to David; and the Gospels (Injil) which was revealed to Jesus. They believe that the Koram is the last and the final revelation. Islamic doctrines are clearly stated in the Koran. It contains the prophet's revelations which was collected and compiled by his followers after his death. According to Islamic tradition the Koran was originally written on Palm leaves, parchment, stone and shoulder blades before it has a final compilation.

5.1.4 Belief in Prophets

Prophets are human messengers of God who are sent by God to men to direct them. In Islam, many prophets are recognized both those in the Koran and those in the Bible. Each prophet was a messenger (result) who received a special revelation from God for mankind. Among the prophets mentioned in the Koran are Adam. Noah, Lot, Enoch, Abraham, Ishmael, Isaac, Jacob, Joseph Moses, Aaron, David, Solomon, Jonah, Job, Elijah, Elisha, Ezekiel, Zechariah, John, Jesus and Mohammed. Mohammed is believed to be the last prophet, "the seal of the prophets". He is believed to have received the last revelation. Mohammed believed that he came to accomplish the purpose for which other prophets had been sent. He was called to be the *resul* Allah to witness not only about the oneness of God but also to warn people about awaiting judgement for their deeds, and to help in reforming them.

5.1.5 Belief in the Last Day

Moslems believe that there is a final day of judgement in which people will be rewarded for their deeds. The last day of judgement will follow a process of death, resurrection, then judgement before one enters into paradise or hell. The day of judgement will witness a gathering together of souls from every nation before the throne of God the supreme judge. Every person will give account of his life before Him. No one will be capable of helping another on the day. "No soul can help another soul" (*Surah 21:12-33*). After the judgement, the righteous ones will be sent to paradise (al-jannah, the garden) a joyful dwelling place for the righteous, the faithful. The wicked and sinners on the other hand will be sent to hell. ('aljahim, the hot place') a place of suffering and intolerable flames reserved for them as a reward for sin. This last article of faith instills fear in Moslems and makes devout ones conscious of their living on earth (Anyacho, 1994, pp. 227-232).

5.1.6 Judaism

It is the Jewish religion. It is one of the oldest of the great world religions believed to be the mother religion of both Christianity and Islam. Many Old Testament writers would attribute the founder of Judaism to Abraham and Moses. However, Judaism, like most other religions was not founded by one particular person. Here Abraham was rather described as the father of the Hebrew people and Moses as the "Law giver"!
With the destruction of Solomon's temple at Jerusalem in 586 B.C began the scattering of the Hebrew over many Land. From then on, Judaism developed as a religion (Ugwu, 1999 in Rosenthal, 1979, p. 180).

5.2 Basic Beliefs

5.2.1 Belief in God

Judaism is highly monotheistic. To the Jews God is one and indivisible. They therefore believe strongly in the oneness of God. This confession of the oneness of God is expressed in the Shema which is a pronouncement based on Deuteronomy 6:4; Hear, O Israel, the Lord is our God; the Lord is one. This statement highlights the faith of the Jews. They say it as a prayer in the morning, at night and in time of death. The Jews see Yahweh as their God. He is the infinite and personal creator of the whole universe. He is an invisible spirit being who alone should be worshipped. They see themselves as the chosen people; a peculiar people chosen by God to bear witness to Him in all the earth. They also see Yahweh as a just, compassionate, and loving God.

5.2.2 The belief in the sacredness of the name of God

The Jews uphold the divine name of God. The third commandment *Exodus 20:7* warns worshippers not to use the name of God in vain. Similarly, Judaism teaches that God's name is too holy to be pronounced. Thus rather than pronouncing the original name YHWH (Yahweh) or Adonai the Jews prefer to address him as Lord. Irrespective of the fact that God revealed himself to Moses as "I am who I am", the God of Abraham, the God of Isaac and the God of Jacob, (a revelation which shows that He should be addressed with the same that Abraham called Him), the Jews still attached special importance to that name and feel that pronouncing God's personal name is disrespectful.

5.2.3 The belief in Torah

The Torah is made up of the Pentateuch the first five books in the Old Testament namely Genesis, Exodus, Leviticus, Numbers and Deuteronomy. It is the main source of Jewish legislation covering every aspect of social and religious behavior. The Jews believe in the authority of both the written and oral Torah.

They believe that in the encounter between God and Israel at Sinai, God deposited both written and oral Torah. They traditionally believe in the divine source of the Torah. The oral comprises the interpretations of the written Torah, collected in the midrashic literature, nd the commentaries (Gemara) on the Mishna, collected in the Talmud". The Mishnah refers to a collection of commandments based on the interpretations of the law by the Rabbis, called Tannaim (Anyacho, 1994, pp. 202-204).

5.2.4 Ritual

Tasie (2012) defines ritual as all rites connected with a religious ceremony; or ways of conducting a religious ceremony (p.6). The *Watkins* Dictionary of Religions and Secular Faiths (2008) defines ritual as "the prescribed order or method for the performance of rites; whether religious or not (p. 491). According to Encyclopedia of Religion, rituals is a prescribe form of activity determined by consideration of tradition and symbolism (p. 33).
In much the same vein, for Mbiti (1977) ritual is a set form of carrying out a religious action or ceremony (p. 126). Njoku (2003) defines ritual as a repeated symbolic behavior; a way of communication with the divine for the purpose of changing the human situation (p. 39). According to African Encyclopedia for schools and colleges, ritual generally consists of general ceremony which celebrates special events (p. 427). For Madu (1996) through ritual man says something about his inner religious awareness; his visions and beliefs about the Cosmos (p. 24).

In the words of Anyacho (1994) rituals feature prominently in the reception of new converts, namely, in baptism, in the ordination and consecration of priests; in marriages, coronation of kings, burials, births even in transition programmes from one social status to the other; from one season to the other, in sickness and other areas as may be determined by a particular religion (p. 15). Ritual, indeed, is a paradigm and dramatization of the intent of religion itself; communicates something of religious significance but it also expresses the psych and social world of its participants in what is seen, said and done (Kemdirim, 1997, p.117).

5.3 Types of Ritual

Ritual may be classified under:

- Piacular ritual
- Non-periodic ritual and,
- Calendrical ritual

Piacular rituals are performed in situation of danger often thought of as being brought about by some fault and in them ideas of propitiation and expiation are prominent. Non-periodic ritual is concerned with life crises. It has to do with change in social status; such change of status may be at marriage, birth, puberty and at death. Calendrical ritual is performed at a fixed period known to be believing community. Examples include annual ritual, which renacts the stories of faith. Such rituals include the Christian Eucharist, Muslim *Hajj* and Jewish Passover festival (James, 1998, p. 78).

5.4 Ritual in Christianity

The Eucharist or sacrament is one of the most important rites performed in Christianity. It is a celebration of the Unity of the Church in Christ and the remembrance of His passion, death and resurrection. The Eucharist is referred to as the Holy Communion or Last Supper by the protestant churches. The Roman Catholic Church calls it Eucharist or Mass. The Last Supper celebration in the Christian Churches is the re-enactment of the Last Supper Jesus had with his disciples before his arrest and crucifixion. The celebration of this followed the instruction of Jesus Christ at the Last Supper when he said "This is my body which is given for you. Do this in remembrance of me. Bread and wine are used for the celebration of the Holy Communion or Eucharist. And after their consecration by the celebrating priest, they symbolically become for the Christian the body and blood of Jesus Christ respectively. However; the protestant churches use grape Juice instead of wine. Whereas, the Roman Catholics administer only consecrated bread, in the Anglican Church, the Chalice is used for every communicant in general. In this rite, the sacramental bread is deeped into the consecrated wine and given to the communicants. The observance of this rite is very important to Christians because of its significance. It reminds them of the passion, death and resurrection of Christ.

5.5 Ritual in Islam

Islam enjoins every true adult Muslim to undertake a pilgrimage to the sacred mosque in Mecca as a ritual obligation. According to the Quran, the mosque in Mecca was built by Abraham and his son Ishmael, following God's instruction that they should make a place of worship and visit for mankind. Ten religious rites are performed in Mecca by the pilgrims. They include *Ihram*, wearing the pilgrim garment, *Tawaf*, going round the *Kaba*, short prayer at the Magam Ibrahim. *Say*, running between the two hills of *Safa* and *Marwah*; the visit to the village of Mina to spend the night. The visit to the village of Arafat on the 9th day to stay up to sunset; the return of the pilgrim from Arafat and a one-hour halt at *Muzdalifah* before proceeding to the valley of Mina; the *ED* day, the day of sacrifice at the valley of Mina, the throwing of stones at the devil known as *Ramjah* (Offiong, 2005, p. 94).

It is important to note that on the Last day of the *Hajj* the pilgrims are required to throw stones at fixed places called *Iamrah*. Seven stones must be thrown at each *Iamrah* and the *Takbir* (*Allah Akbar*) recited. The rite of throwing of stones on Last day of the *Hajj* is very significant. The throwing of stones re-enacts the action of prophet Mohammed. It is believed that the prophet threw at each of the *Jamrah*, and then moved a little further, stood for a little time with his hands raised for prayer while facing the *Qiblah*, He finally departed after throwing stones at the Last *Jamrah*. The throwing of stones reminds the Muslims of the temptations of the evil one. The re-enactment of prophet Mohammed actions on the last day of the *Hajj* preserves the historical past of Islam in this respect.

5.6 Ritual in Judaism

Passover is one of the many festivals celebrated in Judaism. The festival is celebrated annually and lasts for eight days. Passover is sometimes referred to as the "feast of freedom" or the "feast of unleavened bread. The festival reminds the Jewish people of how God delivered them from slavery in Egypt. Passover recalls how God Passover the house of the children of Israel when the first born of the Egyptians were killed because Pharaoh refused to let the Israelites go out of Egypt. The reference to the Passover as feast of the unleavened Bread is very significant to the Israelites. It reminds them of how they had to eat flat and thin unleavened cake called *Matzath* or "bread of the affliction" in the wilderness. The Passover is also celebrated as an agricultural festival Home service or sender, which illustrates the symbols and purposes of the Passover, is also observed. The festival is observed "in the winter season of the month of ripeness" of sown barley. Half a gallon of barley is offered on the second day of the festival. Again, the Passover synagogue service is also held. The synagogue, services consist of public reading from the scripture of events about the Passover and its influence passages read include account of the first Passover celebration in Egypt and the Exodus, the cross of the red Sea, and the first Passover observed by them in Palestine

6. Significance and Function of Rituals: Eucharist, *Hajj*, and the Passover Ritual

The Christian Eucharist, Islamic *Hajj* and Jewish Passover are calendrical rituals observed at a fixed period. Christian Eucharist is observed twice a month in many Orthodox churches whereas, the Jewish Passover and the Islamic *Hajj* are observed once a year. These religious rituals play significant role in the continuation of these three religions. The Eucharist, *Hajj* and Passover symbolically bring past events to reality by offering the participants opportunity to initiate their divine models (Offiong, 2005, p. 94). In Christianity, the last supper which was taken by Christ with his disciples is re-enacted in the Eucharist. The rite of throwing stones at specific point during the *Hajj* is in imitation of the actions of the prophet. The celebration of the Passover festival recounts how God de-livered the Israelites from slavery in Egypt. Christianity, Islam and Judaism base their ritual in liturgical season. Thus, they tend to hold a Linear view of history and repeat rituals as the historical events of the community are retold and re-enacted.

Ritual in the three religions discussed here help to repeat and reaffirm the sacred origin of the liturgies. Furthermore, it recalls and preserves past events as well as transmits the foundation of their beliefs. The observance of Eucharist, *Hajj* and the Passover help to promote religious and social solidarity as well as enhance the integration of Christianity, Islam and Judaism respectively.

7. Conclusion

The study so far highlights the significance and functions of ritual in Christianity, Islam and Judaism. It shows that the three religious traditions observe Calendrical and historical-liturgical ritual. Thus, they repeat events in the life of these religious traditions. By the performance of the Christian Eucharist, the Muslim *Hajj*, the Jewish Passover, the adherents of these religions partake in the divine sacred past. Although ritual behavior is sometimes motivated by the desire to obtain some practical benefits and satisfaction, such as health, fertility, change of status and general welfare, the three rituals discussed here re-enact their history. The celebration of the Christian Eucharist, Muslim *Hajj* and the Jewish Passover brings the people together as larger groups. This in turn has the effect of strengthening their unity and cohesion. Thus, ritual is more than the expression of man's dependence on the supernatural world. It signifies the reinforcement of social solidarity. Above all, the participants re-enact their relationship to their sacred objects and beliefs.

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Colossians 1:18
Deuteronomy 5:1-21
Exodus 20
John 14:16-26
Joel 2:28
Luke 3:22
Matthew 26:47-54

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GIG Work and Career Intention among University Students

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Abstract. The rapid rise of the gig economy driven by digital platforms and technological innovation has greatly altered traditional employment patterns. This study investigated the relationship between gig work and career intention among university students in Nigeria. The variables of interest are inclusiveness, flexibility, and job autonomy. A cross-sectional survey design was employed with data collected from 355 students at the Western Delta University, Oghara, Delta State and University of Benin, Benin City, Edo State who actively engaged in gig work. Descriptive and inferential statistical analyses such as correlation and multivariate regression were used to analyse the data collected using SPSS 24 software. The findings revealed that inclusiveness, flexibility, and job autonomy have a positive and significant impact on students' career intentions. Flexibility is the most significant predictor, followed by job autonomy and inclusiveness. The study recommends that policymakers and educational institutions should collaborate to enhance digital infrastructure and digital skills training for university students to promote a more equitable access to gig opportunities.

Keywords: Career intention, Flexibility, Gig economy, Inclusiveness, Job autonomy.

1. Introduction

The gig economy is characterised by flexible and temporary work arrangements which is facilitated primarily through digital platforms. It has emerged as a transformative force in contemporary labour markets globally. The rapid expansion of gig work has attracted considerable academic and policy interest due to its potential to reshape traditional employment patterns and influence career trajectories. The growth of gig work in Nigeria is propelled by widespread smartphone adoption, improved internet accessibility, and a growing population of digitally literate youth (Ogundare & Omotosho, 2024). The flexibility, inclusiveness, and emphasis on job autonomy intrinsic to gig work provide distinctive opportunities and challenges for university students as they navigate their evolving career pathways.

University students represent a unique demographic that faces increasing economic pressures amid rising tuition fees and limited availability of conventional entry-level employment. In response, many Nigerian students are turning to gig work to supplement their income, acquire professional skills, and boost their employability prospects (Adewolu, 2024). Gig economy provides a platform for students to explore diverse career options and accumulate varied work experiences capable of shaping their career intentions. These intentions are influenced by several factors including the flexibility of work arrangements, inclusiveness in access to opportunities, and the degree of job autonomy experienced in gig roles (Mousa *et al.,* 2023).

Inclusiveness in gig work highlights the significance of ensuring equitable access to work opportunities, regardless of gender, socioeconomic status, or geographic location. Gig platforms frequently promote diversity by enabling individuals to participate based on skills and qualifications rather than traditional employment prerequisites such as prior experience or physical presence (Mousa *et al.,* 2023). Inclusiveness aligns with the aspirations of many university students who seek employment opportunities that acknowledge and leverage their unique talents and potential.

Flexibility is a defining feature of gig work that permits individuals considerable control over their working hours, locations, and the projects they undertake. For university students, such flexibility is particularly advantageous as it allows them to effectively balance academic commitments alongside income-generating activities (Kamanzi & Neema-Abooki, 2018). Additionally, job autonomy plays a crucial role in shaping the gig work experience. High levels of job autonomy enable students to self-manage their engagements, choose assignments that align with their interests and skills, and foster a sense of ownership and motivation. Autonomy could contribute positively to students' work satisfaction as well as influence their inclination to pursue gig work as a viable career pathway.

Despite its advantages, gig work presents notable challenges. Some of these challenges include concerns surrounding job security, irregular income streams, and insufficient access to social protection schemes (Adewolu, 2024). Moreover, the influence of gig work on the career intentions of Nigerian university students remains insufficiently explored. While some research highlights the positive effects of gig work on skill acquisition and career preparedness (Hartman & Karriker, 2021), other studies caution that the precarious and informal nature of gig employment may deter students from considering it a sustainable long-term career option (McDonough, 2021; Sangeetha, 2025).

1.1 Statement of the Problem

The rapid expansion of the gig economy in Nigeria, alongside the increasing participation of university students, calls for a comprehensive understanding of its implications on career intentions. Although gig work is often advocated for its flexibility and inclusiveness, the reality faced by many participants especially students is more complex. University students frequently encounter challenges such as unstable income, the absence of formal contracts and limited access to social security benefits within the gig economy. These challenges raise critical questions about the sustainability of gig work as a long-term career option (Opesade, 2024).

Inclusiveness is a fundamental but contested feature of the gig economy. While gig platforms ostensibly provide equal access to opportunities, persistent inequalities continue to affect students from disadvantaged socioeconomic backgrounds. Issues such as discriminatory recruitment practices, insufficient support systems for female gig workers, and the digital divide exacerbate these disparities (Rani *et al.,* 2022). A thorough understanding of how inclusiveness is perceived and experienced by university students is essential for evaluating the broader influence of gig work on their career aspirations. Also, flexibility in gig work is frequently highlighted as a key advantage that enables students to balance academic and personal responsibilities alongside income-generating activities. However, the unpredictable nature of gig work characterised by fluctuating demand and irregular remuneration erodes the financial stability necessary for effective career planning. Moreover, the lack of clearly defined career progression pathways within the gig economy may discourage students from considering gig work as a viable long-term career pursuit (Myhill et al., 2023).

Job autonomy also plays a critical role in shaping the gig work experience and the career intentions of university students. The degree of control students have over their work such as their ability to select tasks, set schedules, and determine workload, influences their engagement and satisfaction with gig work. However, limited autonomy caused by platform restrictions, client demands, or algorithmic management can diminish the attractiveness of gig work as a career choice. For many students, the extent to which they can exercise job autonomy affects their immediate work satisfaction and their willingness to pursue gig work in the future (Cropanzano et al., 2023).

The dynamic interaction between inclusiveness, flexibility, and job autonomy has far-reaching implications for the career intentions of university students engaged in the gig economy. Although existing studies underscore the potential benefits of gig work in terms of skill development and financial independence (Pichault & McKeown, 2019), there remains a paucity of empirical evidence concerning how these benefits translate into enduring career intentions among Nigerian students. This gap necessitates focused research to explore the factors influencing students' perceptions of gig work and their subsequent career aspirations. Filling this gap is salient in the Nigerian context where youth unemployment persists as a critical socio-economic challenge, and the gig economy is increasingly regarded as a promising avenue for employment (Ogundare & Omotosho, 2024). Empirical evidence into how inclusiveness, flexibility, and job autonomy affect career intentions can guide in making policy interventions designed to optimise the gig economy's role in youth employment and career development. Therefore, this study investigated the relationship between gig work and career intention among university students in Nigeria by focusing on three key dimensions: inclusiveness, flexibility, and job autonomy.

2. Theoretical Framework and Review of Extant Literature

The Technology Acceptance Model (TAM), originally proposed by Davis (1989), serves as a foundational theoretical framework for understanding individuals' acceptance and utilisation of technology. The theory is rooted in the Theory of Reasoned Action (TRA) by Fishbein and Ajzen (1975), TAM posits that two primary perceptions—Perceived Usefulness (PU) and Perceived Ease of Use (PEOU)—determine users' attitudes towards technology, which in turn influence their behavioural intentions and actual usage (Adekunle, et al., 2025). In the context of the gig economy, TAM provides a valuable lens for examining how digital platforms shape students' engagement and future career intentions.

Over time, TAM has evolved to better capture the complexities of technology adoption. TAM2 incorporates social influences and voluntariness which suggests that external factors like peer recommendations and mentorship affect perceptions of usefulness and ease of use. TAM3 further integrates constructs such as trust, perceived risk, and self-efficacy. These factors particularly pertinent in gig work environments where data security and payment reliability are paramount. A more comprehensive framework introduced by Alowayr (2022) called the Unified Theory of Acceptance and Use of Technology (UTAUT) adds dimensions such as performance expectancy, effort expectancy, social influence, and facilitating conditions. These extensions are especially relevant in the Nigerian context, where access to digital infrastructure and cultural norms significantly affect technology adoption.

With regard to career intention, TAM is relevant in providing understanding on how university students view gig work in the context of their long-term professional aspirations. Students who find gig platforms useful for acquiring skills and accessing career opportunities are more likely to consider gig work either as a stepping stone or as a sustainable career path. Conversely, students may abandon platforms perceived as difficult to use or inaccessible. External influences also shape career decisions. In societies like Nigeria, where traditional career paths are often culturally prioritised, support from peers and mentors can validate students' engagement in gig work. Therefore, the extended versions of TAM highlight the importance of social and contextual factors in forming career intentions.

2.1 Career Intention in the Gig Economy

Gig work or economy refers to a type of employment arrangement where individuals, often referred to as gig workers or freelancers, perform specific tasks, projects, or services for various clients or employers on a temporary or per-task basis (Stopforth, 2023). Career intention can be described as an individual's aspirations and planned actions to pursue a specific career path. In the gig economy, career intention among university students is influenced by their perception of gig work as a stepping stone towards traditional employment or as a viable long-term career option. Research indicates that gig work enhances employability by allowing individuals to build practical skills, expand professional networks, and gain exposure to diverse industries (Kost et al., 2020). For Nigerian university students, gig work provides a unique platform to demonstrate competence, establish credibility, and build portfolios in competitive fields such as graphic design, content writing, and software development. Furthermore, students who engage in gig work often develop entrepreneurial mindsets which prepare them for both formal employment and self-employment.

However, gig work also has limitations. The absence of job security, benefits, and career progression opportunities may deter students from considering it as a long-term option (Iyobhebhe *et al.,* 2023). Additionally, cultural expectations in Nigeria, where traditional employment is often viewed as more prestigious, can influence students' career intentions. To address these challenges, institutions and gig platforms must provide structured mentorship programmes and skill development initiatives to guide students in navigating the gig economy strategically.

2.2 Inclusiveness in Gig Work

Inclusiveness is broadly defined as the extent to which gig work environments accommodate diverse individual backgrounds and foster equitable opportunities (Sannon & Cosley, 2022). It has been linked to enhanced perceptions of belonging and motivation among young gig workers. Studies have shown that when students perceive gig platforms as inclusive—where discrimination, harassment, and bias are minimised—they are more likely to develop positive attitudes toward gig work and consider it a

viable career pathway (Mousa et al., 2023; Sannon & Cosley, 2022).
For instance, empirical investigations by Mousa et al. (2023) demonstrate that inclusiveness in gig work significantly enhances students' career intention by creating a supportive atmosphere that respects uniqueness and qualifications. This inclusivity often translates into increased skill acquisition, confidence, and networking opportunities, which collectively enhance career development aspirations. Furthermore, gig platforms that emphasise fairness in recruitment and treatment tend to encourage sustained participation among university students, thus fostering career continuity in the gig economy.
Despite these positive associations, some scholars have critically noted that inclusiveness in gig work is frequently challenged by structural and socio-cultural barriers. Khatun (2024) argues that, although digital platforms purport inclusivity, underlying issues such as algorithmic biases, unclear evaluation metrics, and socio-economic disparities may inadvertently marginalise certain groups. Such systemic exclusions can deter students from committing to gig careers, thereby weakening the presumed relationship between inclusiveness and career intention. Moreover, contextual factors unique to developing countries such as limited digital literacy and infrastructural deficits constrain equitable access to gig opportunities and disproportionately affect students from disadvantaged backgrounds. Based on this discussion, it is hypothesized that:
H_{01}: Inclusiveness in gig work does not significantly influence career intention among university students in Nigeria.

2.3 Flexibility in the Gig Economy

Several empirical investigations have shown that flexibility is a salient motivator for engaging in gig work. For instance, researchers such as Khatun (2024) highlights that the ability to control work hours and balance academic commitments with gig assignments significantly influences participants' willingness to continue participating in gig activities. This flexibility enables students to pursue multiple interests simultaneously and reduce the perceived opportunity cost associated with traditional full-time employment. Additionally, flexibility is often associated with autonomy in task selection and scheduling, factors that are positively linked with students' career intentions towards gig work (Lehdonvirta, 2018).
However, while the positive association between flexibility and career intention is well-documented. Some studies emphasise that flexibility in gig work may sometimes translate into precarious labour conditions such as inconsistent income, lack of social security, and blurred boundaries between work and personal life (Lehdonvirta, 2018). These challenges can weaken the long-term attractiveness of gig work as a career choice despite its flexible nature. Based on this discussion, it is hypothesized that:
H_{02}: Flexibility in gig work does not significantly influence career intention among university students in Nigeria.

2.4 Job Autonomy in the Gig Economy

Job autonomy is defined as the degree of control individuals have over their work tasks and schedules (Kim et al., 2024). It is widely regarded as a critical motivator influencing career-related decisions. Several studies (e.g., Ito et al., 2024; Kim et al., 2024) suggest that increased autonomy inherent in gig work appeals to youths by promoting a sense of independence and self-efficacy, which in turn positively shapes their intention to pursue gig-based careers. These findings align with broader career development theories that emphasise autonomy as a core driver of job satisfaction and professional commitment.

However, some scholars highlight limitations and contradictions in this relationship. For instance, Pathiranage (2024) caution that while autonomy can enhance career intention, the precarious nature of gig work—characterised by income instability and lack of social protection—may undermine long-term career commitment despite high autonomy. Furthermore, the extent to which participants perceive autonomy varies depending on the technological platforms and institutional support available. Based on this discussion, it is hypothesized that:
H_{03}: Job autonomy in gig work does not significantly influence career intention among university students in Nigeria.

3. Methodology

The study employed a cross-sectional survey design to investigate the relationship between gig work and career intention among university students in Nigeria. This design is appropriate as it allowed the researchers to gather data at a single point in time to provide insights into the dynamics of inclusiveness, flexibility, job autonomy, and career intention in the context of gig work. Cross-sectional design was also adopted to provide a robust foundation for data analysis and interpretation.
The target population comprised students of Western Delta University, Oghara, Delta State and University of Benin that are actively engaged in gig work. This group was selected as they represent a growing

demographic of gig workers influenced by technological advancements, economic pressures and career aspirations (Watson et al., 2021). The study focused on students across various disciplines to capture a diverse range of perspectives. A total of 400 respondents (students from the two universities) were selected for data collection. However, 355 valid responses were received and used for data analyses. A convenience sampling approach was used to select students actively engaged in gig work.

The primary instrument for data collection was a structured questionnaire developed based on existing literature and validated scales. The questionnaire comprised two main sections. The first section contains demographic profile such as respondents' gender, age, educational level, and gig work experience. The second section contained items on the different constructs used in the study. They include inclusiveness (to assess aspects of diversity, respect, and equal opportunities in gig work), flexibility (to measure autonomy in scheduling and balancing work-life demands), job autonomy (to measure the degree of control individuals have over their work tasks and schedules), and career intention (to examine respondents' long-term aspirations and alignment with gig work). The second section employed a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) to capture respondents' perceptions and experiences.

To ensure the instrument's validity, the questionnaire was subjected to content and construct validity checks by academic experts in human resource management and data analytics. Pilot testing was conducted with 40 respondents to assess the clarity and comprehensibility of the items. Based on feedback, minor modifications were made to improve item phrasing and structure. The reliability of the instrument was evaluated using Cronbach's alpha coefficient which yielded the following results: Inclusiveness (0.82), Flexibility (0.85), Technology Infrastructure (0.87), and Career Intention (0.83). These values indicate high internal consistency as they exceeded the acceptable threshold of 0.70 (Taber, 2018).

Data collection was conducted over a two-week period using a combination of online and face-to-face distribution methods. The online survey link was sent via WhatsApp to the target respondents while the face-to-face data collection was done with the aid of trained research assistants who distributed and retrieved questionnaires on campuses. Respondents were assured of confidentiality and anonymity to encourage honest and accurate responses. The data collected were analysed using descriptive and inferential statistical techniques. Descriptive statistics such as mean, standard deviation, frequency, and percentage were used to summarise the demographic characteristics and responses to questionnaire items. For inferential analysis, correlation and multivariate regression analysis were employed to examine the relationships between the independent variables (inclusiveness, flexibility, and job autonomy) and the dependent variable (career intention). This method was selected due to its ability to estimate the predictive power of multiple factors simultaneously. The analysis was conducted using Statistical Package for the Social Sciences (SPSS) version 24.

4. Results and Discussions

Out of the 400 copies of questionnaire administered and retrieved from target respondents (undergraduate and postgraduate students from the two universities), 355 copies of the questionnaire were found to be valid which were used for data analyses. The overall response rate is 88.8%.

Description of Respondents Demographic Information

The demographic information of the respondents which include gender, age, years of experience on gig work and hours worked per week on gig-related tasks are presented and discussed in Table 1:

Table 1: Description of respondents' demographic profile

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	185	52.1
	Female	170	47.9
Age	24 years & below	142	40.0
	25 – 29	118	33.2
	30 – 35	57	16.1
	36 – 40	25	7.0
	Above 40 years	13	3.7
Years of Experience on Gig Work	Less than 5 years	236	66.5
	5 – 10 years	95	26.8
	Above 10 years	24	6.8
Hours Worked Per Week on Gig-related Tasks	Less than 10	99	27.9
	10 – 20	137	38.6
	21 – 30	74	20.8
	Above 30	45	12.7

Table 1 shows that a fairly balanced gender representation with 52.1% male and 47.9% female participants. The age profile reveals that the majority (40.0%) are aged 24 years and below, followed by those aged 25–29 (33.2%). A smaller proportion falls within the age ranges of 30–35 (16.1%), 36–40 (7.0%), and above 40 years (3.7%). This shows that most gig workers among the university students are relatively young. In terms of gig work experience, the majority of respondents (66.5%) reported having less than five years of experience, while 26.8% have between five and ten years, and only 6.8% have more than ten years of experience. This indicates a predominantly early-stage engagement in gig work. Regarding time commitment, 38.6% of respondents work between 10 and 20 hours per week on gig-related tasks, followed by 27.9% who work less than 10 hours. A smaller proportion work 21–30 hours (20.8%) and above 30 hours weekly (12.7%).

Table 2: Description of Research Variables

S/N	Statement	Mean	Std. Dev.
Inclusiveness ($\bar{X}$ = 3.56; SD = 0.97)			
INC1	Gig work promotes equal opportunities for individuals regardless of their differences or background	3.84	0.92
INC2	The uniqueness of employees is respected in gig work	3.76	0.88
INC3	Gig workers are recruited and developed based on qualification	3.65	0.95
INC4	Discrimination and harassment are minimal or prohibited in gig work	3.49	1.01
INC5	Gig workers receive the same treatment as in-house employees	3.20	1.07
Flexibility ($\bar{X}$ = 4.03; SD = 0.79)			
FLX1	Gig workers have control over when to work	4.11	0.75
FLX2	Gig work allows me to balance my work and personal life effectively	3.94	0.84
FLX3	I have the freedom to set my own work schedule in my gig work	4.05	0.79
FLX4	Gig work allows me to pursue other interests or responsibilities outside of work	4.00	0.81
FLX5	I can choose the gigs or projects I want to work on	4.07	0.77
Job Autonomy ($\bar{X}$ = 3.68; SD = 0.90)			
JBA1	Gig workers have the freedom to choose working	3.90	0.82
JBA2	Gig workers can choose the tasks I want to take on.	3.52	0.96
JBA3	I have control over how I complete my tasks in my gig work	3.44	0.98
JBA4	Gig work allows me to make independent decisions about my work	3.70	0.85
JBA5	I can choose my work location freely in my gig job	3.83	0.87
Career Intention ($\bar{X}$ = 3.74; SD = 0.89)			
CAI1	I see gig work as a stepping stone to a traditional, full-time career	3.71	0.90
CAI2	I am actively working on building my skills and reputation as a gig worker	3.95	0.83
CAI3	I plan to actively seek out gig work opportunities that align with my long-term career goals	3.88	0.85
CAI4	I actively network within the gig economy to enhance my career prospects	3.62	0.91
CAI5	I intend to pursue a long-term career as a gig worker	3.55	1.00

Table 2 reveals that respondents generally perceive gig work positively across the dimensions of inclusiveness, flexibility, job autonomy, and career intention. Flexibility recorded the highest mean score ($\bar{X}$ = 4.03, SD = 0.79) which indicates strong agreement among respondents that gig work offers considerable control over work schedules and the ability to balance professional and personal responsibilities. Items such as control over working hours ($\bar{X}$ = 4.11) and the freedom to select gigs (M = 4.07) particularly stood out. Inclusiveness was rated moderately high ($\bar{X}$ = 3.56, SD = 0.97) which suggests that respondents believe gig work largely promotes equal opportunities and respects individual differences. However, perceptions were slightly lower regarding equitable treatment with in-house employees (M = 3.20), which may indicate concerns about parity in benefits or recognition.

Job autonomy also showed a moderately high mean ($\bar{X}$ = 3.68, SD = 0.90) with respondents agreeing that gig work allows for task choice and independent decision-making. Notably, freedom in choosing work location ($\bar{X}$ = 3.83) and working hours ($\bar{X}$ = 3.90) were rated more positively than control over task execution ($\bar{X}$ = 3.44), suggesting that while spatial and temporal autonomy are strong, procedural autonomy may be more constrained. Career intention received a favourable mean score ($\bar{X}$= 3.74, SD = 0.89) which suggests that many respondents view gig work as a viable career path. Items such as skill-building for future opportunities ($\bar{X}$ = 3.95) and aligning gig work with long-term goals ($\bar{X}$ = 3.88) were particularly endorsed. However, intention to pursue gig work long-term ($\bar{X}$ = 3.55) was comparatively lower, indicating some uncertainty regarding full-time career commitment in the gig economy.

Model Estimation and Interpretation

The research model was estimated to establish the relationships between the different variables using Pearson correlation coefficients and multiple regression analysis.

Table 3: Pearson correlation coefficients among research variables

Variables	CAI	INC	FLX	JBA
Career Intention (CAI)	1	.512**	.604**	.558**
Inclusiveness (INC)	.512**	1	.486**	.471**
Flexibility (FLX)	.604**	.486**	1	.591**
Job Autonomy (JBA)	.558**	.471**	.591**	1

The results in Table 3 showed that none of the correlation coefficients is up to 0.80 which rules out the presence of serial correlation in the dataset. The results further show that Career Intention (CAI) is positively and significantly related to INC ($r = 0.512$, $p < 0.05$), FLX ($r = 0.604$, $p < 0.05$), and JBA ($r = 0.558$, $p < 0.05$).

Table 4: Estimated relationship between gig work and career intention

Independent Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Decision
	B	Std. Error	Beta			
(Constant)	0.812	0.127	-	6.390	0.000	-
Inclusiveness (INC)	0.208	0.053	0.246	3.920	0.000	Reject H_{01}
Flexibility (FLX)	0.315	0.058	0.324	5.430	0.000	Reject H_{02}
Job Autonomy (JBA)	0.266	0.049	0.301	5.430	0.000	Reject H_{03}
Model Summary Statistics & ANOVA Results						
R = 0.689; R^2 = 0.475; Adj R^2 = 0.470; F-Statistic = 107.86; F-Statistic (Prob) = 0.000; Number of Observation = 355; Dependent Variable: Career Intention (CAI)						

Table 4 shows the results of the influence of Inclusiveness (INC), Flexibility (FLX), and Job Autonomy (JBA) on Career Intention (CAI) among 355 university students. Inclusiveness ($\beta = 0.246$, $p < .001$), Flexibility ($\beta = 0.324$, $p < .001$), and Job Autonomy ($\beta = 0.301$, $p < .001$) each had positive and significant effects on career intention. Flexibility exhibited the strongest influence, followed by Job Autonomy and Inclusiveness. Based on these results, the null hypotheses (H_{01}, H_{02}, H_{03}) were rejected. This implies that inclusiveness, flexibility, and job autonomy significantly predict students' intentions to pursue careers in the gig economy. The model was statistically significant [$F(3,351)=107.86$, $p<.001$] and explained 47.5% of the variance in career intention ($R^2 = 0.475$; Adjusted $R^2 = 0.470$). All three independent variables were significant predictors of career intention.

5. Discussion of Findings

This study found that inclusiveness, flexibility, and job autonomy have a positive and significant relationship with career intention in gig work among university students. Empirical evidence such as that presented by Mousa et al. (2023), demonstrates that when students perceive gig platforms as inclusive (that is, minimising discrimination and valuing unique qualifications), they are more inclined to view gig work as a viable career pathway. This supportive environment encourages skill development, confidence, and professional networking, all of which reinforce career aspirations. Nonetheless, scholars like Khatun (2024) highlight structural and socio-cultural barriers—such as algorithmic biases and socio-economic inequalities that may challenge true inclusiveness, potentially marginalising some students and complicating this positive association.

Flexibility is similarly emphasised as a crucial motivator for students engaged in gig work. The capacity to control work hours and balance academic responsibilities with gig tasks allows students to manage competing demands effectively, thereby increasing their willingness to sustain gig work participation (Khatun, 2024). This flexibility often includes autonomy over task selection and scheduling, factors strongly linked to positive career intentions (Lehdonvirta, 2018). However, the literature also cautions against uncritical enthusiasm for flexibility. Concerns about precarious labour conditions, such as unstable income and lack of social security, may diminish gig work's appeal over time. Moreover, infrastructural challenges and limited digital literacy prevalent in developing countries like Nigeria can reduce the practical benefits of flexibility, moderating its influence on career intention (Adegbite, 2024).

The study found that job autonomy has a positive and significant impact on career intention among university students. Job autonomy is widely recognised as a key driver of career-related decisions. The outcome of this study is supported by the findings of previous studies by Ito et al. (2024) and Kim et al. (2024) who found that autonomy enhances sense of independence and self-efficacy, which positively affects their intention to pursue gig work as a career. Yet, Pathiranage (2024) note that despite the appeal of autonomy, the inherent precarity of gig work, including income instability and lack of social protections, may undermine sustained career commitment.

6. Conclusion and Recommendations

This study demonstrated that inclusiveness, flexibility, and job autonomy each exert a positive and significant influence on career intention towards gig work among university students. The findings suggest that when students perceive gig platforms as equitable and supportive environments, where they can balance academic and personal commitments with meaningful control over their work, they are more likely to view gig work as a viable and attractive career option. These factors collectively contribute to shaping students' aspirations and decisions in navigating the evolving labour market landscape. In conclusion, while gig work presents promising opportunities for university students in Nigeria, a multifaceted approach involving infrastructure development, policy reform, and targeted support is essential to maximise its potential as a sustainable career pathway.

Based on these findings, several recommendations are proposed:

First, policymakers and educational institutions should collaborate to enhance digital infrastructure and digital skills training for university students to promote a more equitable access to gig opportunities. Second, gig platforms should prioritise transparent and fair recruitment practices by actively addressing algorithmic biases and promoting genuinely inclusive environments that respect diversity and reduce discrimination. Third, to sustain student engagement and career development in the gig economy, efforts should be made to improve job security and social protection mechanisms such as creating supportive regulatory frameworks tailored to gig workers.

Furthermore, university career services could incorporate guidance on navigating gig work, helping students leverage its flexibility and autonomy while managing associated risks. Future research should explore longitudinal impacts of gig work on career trajectories, with particular attention to how evolving technological and socio-economic factors shape inclusiveness, flexibility, and autonomy.

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Enhancing Customer's Patronage of Food and Beverage through Environmental Sanitation and Food Hygiene Standard

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Abstract. Poor hygiene practices among food vendors, including those in hotels and restaurants, pose a significant challenge in the hospitality industry. This study critically examines the impact of food hygiene standards, particularly environmental sanitation, on customer patronage in food and beverage establishments. The key objectives are to: analyze the correlation between good environmental hygiene and customer patronage; assess the effect of proper hygiene on restaurant reputation; and determine the impact of hygiene practices on restaurant growth and expansion. The study employs Spearman correlation and the logit binary regression model to analyze the collected data. Findings reveal a strong positive correlation between good environmental hygiene and customer patronage, highlighting that proper hygiene significantly enhances restaurant reputation. Additionally, high hygiene standards contribute to business growth and expansion. Based on these findings, the study recommends that regulatory task forces ensure strict adherence to environmental sanitation and hygiene guidelines within food and beverage establishments. Furthermore, hotel and restaurant management should implement and enforce high hygiene standards to improve reputation, attract more customers, and drive business expansion.

Keywords: Food Hygiene Standard, Environmental Sanitation, Customer's Patronage, Food and Beverage

1. Introduction

A number of Nigerian entrepreneurs in the hospitality and food industry have taken advantage of the increasing demand for local and continental dishes to set up restaurants and related businesses. The proliferation of food joints across the length and breadth of Nigerian communities has raised concerns among experts, especially because of the sanitary conditions under which they prepare and sell food to their patrons. Restaurant operators, local food joints, and wayside food sellers are all critical stakeholders in the food and beverage industry. Sanitation which is "an applied science that incorporates the principles of design, development, implementation, maintenance, restoration, and/or improvement of hygienic practices and conditions", has been a major concern and subject of research interest among experts (Abdussalam & Käferstein, 2020).

Specifically, food hygiene is the major food safety concern when consumers dine out. Several findings have reported that consumers are usually concerned about hygiene practices in restaurant where they eat and will select restaurants that will meet their standard for quality and value (Barro, Bello, Savadogo, Ouattara, IIboudo, & Traoré, 2019). Studies have associated good sanitation practices in preparation and service of food with healthy eating while bad sanitation practices have been linked with food contamination and food-borne diseases (Mensah, Yeboah-Manu, Owusu-Darko, & Ablordey, 2021). Sanitation within and around food joints have been found to be directly associated with customers repurchase intentions (Acho-Chi, 2021). In fact, the study found that cleanliness and sanitation are one of the most important factors in attracting new customers and in keeping the ones a restaurant already have. Poor service orientation sometime contributes to customer's perception of how hygienic or otherwise a restaurant is. A study observed that customers conclude that the food is unhygienic simply because tables are not promptly cleared leaving particles of food on the tables as well as on the floor, sometimes, waiters do not appear professionally and neatly. In fact, food servers in some restaurant sometimes use their hands to handle money given to them by customers and also use the same bare hands to serve food, thus impacting the repurchase intention such customers (Omotayo, & Denloye, 2020).

Studies claim that worldwide, about several millions of people are estimated to have post- consumption food-related illnesses; and among these, 420,000 died annually, in addition to cost of illness that is associated with illness associated with food related diseases in Nigeria estimated at US$3.6 billion per annum (WHO, 2019; Ezirigwe, 2018). Therefore, it is imperative that food handlers along the food production and service value chain pay serious attention to this. Poor food hygiene and safety management starts from the farms where primary production takes place. The quantities of pesticide and other agrochemicals used in the farms are not in agreement with the quantities recommended by Codex Alimentarius Commission, and this results to their residues rising higher than recommended quantities. Majority of food vendors sell along the streets, carrying their food in carts, wheel-barrows or such other carriers like these from one customer to the other (Ezirigwe, 2018; Onyeneho & Hedberg, 2019). Some of the food handlers display their wares on bare ground (Iro, 2019). Poor food hygiene and safety management by food handlers is further compounded by the inadequate knowledge of food hygiene and safety management by food consumers themselves (ILRI, 2018). Report of World Health Organisation (WHO) in 2019 identifies the increasing burden of foodborne illness and new and emerging foodborne hazards that occurs in the food handling processes. This indicates that, unhygienic exposures and environmental contamination have an adverse effect causing a high risk of food poisoning (WHO 2019). Previous studies have also shown that, the unhygienic conditions in food production and service operations indicate that, the main reasons for poor food safety and poor hygiene practices includes insufficient training, lack of enforcement, lack of knowledge on personal hygiene and safe handling of food (Abdussalam, Käferstein, 2020). Despite these various studies, much uncertainty still exists about the roles, barriers and opportunities in the provision of safer and hygienic foods by the food service operations in their daily vending operations. This study examines the relationship between customer purchasing decisions, hygiene standard and environmental sanitation.

The aim of this study is to investigate the effects of hygiene practices on the performance of food service operations. The specific objectives guiding this study are to: determine the relationship between good hygiene standard in food service operations and customers' patronage of food service outlets; assess the effects of environmental sanitation on the reputation of food service operations; and examine the impacts of hygiene standards and environmental sanitation on the growth and expansion of food service operations.

The formulated hypotheses for this study are:
H_{01}: Good hygiene standard has no significant relationship on customers' patronage of food service outlets.
H_{02}: Environmental sanitation has no significant effect on the reputation of food service operations.
H_{03}: Hygiene standard and environmental sanitation have no significant impacts on growth and expansion of food service operations.

2. Literature Review

2.1 Hygiene Standard

Food can be exposed to various biological, chemical, or physical hazards at different stages of the production process, potentially leading to foodborne illnesses, which are an increasing public health concern globally. To ensure food safety, good hygiene practices must be monitored. This can be done by competent authorities through official inspections and other control mechanisms, as well as by qualified auditors in coordination with the establishment manager, owner, or HACCP consultant. This process is referred to as hygiene standards. Ovca, Jevšnik and Raspor (2019), describe hygiene standard as comprising 'conditions and measures necessary for the production, processing, storage and distribution of food that are safe, sound, wholesome and fit for human consumption'. These conditions and measures must start from the farm where the primary production of the crops and animals are raised for food, through the food manufacturing, processing and the final preparation of the food for the table, till it enters the mouth through the fork. It is indeed a complex set of activities, beginning from production stages with good agricultural practice (GAP) starting from selection of healthy uncontaminated seedlings (for plant) and young healthy animals for animal husbandry. The use of pesticides, fertilizers, soil, water, feeds and veterinary drugs must be used in line with regulations provided to avoid residues of these chemicals in the plant and animals overshooting levels allowed by regulations (Gershon, Nuoh, & Atelu, 2021). Particularly, appropriate management of wastes and storage of harmful materials should be intentionally avoided. Additionally, on-farm programmes need to be supported to attain definite food safety goals as avital part of primary production. The code continues and gives recommendations for handling storage and transport; cleaning, maintenance and personal hygiene at primary production; design and layout of premises for food production; water supply, drainage and waste disposal; cleaning facilities; personal hygiene facilities and toilets; air quality and ventilation; lighting; and storage (Ovca, Jevšnik & Raspor, 2019). Hygiene standards include hygienic control of operations, including control of food hazards through hazard analysis and critical control points (HACCP), in key aspects of control of systems: incoming material requirements, packaging, water, management and supervision, documentation and records, and recall procedures. In addition, food hygiene involves establishment maintenance and sanitation which include, maintenance and cleaning, establishing health status, illness and injury, personal cleanliness, personal behaviour, and visitors; use and maintenance of transportation; product information and consumer awareness; and training on food hygiene (Tinker, 2021)

To establish a standard guideline for food preparation, the WHO identified five essential principles for ensuring food safety (Thilagamani & Keerthana, 2020). These include maintaining cleanliness in food handling areas, keeping raw and cooked food separate, thoroughly cooking food, storing food at safe temperatures to eliminate pathogens, and using safe water and raw materials. Anyone involved in food preparation should adhere to these principles to ensure food safety. However, consumers cannot be entirely sure about the safety of food prepared in a closed kitchen, nor is it practical for them to carry a thermometer to check the food temperature or a microbiological test kit to assess microbial levels. As a result, they must rely on their subjective judgment of various safety cues present in dining establishments to identify potential hazards

2.2 Sanitation

This agenda urges nations to initiate fresh efforts to accomplish 17 SDGs within the next 15 years, one of which aims to "ensure the availability and sustainable management of water and sanitation for all (Aman et al, 2024). Consumer policy has evolved to integrate consumers into the single market while driving economic growth. As a crucial component of national economic policies, consumer protection enables individuals to make informed purchasing decisions, thereby enhancing market efficiency (Cumming et al, 2023). A fundamental consumer right is the assurance that food consumed is both safe and of high quality. To uphold this, food service establishments implement quality assurance measures, including robust sanitation programs, Hazard Analysis and Critical Control Points (HACCP), and other prerequisite safety protocols. Sanitation plays a pivotal role in food safety by preventing contamination and ensuring high-quality standards in food production and service.

Food-borne diseases remain a major global public health concern, contributing to significant morbidity and mortality (Grace, 2023). Contaminated food serves as a vehicle for harmful pathogens, including bacteria, viruses, parasites, and chemical contaminants. Contributing factors such as inadequate hygiene practices, improper food handling, and the use of unsafe water exacerbate the spread of these diseases. Among the most pressing concerns is poor sanitation, which facilitates contamination at multiple stages of the food supply chain, from production and processing to preparation and consumption. Despite the existence of food safety regulations, gaps persist in enforcing proper sanitation measures in food service operations, thereby exposing consumers to health risks.

Existing literature emphasizes environmental sanitation within food establishments but often overlooks the role of food-contact surfaces as vectors for contamination. Microbial communities, particularly biofilms, thrive on technological equipment and food preparation surfaces, serving as reservoirs for both pathogenic and spoilage microorganisms. These biofilms, once established, are difficult to eliminate and can significantly compromise food safety (Liu et al, 2023). Therefore, a more rigorous approach to sanitation—beyond general environmental cleanliness—is required to mitigate microbial risks and ensure consumer safety.

A critical gap in research remains in understanding the direct relationship between sanitation practices and customer patronage. While hygiene is often assumed to influence consumer behaviour, empirical studies are needed to establish its impact on customer retention, restaurant reputation, and business growth. Addressing this gap requires an interdisciplinary approach that combines food safety research with consumer behaviour analysis. By strengthening sanitation policies, enforcing hygiene regulations, and integrating sanitation awareness into consumer protection frameworks, food service operations can enhance both public health outcomes and market competitiveness.

2.3 Theoretical Review

2.3.1 Health Belief Theory/Model

The Health Belief Theory/Model is the underpinning theory for this study. The health belief was chosen over other models in the study to understand what factors are involved in the provision of safer and hygienic foods by food service operations (Abdussalam, & Käferstein, 2020). The health belief model was at the start developed in the 1950's by American social psychologists and used in order to account for why people failed to participate in health promotion programs. The model has developed over the years as a response to public health concerns (Champion & Skinner 2018). The model is constructed on two major sources: Cognitive Theory and Stimulus Response Theory. As noted by Stimulus

Response Theory on the term reinforcements, Skinner developed the hypothesis: "the frequency of a behaviour is determined by its consequences or reinforcement" (Champion & Skinner 2018). This indicates that, for a behaviour to be repeated, an act of reward for such behaviour needs to be reinforced (Acho-Chi, 2021). The Health Belief Model (HBM) is normally used in order to prevent health risks, and its purpose in this study is to find how factors to safer and hygienic food provision can be enforced in food service operations for the prevention of diseases. The primary ideas of the HBM constructs is to predict why people will take action to prevent disease or to control illness conditions through their behaviour, therefore the behaviour of food handlers in food service operations is of interest in this study (Gershon, Nuoh, & Atelu, 2021).

3. Methodology

Descriptive research design has been adopted. Descriptive study seeks to gather information so that description of what is going on can be made. They again stated that it may be designed to discover whether there is any relationship between two variables. The purpose of descriptive research is to observe, describe and document aspects of phenomenon as it naturally occurs. This study was conducted among food service operations in Ojota, Lagos Nigeria. Structured questionnaire was employed to solicit data used to achieve the objectives of this study. The targeted population on which this study has been conducted included the middle-class restaurants and hotels within the Ojota, Lagos Nigeria Metropolis. Hotel. ng website accessed on 20th June, 2024 listed over two hundred (200) hotels and restaurants service food providers within the metropolis. Respondents for this study comprise of managers, food handlers and customers in these restaurants and hotels.

Food service providers are dotted around the suburbs of Ojota, Lagos Nigeria. Thirty (30) premises were selected as sample size for the study while five (5) customers were selected from each premise for the study, the number of the customers was expected to sum up to one hundred and Fifty (150) customers. In order to get a fair sample for the study, the multi-stage sampling method was employed. The sample size is 107.

The study adopted Taro Yamane Formula i.e.

n = N/(1+N(e)2)

Where

n = Sample size

N = Finite population

e = Level of Significance = 5% or (0.05)

1 = Constant

Therefore

$n=150/(1+150(0.05)^2)$

n=150/(1+150(0.0025)

n=150/1.4

n= 107

The data collected were analyzed using both descriptive and inferential statistics. The descriptive statistics of simple percentages, mean and standard deviation were used for the analyses of the demographic data of the respondents. However, the research questions were answered with the analysis of regression. On the other hand, the hypotheses were analyzed with the used of Statistical Package for Social Sciences. All hypotheses were tested at 0.05 alpha levels. Spearman's rho model was employed to test hypothesis one. This model is considered appropriate because it has the ability to establish relationship between variables.

Formula for Spearman's rho model:

$$\rho = \frac{S_{xy}}{S_x S_y} = \frac{\frac{1}{n}\sum_{i=1}^{n}\left(R(x_i) - \overline{R(x)}\right)\cdot\left(R(y_i) - \overline{R(y)}\right)}{\sqrt{\left(\frac{1}{n}\sum_{i=1}^{n}\left(R(x_i) - \overline{R(x)}\right)^2\right)\cdot\left(\frac{1}{n}\sum_{i=1}^{n}\left(R(y_i) - \overline{R(y)}\right)^2\right)}}$$

Where:

R(x) and R(y) are the ranks,

R(x)bar and R(y)bar are the mean ranks. Statistical Package for Social Sciences Software (SPSS) version 25 was used for the data analysis. The decision rule is to accept H_0: if and only if the P value is lower than 0.05, otherwise, accept H1. Logit Binary regression model was employed to test hypothesis two. This model is considered appropriate because it has the ability to predict the effect of independent variables on the dependent variables.

Formula for Logit Binary regression model:

$$L = ln\left[\frac{Pi}{1 - Pi}\right] = \beta_0 X_i$$

Where:

L = Logit Regression

ln = Log

Pi = Good environmental hygiene, Proper hygiene practices, High levels of hygiene, Restaurants reputation, and Growth and expansion of restaurant.

1 – Pi = No Good environmental hygiene, Proper hygiene practices, High levels of hygiene, Restaurants' reputation, and Growth and expansion of restaurant.

β = Beta

X = Enhancement of catering ethics in the Restaurant establishment

4. Results and Discussion

A total number of 107 questionnaires was administered and 73 was correctly filled and returned. Hypothesis was tested using spearman correlation model and logit regression model.

Table 1: Administered, returned and non-returned questionnaires

	Freq.	%
Administered	107	100%
Return	73	83.88
Non-Returned	14	16.12

Source: *Researcher's Computation*

Hypotheses Testing

Hypothesis One

H0: Good hygiene standard has no significant relationship on customers' patronage of food service outlets. Spearman's rho model was employed to test hypothesis one. This model is considered appropriate because it has the ability to establish relationship between variables.

Table 2: Correlations between Good hygiene standard and customers' patronage in food service operations

			Hygiene standard	customers' patronage in food service operations
Spearman's rho	Good hygiene standard	Correlation Coefficient	1.000	.828**
		Sig. (2-tailed)	.	.000
		N	73	73
	Customers' patronage in food service operations	Correlation Coefficient	.828**	1.000
		Sig. (2-tailed)	.000	.
		N	73	73

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

Interpretation for Hypothesis One

Table 2 shows the relationship between hygiene standard and customers' patronage in food service operations. The study revealed that the relationship between hygiene standard and customers' patronage in food service operations is about 83% (.828), this was also found to be highly significant at 0.05 level of significance. This implies that there is a significant relationship between hygiene standard and customers' patronage in food service establishment. This could simply mean that a good hygiene standard will always cause the customer to return for another patronage, and this will in turn affect the profitability of the food service business positively.
Since the p 0.000 < 0.05, we hereby reject the null hypothesis which states that there is no significant relationship between hygiene standard and customers' patronage and concluded there is significant relationship between good hygiene standard and customers' patronage in food service establishments.

Hypothesis Two and Three

H_{02}: Environmental sanitation has no significant effect on the reputation of food service operations.
H_{03}: Hygiene standard and environmental sanitation have no significant impacts on growth and expansion of food service operations.

Table 3: Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	-44.124[a]	.797	.774

a. Estimation terminated at iteration number 7 because parameter estimates changed by less than .001.
Source: *SPSS 25 Output*

Table 4 Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)
Environmental Sanitation	3.141	3.212	2.211	4	.001	34.111
Ensuring compliance with standard	4.141	3.221	3.321	4	.001	15.214
High levels of hygiene standard	2.251	2.011	6.341	4	.009	5.214
Restaurant's reputation	1.142	5.141	2.554	4	.001	6.641
Growth and expansion of restaurant	7.910	2.221	1.241	4	.007	3.240
Constant	6.141	22.117	5.141	4	.001	7.321

a. Variable(s) entered on step 1
Source: *SPSS 25 Output*

Interpretation for Hypothesis Two

The study revealed that environmental sanitation can enhance food service operation's reputation and in turn affect the growth and expansion of the establishment up to 79%. It further indicated that good and proper hygiene practices account for about 77% of reputation of food service operations and in turn affect the growth expansion.

Table 4 revealed that there is positive relationship between hygiene standard in food service establishments, the establishment's reputation, Growth and expansion. The table revealed that good hygiene standard in food service operations has significant effect on the establishment's reputation, growth and expansion, the p-value (0.001, 0.001, 0.009, 0.001, 0.007, and 0.001) is less than the significant level of 0.05. The decision rule is that if the p-value is less than the level of significance of 0.05, the null hypothesis was rejected while the alternate hypothesis is accepted. But if the p-value is lower than the level of 0.05, the null hypothesis was rejected. The result shows that the p-value is less than the level of significance of 0.05. Therefore, hygiene standard has significant effect on food service establishment's reputation; and sanitation contribute significantly towards growth and expansion.

This study revealed that:
There is significant correlation between hygiene standard and customers' patronage.
Environmental sanitation has significant effect on food service establishments' reputation.
Hygiene standard and environmental sanitation contribute significantly towards growth and expansion.

5. Conclusion

Majority of food vendors sell along the streets, carrying their food in carts, wheel-barrows or such other carriers like these from one customer to the other. Some of the food handlers display their wares on bare ground (Iro, 2019). Poor food hygiene and safety management by producers and manufacturers is further compounded by the inadequate knowledge of food hygiene and safety management by food consumers themselves. Report of World Health Organisation (WHO) in 2019 identifies the increasing burden of foodborne illness and new and emerging foodborne hazards that occurs in the food handling processes. Indicates that, exposure to the improper use of food additives, adulteration and environmental contamination by the street food vendors has an adverse effect causing a high risk of food poisoning due to microbial contamination.

Previous studies have also shown that, the unhygienic conditions under which food is generally prepared and sold by these food vendors are related to limited access to safer water and proper sanitation facilities. Most studies in the sector of street food vending operations indicate that, the main reasons for poor food safety and poor hygiene practices includes insufficient training, lack of enforcement, lack of knowledge on personal hygiene and safe handling of food. Despite the various studies on street food vending and its effect on food safety, much uncertainty still exists about the roles, barriers and opportunities in the provision of safer and hygienic foods by the food vendors in their daily vending operations. This study examines the use of disposables (throwaway) as a panacea to the poor food hygiene practices.

This study concluded that there is a significant correlation between good environmental hygiene and customers' patronage; Proper hygiene does not have significant effect on Restaurant's reputation; and high levels of hygiene do not contribute significantly towards growth and expansion.

6. Recommendations

Based on the findings of this study, the following are recommended:

Regulatory task force should ensure that management of hotels and related food service establishments adhere to the ethical guidelines that ensure catering ethics in their establishment.

Regulatory task force should enforce good and proper hygiene practices are in place in the food service establishments.

Also, management of hotels and related food service establishments should enforce high levels of hygiene among their workforce in order to enhance the reputation, growth and expansion of their businesses.

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Assessment of Selected Environmental Soil Contaminants in Relation to Industrial and Urban Activities in South-West Nigeria

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Abstract. Rapid industrialization and urbanization in South-West Nigeria have intensified environmental pressures, leading to significant soil contamination. This study assessed the concentrations and associated risks of selected heavy metals (Pb, Cd, Cr) and plastic-derived organic pollutants (Polybrominated Diphenyl Ethers, PBDEs; Phthalate Esters, PAEs) in soils from four major landfill sites in Lagos and Ogun States. Results revealed significant heavy metal contamination, particularly at the Olusosun landfill, which exhibited the highest Cadmium (Cd) concentration (3.63 ± 0.45 mg/kg). Phthalate Esters (PAEs) were prevalent across all sites, with Di(2-ethylhexyl) phthalate (DEHP) being the most abundant congener, reaching a maximum concentration of 17.7 ± 2.1 mg/kg at Olusosun. Ikorodu also showed high levels of DEHP (11.3 ± 1.5 mg/kg) and Dicyclohexyl phthalate (DCHP) (11.28 ± 1.4 mg/kg). In contrast, concentrations of the analyzed PBDEs were generally low, with the highest level detected for BDE-153 at Olusosun (0.020 mg/kg). Ecological risk assessment indicated a "considerable potential ecological risk" (Individual Risk Factor, E_r = 110.18) from Cd at the Olusosun site, primarily linked to e-waste and battery disposal. Furthermore, the Hazard Index (HI) for phthalates exceeded the safe threshold (HI > 1) at all sites, with particularly high values at Ikorodu and Sango, indicating a significant non-carcinogenic health risk to exposed populations. These findings highlight Olusosun as a hotspot for Cd pollution and reveal widespread health risks from PAEs, underscoring the urgent need for improved waste segregation, engineered landfill management, and robust environmental monitoring to mitigate pollution and protect public health in the region.

Keywords: Soil Contamination, Polybrominated Diphenyl Ethers (PBDEs), Phthalate Esters (PAEs), Heavy Metals, Industrial Pollution, Urbanization, E-waste, South-West Nigeria.

1. Introduction

Soil, a vital natural resource, faces increasing threats from contamination, which can compromise ecosystem health and human well-being. The accumulation of pollutants in soil and sediment predominantly originates from anthropogenic activities, including mismanagement of natural resources, inefficient agricultural practices, and improper waste disposal (Shit et al., 2021). While agricultural activities often contribute to non-point source pollution, point sources such as industrial effluent discharge, landfill leachate, and accidental spills are major drivers of localized, high-concentration contamination. In the 21st century, the pressures of population growth, industrial expansion, and rapid urbanization have exacerbated the release of environmental pollutants, challenging the goals of sustainable development.

Industrial activities in developing nations are a significant source of soil contamination. Plastic waste, in particular, has become a critical environmental challenge, with its production and disposal escalating globally (Chen et al., 2021). The environmental impact extends beyond the physical presence of macro- and microplastics to the chemical additives used in their formulation (Olutona et al., 2017). Among these are PolybrominatedDiphenyl Ethers (PBDEs), a class of organobromine compounds used as flame retardants in electronics, furniture, and textiles (Ceresana, 2024). Since PBDEs are physically mixed with polymers rather than chemically bonded, they are prone to leaching into soil, water, and biota (de Wit, 2002; SSC et al., 2012).

Similarly, Phthalate Esters (PAEs) are widely used as plasticizers to impart flexibility to products made from polyvinyl chloride (PVC) and other resins (Staples et al., 1997). Like PBDEs, PAEs can migrate from products into the environment, leading to widespread contamination of soil and other matrices (Heudorf et al., 2007). In addition to these organic pollutants, industrial and municipal waste streams are significant sources of toxic heavy metals such as Lead (Pb), Cadmium (Cd), and Chromium (Cr), which are persistent, non-biodegradable, and pose severe health risks (Bhabananda et al., 2008; Oloruntoba et al., 2019).

In South-West Nigeria, a hub of industrial and commercial activity, contamination levels in solid matrices like soil remain inadequately characterized. This study, therefore, aims to bridge this knowledge gap by investigating the concentrations and distribution of selected PBDEs, PAEs, and heavy metals in soils from major landfill sites. The objectives were to: (1) determine the concentrations of target contaminants in soils from four landfill sites in Lagos and Ogun States; (2) evaluate the physicochemical properties of the soils and their relationship with contaminant levels; and (3) assess the potential ecological and human health risks associated with the measured contaminant levels using established environmental indices.

2. Materials and Methods

2.1. Study Area and Sample Collection

Soil samples were collected from four major dumpsites across two states in South-West Nigeria: Olusosun and Ikorodu in Lagos State, and Sango and Saje in Ogun State (Figure 1). These sites were selected based on their history of receiving a mix of municipal, commercial, and industrial waste. Olusosun is one of West Africa's largest active landfills, receiving diverse urban waste. Sango is located in a heavily industrialized zone, while Ikorodu and Saje receive significant municipal and commercial waste.

At each site, five sub-samples (0–20 cm depth) were collected from different points and combined to form a single composite sample to ensure representativeness. Samples were placed in pre-cleaned amber glass jars for organic analysis and polyethylene bags for metal and physicochemical analysis. The samples were transported to the laboratory in a cooler box, where they were air-dried, homogenized, and sieved through a 2-mm stainless-steel sieve before analysis.

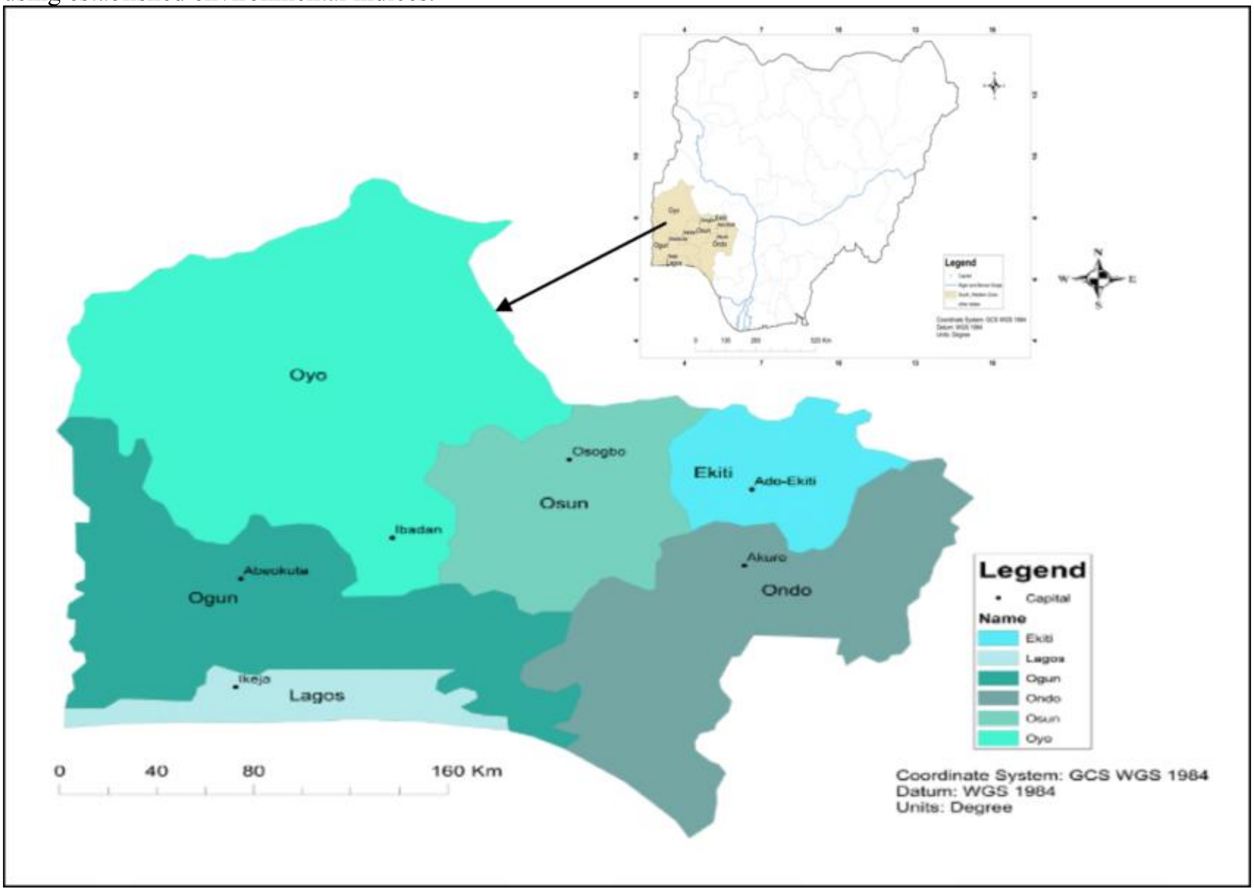

Figure 1: *A map of South-West Nigeria showing the geographical coordinates of the four sampling sites: Olusosun, Ikorodu, Sango, and Saje.)*

2.2 Analysis of Physicochemical Parameters

Soil pH and electrical conductivity (EC) were measured in a 1:5 soil-to-deionized water suspension using a calibrated multi-parameter probe (Hanna Instruments). Organic carbon (OC) was determined using the Walkley-Black wet oxidation method. Total nitrogen (TN) was analyzed by the Kjeldahl method. Available phosphorus (P) was extracted using the Bray-1 method and measured colorimetrically. Cation exchange capacity (CEC) was determined using the ammonium acetate method. Soil texture (sand, silt, clay content) was determined by the Bouyoucos hydrometer method.

2.3. Analysis of Heavy Metals

For metal analysis, 1.0 g of sieved soil was digested with a tri-acid mixture (10 mL HNO_3, 5 mL H_2SO_4, 5 mL $HClO_4$) at 95 ± 5°C on a hot plate until clear fumes appeared (Taiwo et al., 2016). The digestate was filtered and diluted to 50 mL with deionized water. Concentrations of Cadmium (Cd), Chromium (Cr), and Lead (Pb) were determined using a Flame Atomic Absorption Spectrophotometer (FAAS, Buck Scientific 210VGP).

2.4. Analysis of PBDEs and PAEs

A 2.0 g aliquot of dried soil was mixed with anhydrous sodium sulfate and extracted with 100 mL of hexane in a Soxhlet apparatus for 8 hours. The extract was concentrated using a rotary evaporator. Sample cleanup was performed on a silica gel column (4.0 g, activated at 130°C for 6 hours). The column was eluted with 20 mL of hexane. The final eluate was concentrated to 1 mL under a gentle stream of nitrogen.

The extracts were analyzed using an Agilent 7890B Gas Chromatograph coupled to an Agilent 5977A Mass Spectrometer (GC-MS). Separation was achieved on an HP-5MS column (30 m × 0.25 mm × 0.25 µm). The oven temperature program was initiated at 80°C, ramped to 280°C, and held for 10 min. Quantification was performed using external calibration curves of certified standards (AccuStandard, USA). For detailed instrumental parameters, see Taiwo et al. (2019).

2.5. Quality Assurance and Quality Control (QA/QC)

Procedural blanks, spiked blanks, and matrix spikes were analyzed with each batch of samples to check for contamination and determine analytical recovery. Recoveries for all target analytes were within the acceptable range of 85–115%. All concentrations were reported on a dry weight basis.

2.6. Ecological and Health Risk Assessment

Several indices were calculated to assess the extent of contamination and associated risks.
Enrichment Factor (EF): To assess anthropogenic influence.

Pollution Index (PI): Calculated as the ratio of the metal concentration in the soil to its background value.
Geo-accumulation Index (Igeo): Igeo = log2(Cn / 1.5 * Bn), where Cn is the measured concentration and Bn is the geochemical background value.

Potential Ecological Risk Index (PERI): Calculated as the sum of the risk factors (Er) for each metal, where Er is a function of the metal's toxicity response factor.

Human Health Risk (Hazard Index, HI): The sum of hazard quotients for non-carcinogenic risk via ingestion, inhalation, and dermal contact routes was calculated for phthalates.

2.7. Statistical Analysis

Descriptive statistics, Pearson correlation analysis, and multiple linear regression were performed using SPSS Statistics (Version 25.0). A significance level of $p < 0.05$ was used for all tests.

3. Results and Discussion

3.1. Soil Physicochemical Properties
The physicochemical properties of the soils from the four dumpsites are summarized in Table 1. The soil pH was slightly acidic to neutral (6.1–7.2). Organic carbon content was highest at Olusosun (3.5%), consistent with its status as a major municipal solid waste landfill. The soil texture was predominantly sandy loam across the sites.

Table 1: Physicochemical properties of soil from four studied dumpsites.

Parameter	Unit	Olusosun	Ikorodu	Sango	Saje
pH	—	6.8 ± 0.2	6.1 ± 0.3	7.2 ± 0.1	6.5 ± 0.2
Electrical Conductivity (EC)	µS/cm	450 ± 25	210 ± 15	380 ± 20	190 ± 12
Organic Carbon (OC)	%	3.5 ± 0.4	1.8 ± 0.2	2.5 ± 0.3	1.5 ± 0.1
Total Nitrogen (TN)	%	0.28 ± 0.03	0.15 ± 0.02	0.21 ± 0.02	0.12 ± 0.01
Soil Texture					
Sand	%	65 ± 4	75 ± 5	68 ± 3	78 ± 4
Silt	%	20 ± 2	15 ± 3	18 ± 2	12 ± 2
Clay	%	15 ± 2	10 ± 2	14 ± 1	10 ± 1

Values are presented as mean ± standard deviation based on replicate samples (e.g., n=3). EC: Electrical Conductivity; OC: Organic Carbon; TN: Total Nitrogen.

3.2 Contaminant Concentrations

The concentrations of target PBDEs, heavy metals and PAEs are presented in Table 2 and Table 3 respectively

Table 2. Concentrations of selected brominated flame retardants in landfill soil samples from four Nigerian sites, determined by GC-MSD.

Analyte	Abbreviation	Ikorodu Landfill	Sango Ota	Olusosun	Saje
PolybrominatedDiphenyl Ethers (PBDEs)					
2,2',4,4'-Tetrabromodiphenyl ether	BDE-47	ND[a]	ND	0.001[b]	ND
2,2',4,4',5-Pentabromodiphenyl ether	BDE-99	0.009	ND	ND	ND
2,2',4,4',6-Pentabromodiphenyl ether	BDE-100	ND	ND	ND	ND
2,2',4,4',5,5'-Hexabromodiphenyl ether	BDE-153	0.011	0.009	0.020	0.009
Polybrominated Biphenyl (PBB)					
2,2',4,4',5,5'-Hexabromobiphenyl	BB-153	0.010	0.007	0.019	ND

Concentrations are reported in mg/L. Soil samples were taken from the various Landfill.
[a] ND (Not Detected): Analyte concentration was below the instrumental Limit of Detection (LOD).
[b] Value detected above the LOD but below the instrumental Limit of Quantification (LOQ), indicating that the analyte is present but its exact concentration has a higher uncertainty.
Note on Detection Limits: The instrumental LODs and LOQs (in mg/L) used for data evaluation were as follows: BDE-47 (0.0007 / 0.0025), BDE-99 (0.0004 / 0.0045), BDE-100 (0.0009 / 0.0063), BDE-153 (0.0001 / 0.0047), and BB-153 (0.0006 / 0.0036).

Concentrations of PBDEs were below the detection limit (0.5 ng/g) at all sites except Olusosun, where BDE-209 was detected at a low concentration (1.2 ± 0.3 ng/g), likely associated with e-waste plastics, as presented in table 2.

Among the heavy metals, Cd concentrations were notably high at Olusosun (3.63 mg/kg), exceeding typical background levels. For PAEs, Di(2-ethylhexyl) phthalate (DEHP) was the most abundant congener at all sites, with the highest concentration also found at Olusosun (17.7 mg/kg), followed by Ikorodu (11.3 mg/kg). The high levels of Cd and DEHP at Olusosun are consistent with its role as a major recipient of municipal waste, which includes plastics, electronics, and batteries.

Table 3: Concentrations of Heavy Metals and Phthalate Esters (PAEs) in Soils from Four Dumpsites.

Contaminant	Olusosun	Ikorodu	Sango	Saje
Heavy Metals				
Lead (Pb)	0.82 ± 0.10	0.80 ± 0.09	2.50 ± 0.30	0.53 ± 0.06
Cadmium (Cd)	3.63 ± 0.45	0.69 ± 0.08	0.58 ± 0.07	1.06 ± 0.12
Chromium (Cr)	0.81 ± 0.09	1.40 ± 0.15	2.10 ± 0.25	2.10 ± 0.22
Phthalate Esters (PAEs)				
Di(2-ethylhexyl) phthalate (DEHP)	17.7 ± 2.1	11.3 ± 1.5	3.13 ± 0.40	0.22 ± 0.03
Dibutyl phthalate (DBP)	1.46 ± 0.18	3.02 ± 0.35	2.72 ± 0.31	1.92 ± 0.22
Dicyclohexyl phthalate (DCHP)	0.21 ± 0.03	11.28 ± 1.4	2.05 ± 0.25	0.21 ± 0.03
Dinonyl phthalate (DiNP)	BDL[a]	BDL[a]	0.30 ± 0.04	0.26 ± 0.03

Note: All concentrations are presented as mean ± standard deviation in mg/kg.
[a] BDL: Below Detection Limit.

Table 4: Correlation and Source Apportionment

Soil Property	DMP	DEP	DIBP	DBP	BMPP	DPP	DHP	DCHP	DEHP	DNOP	DNP
pH	-0.864	-0.195	-0.692	-0.894	-0.173	-0.864	-0.389	-0.932	-0.932	-0.207	0.334
Nitrogen (%)	-0.595	-0.381	-0.596	-0.733	-0.421	-0.595	0.068	-0.695	-0.694	-0.448	0.320
Organic C (%)	-0.761	-0.044	-0.385	-0.629	-0.090	-0.761	-0.109	-0.810	-0.810	-0.118	0.609
Available P (mg/kg)	-0.757	-0.294	-0.668	-0.843	-0.302	-0.757	-0.178	-0.843	-0.842	-0.333	0.333
Na (cmol/kg)	-0.656	-0.336	-0.605	-0.761	-0.369	-0.656	-0.010	-0.749	-0.749	-0.397	0.348
K (cmol/kg)	-0.709	-0.343	-0.673	-0.831	-0.357	-0.709	-0.111	-0.803	-0.803	-0.387	0.305
Ca (cmol/k)	-0.822	-0.202	-0.636	-0.840	-0.203	-0.822	-0.270	-0.894	-0.894	-0.236	0.393
Mg (cmol/kg)	-0.733	-0.289	-0.632	-0.808	-0.306	-0.733	-0.126	-0.819	-0.819	-0.337	0.361
Sand (%)	0.912	0.070	0.602	0.841	0.052	0.912	0.440	0.962	0.962	0.086	-0.442
Clay (%)	-0.670	0.606	-0.029	-0.248	0.714	-0.670	-0.981	-0.576	-0.576	0.696	0.295
Silt (%)	-0.816	-0.199	-0.623	-0.828	-0.203	-0.816	-0.253	-0.888	-0.888	-0.236	0.405

Table 4. Pearson Correlation Coefficients (*r*) between Phthalate Concentrations and Soil Physicochemical Properties. *Note:* All correlations were based on a sample size of *n* = [Specify sample size]. For publication, significance is typically indicated with asterisks (e.g., * $p <$ 0.01, * $p <$ 0.05); these should be calculated and added. Abbreviations: DMP, Dimethyl phthalate; DEP, Diethyl phthalate; DIBP, Diisobutyl phthalate; DBP, Dibutyl phthalate; BMPP, Bis(4-methyl-2-pentyl) phthalate; DPP, Dipentyl phthalate; DHP, Dihexyl phthalate; DCHP, Dicyclohexyl phthalate; DEHP, Bis(2-ethylhexyl) phthalate; DNOP, Di-n-octyl phthalate; DNP, Dinonyl phthalate.

Table 5: Multiple Linear Regression Model for Predicting [Specify Dependent Variable, e.g., Total Phthalate Concentration].

Predictor Variable	Unstandardized Coefficient (*B*)
pH	0.73
Organic C (%)	-3.83
Sand (%)	0.13
Clay (%)	-2.43
Silt (%)	-0.78

Pearson correlation analysis (Appendix, Table 4) revealed a significant negative correlation between most PAE congeners and soil pH, suggesting that more acidic conditions may favor their persistence. Conversely, a strong positive correlation was observed between several PAEs and sand content, which may relate to the poor adsorptive capacity of sandy soils, allowing for higher measurable concentrations in the bulk soil.

Multiple regression analysis for DEHP, the most dominant phthalate, indicated that its concentration was negatively predicted by organic carbon and clay content (β = -3.83 and -2.43, respectively) and positively by sand content (β = 0.13). This suggests that soils with higher organic matter and clay fractions can more effectively sequester DEHP, reducing its bioavailability, a finding consistent with literature on hydrophobic organic contaminants.

3.4 Environmental Risk Assessment

3.4.1 Heavy Metal Pollution and Ecological Risk

The Pollution Index (PI), Geo-accumulation Index (Igeo), and Potential Ecological Risk Index (PERI) were used to evaluate heavy metal contamination (Table 6).

Table 6. Ecological Risk Assessment of Heavy Metals in Dumpsite Soils.

Sampling Site	Pollution Index (PI)	Maximum Geo-accumulation Index (Igeo max*max*)	Metal for Igeo max*max*	Potential Ecological Risk Index (PERI)	PERI Risk Classification a*a*	Primary Contributing Metal	Individual Risk Level b*b*
Olusosun	1.30	0.61	Cd	110.18	Low	Cd	Considerable
Ikorodu	0.33	-0.89	Cd	22.04	Low	Cd	Low
Sango	0.48	-1.11	Cd	21.35	Low	Cd	Low
Saje	0.44	-0.50	Cd	32.80	Low	Cd	Low

Table notes:
a*a*
Based on PERI values: Low (<150), Moderate (150–300), Considerable (300–600), Very high (>600).

Based on the individual ecological risk factor (Er^i_r): Low (<40), Moderate (40–80), Considerable (80–160), High (160–320), Very high (≥320).

The PI value for Olusosun (1.3) indicates moderate pollution, while all other sites showed low pollution levels (PI < 1). The Igeo values were largely negative (<0), classifying most sites as "unpolluted." The exception was Olusosun, with an Igeo for Cd of 0.61, falling into the "unpolluted to moderately polluted" class.

The PERI results show that the overall ecological risk is "low" for all four sites (PERI < 150). However, the individual ecological risk factor (Er) for Cadmium at Olusosun was 108.9, indicating a "considerable potential ecological risk" from this metal alone. Cadmium is a highly toxic element commonly found in batteries, pigments, and electronic waste, and its elevated risk at Olusosun highlights a specific contamination concern requiring targeted management.

3.4.2 Phthalate Enrichment and Health Risk

Enrichment Factors (EF) for selected PAEs revealed significant anthropogenic inputs (Table 7). Sango showed extremely high enrichment of Di-n-octyl phthalate (EF = 64.33), while Ikorodu was highly enriched with DEHP (17.71) and DCHP (11.28), pointing to specific industrial or commercial sources near these sites.

The non-carcinogenic human health risk, expressed as the Hazard Index (HI), was calculated for DEHP and DCHP (Table 4). The HI values for all sites were significantly greater than 1, suggesting a potential health risk to exposed populations, particularly through soil ingestion and dermal contact. The extremely high HI values at Ikorodu (for both compounds) and Sango are alarming and warrant immediate attention and further site-specific risk assessment.

Table 7: Enrichment Factors (EF) of Phthalate Contaminants at Four Sampling Sites.

Contaminant	Ikorodu	Sango	Olusosun	Saje
Bis(2-ethylhexyl) phthalate	17.71	3.13	0.23	0.22
Di-n-octyl phthalate	3.13	64.33	0.67	0.82
Dibutyl phthalate	3.02	2.72	1.46	1.92
Dicyclohexyl phthalate	11.28	2.05	0.21	0.21
Diethyl phthalate	1.30	2.35	1.15	1.35
Dihexyl phthalate	1.24	1.16	1.16	1.22
Diisobutyl phthalate	3.42	3.62	2.54	3.00
Dimethyl phthalate	2.10[a]	0.00	0.00	0.00
Dinonyl phthalate	0.00	0.30	0.00	0.26
Dipentyl phthalate	2.17	2.10	2.10	2.10

Note: Bold values indicate the site with the highest enrichment factor for each contaminant.
[a] A value of 0.00 indicates that the concentration was below the method's limit of detection.

4. Conclusion

This study provides a critical assessment of soil contamination at four major landfill sites in South-West Nigeria. The results reveal significant pollution from both heavy metals and plastic-associated organic compounds. The Olusosun landfill is a hotspot for Cadmium, posing a considerable ecological risk, likely due to the co-disposal of e-waste and batteries with municipal solid waste. Phthalate contamination was also prevalent, with enrichment factors and hazard indices pointing to substantial anthropogenic input and a high potential for adverse human health effects, especially at the Ikorodu and Sango sites. The absence of significant PBDE concentrations suggests that their input may be lower or their degradation faster in this environment, though BDE-209 warrants monitoring.

The findings underscore the urgent need for improved waste management practices in the region, including source separation of hazardous waste (e.g., e-waste, batteries) and the implementation of engineered landfills with leachate control systems. Further research should focus on the bioavailability of these contaminants and their potential for food chain transfer. Robust environmental monitoring and the enforcement of pollution control policies are essential to mitigate these risks and support sustainable urban development in Nigeria.

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The Impact of Religious Tolerance on Professional Interactions in Nigeria's Multifaith Work Environments

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Abstract. Religious tolerance plays a critical role in shaping professional interactions in multifaith work environments, particularly within culturally and religiously diverse nations like Nigeria. This paper adopts a historical and descriptive method to examine the evolution of religious coexistence in Nigeria and how it informs present-day interpersonal and intergroup dynamics in professional settings. It discusses the mechanisms through which religious tolerance enhances communication, collaboration, and mutual respect among employees from diverse faith backgrounds. The study concludes by offering evidence-based strategies for promoting religious tolerance to enhance workplace harmony and productivity.

1. Introduction

Religion remains one of the most prominent and enduring identity markers in Nigerian society. With over 250 ethnic groups and a plurality of religious affiliations including Christianity, Islam, and traditional African religion's religious identity profoundly shapes social norms, political engagement, and cultural practices (Falola, 1998; Pew Research Center, 2010). This diversity is not confined to broader society alone but is equally reflected in the workplace, where individuals from various religious backgrounds converge to pursue shared organizational objectives. Consequently, the workplace functions as a microcosm of Nigerian society, mirroring its religious pluralism and the attendant complexities of interfaith interaction (Onongha, 2015). In such heterogeneous environments, religious tolerance becomes not merely desirable but essential. Religious tolerance is conceptually defined as the active recognition, acceptance, and respect for the religious beliefs and practices of others (Ali & Syed, 2017). It transcends passive coexistence and fosters an inclusive environment where individuals feel valued and respected regardless of their faith tradition. This ethos of tolerance is pivotal to professional interactions, as it mitigates religiously motivated conflicts and cultivates a climate of mutual understanding and cooperation. In the absence of such tolerance, the workplace risks becoming a fertile ground for interpersonal tensions, religious discrimination, and diminished organizational morale (King, Gulick, & Avery, 2010).

Professional interactions in Nigeria's multifaith workplaces are deeply influenced not only by established organizational norms but also by underlying religious expectations and practices. For example, routine religious observances such as daily prayer rituals, fasting periods, dietary restrictions, and religious holidays may impact employee schedules, interpersonal engagement, and workplace rituals. It is incumbent upon managers and colleagues alike to navigate these differences with cultural and religious sensitivity to foster workplace cohesion. A failure to do so may result in misunderstandings, implicit bias, and ultimately strained professional relationships (Umezinwa, 2018). Religious tolerance in the workplace should be viewed not only as a moral imperative but as a strategic necessity for fostering inclusive and high-performing organizational cultures in Nigeria. It promotes mutual respect, reduces intergroup conflict, and enhances the overall quality of professional interactions. For organizations operating in Nigeria's religiously diverse environment, embracing religious tolerance is central to achieving employee satisfaction, productivity, and sustained workplace harmony. Future research and policy efforts must prioritize mechanisms for embedding religious tolerance within human resource management and leadership practices, thereby contributing to a more equitable and cohesive professional landscape.

This paper therefore, investigates the impact of religious tolerance on the quality of professional interactions within Nigerian multifaith work environments. It examines the role of organizational policies and leadership behavior in fostering inclusive and respectful religious engagement. Evidence suggests that effective leadership combined with well-articulated diversity and inclusion policies can reposition religious diversity as a strategic asset rather than a source of division (Adeosun, 2011). Conversely, workplaces lacking structured tolerance frameworks are often more susceptible to sectarian conflicts, exclusionary practices, and employee dissatisfaction.

1.1 Problem Statement

Despite the constitutional guarantee of religious freedom and the growing prominence of diversity discourses in Nigerian public and organizational life, religious intolerance continues to exert a pervasive influence on professional interactions within multifaith workplaces. Empirical observations and anecdotal evidence point to persistent manifestations of religious microaggressions, exclusionary practices within informal workplace networks, and friction surrounding religious observances such as prayer times, dress codes, and holiday recognition. These dynamics frequently disrupt collegiality and erode the quality of professional relationships, ultimately undermining workplace cohesion and productivity.

While a number of forward-looking organizations have initiated inclusive policies and practices, many others function within contexts where religious tolerance is tacitly assumed rather than deliberately cultivated. The lack of formalized institutional frameworks for managing religious diversity such as interfaith dialogue platforms, faith-sensitive human resource policies, or religious inclusion audits has significantly constrained the ability of multifaith organizations to harness the full spectrum of collaborative and creative potential that religious diversity offers. Moreover, the absence of strategic leadership in this domain has allowed implicit biases and systemic exclusions to persist unchallenged.

This study therefore seeks to interrogate the historical evolution of religious tolerance in Nigeria and to critically examine its impact on professional interactions within multifaith organizational settings. By illuminating both the challenges and opportunities associated with religious diversity management, the study aims to contribute to the development of evidence-informed policies that promote interfaith harmony and inclusive professionalism in the Nigerian workplace.

1.2 Objectives of the Study

This study seeks to:

- Examine the historical development of religious pluralism and tolerance in Nigeria and how it influences current work culture.
- Describe how religious tolerance manifests in professional interactions within multifaith work environments.
- Identify the challenges and enablers of religious tolerance in fostering respectful communication and collaboration among workers.
- Assess the role of organizational leadership and policies in shaping tolerant professional cultures.
- Propose actionable recommendations for enhancing religious tolerance and improving interfaith professional interactions in the Nigerian workplace.

2. Historical Context of Religious Pluralism in Nigeria

Pluralism Theory provides a compelling lens for understanding religious tolerance within Nigeria's multifaith work environments. Unlike multiculturalism, which often emphasizes coexistence, pluralism emphasizes active and respectful engagement across religious boundaries, grounded in equality and mutual recognition (Eck, 2001). In the context of the workplace, this theory suggests that genuine inclusion requires more than the passive acceptance of religious diversity it demands the deliberate integration of diverse religious identities into organizational norms, policies, and practices. Given Nigeria's deeply pluralistic religious demography, pluralism provides the theoretical scaffolding to interrogate how religious identities are accommodated, negotiated, or excluded within professional spaces.

Pluralism also insists on institutional responsibility in managing religious diversity. In Nigerian workplaces, where religion often intersects with ethnicity and regional affiliations, pluralism challenges organizations to develop inclusive policies that reflect the full spectrum of employee identities. This includes equitable recognition of religious holidays, respect for prayer times and dress codes, and neutral approaches to promotions and leadership appointments. Importantly, pluralism critiques the widespread tendency to avoid religious engagement in professional settings, arguing instead for structured interfaith dialogue, awareness programs, and leadership that publicly affirms religious diversity as a strategic and moral imperative.

Finally, pluralism highlights the role of leadership and organizational culture in modeling and sustaining religious tolerance. Leaders are expected not only to uphold neutrality but also to cultivate an inclusive climate where all employees regardless of faith feel respected and valued. This is particularly salient in Nigeria, where perceived favoritism or bias in religious matters can erode intergroup trust and workplace cohesion. By embracing the principles of pluralism, Nigerian organizations can transition from informal, ad hoc tolerance to systematic, institutionalized inclusion, thereby enhancing professional interactions, reducing religious tensions, and fostering a more harmonious and productive work environment.

The religious landscape of Nigeria is a product of over a millennium of intercultural exchange, conquest, and missionary activity. This pluralistic environment is historically shaped by the diffusion of three major religious systems Islam, Christianity, and indigenous African religions each with distinct trajectories and socio-political implications. The early introduction of Islam to northern Nigeria in the 11th century was facilitated through trans-Saharan trade routes connecting Kanem-Bornu and Hausa city-states with North African Islamic centers such as Fez and Cairo (Hiskett, 1984). Islam, through its integration with local governance and scholarship, became deeply entrenched in the northern socio-political fabric, culminating in the Sokoto Caliphate in the 19th century, which institutionalized Islamic governance and law across a significant portion of northern Nigeria (Last, 1967).
Christianity, on the other hand, made its initial contact with Nigeria through Portuguese missionaries along the coastal areas in the 15th century but did not gain substantial foothold until the 19th century with the arrival of British colonial missionaries such as the Church Missionary Society (CMS), Wesleyan Methodist Mission, and the Roman Catholic Mission. These missions focused predominantly on southern and central Nigeria, often establishing churches, schools, and hospitals alongside proselytizing efforts (Falola, 1998; Ayandele, 1966). The educational agenda of Christian missions contributed significantly to the formation of an educated elite in the South, which would later influence post-independence governance structures and economic participation. Indigenous African religions, while often marginalized during colonial and missionary periods, have remained resilient, particularly in rural areas and among communities that maintain ancestral linkages to traditional belief systems. These religions are characterized by strong ties to local cosmologies, ancestral worship, and spiritual intermediaries. Although often excluded from formal religious discourse, they continue to influence cultural practices, rites of passage, and social identity among various ethnic groups (Peel, 2000).

During British colonial rule (1861–1960), the system of indirect rule further entrenched religious segregation by reinforcing regional religious identities. In the North, Islamic rulers were retained and allowed to govern in accordance with Sharia law, while Christian missions were restricted to the South and parts of the Middle Belt. This colonial administrative bifurcation, though efficient for governance, institutionalized religious and regional disparities that have persisted into the post-independence period (Crowder, 1968; Coleman, 1958). By aligning political and administrative authority with religious leadership, the colonial government inadvertently politicized religion and deepened societal cleavages. Following independence in 1960, the politicization of religion became increasingly pronounced. Electoral politics in Nigeria began to reflect religious affiliations, particularly during periods of national crisis such as the Nigerian Civil War (1967–1970) and subsequent military regimes. The return to democracy in 1999 coincided with the re-introduction of full Sharia law in several northern states, a move that was perceived by some as a challenge to Nigeria's secular constitutional framework and by others as an expression of cultural and religious autonomy (Suberu, 2001). These developments contributed to renewed interreligious tensions, sometimes erupting into violence, particularly in cities with mixed religious populations such as Kaduna, Jos, and Bauchi.

Despite these flashpoints, Nigerian history also records enduring patterns of interfaith collaboration, especially in sectors such as commerce, education, and civil society. In pre-colonial times, inter-religious trade flourished in major market towns where Muslims and non-Muslims coexisted peacefully. During the nationalist movement, both Christian and Muslim leaders played prominent roles in the struggle for independence. In modern times, interfaith marriages, shared public spaces, and civic initiatives such as the Nigerian Inter-Religious Council (NIREC) have fostered moments of unity amidst diversity (Marshall, 2009). These historical antecedents have direct implications for contemporary Nigerian workplaces. Modern organizations—especially in urban and multiethnic regions—now host employees from diverse religious backgrounds. Yet, the legacies of colonial compartmentalization, postcolonial politicization, and intermittent religious conflict continue to inform perceptions, interactions, and organizational behavior. For example, institutional bias may be observed in hiring patterns, promotion pathways, or internal communication strategies that implicitly privilege one faith tradition over another. Moreover, unresolved historical grievances and stereotypes may manifest in subtle forms of exclusion or discomfort among employees.

Understanding this layered and dynamic history of religious pluralism is therefore essential for any meaningful engagement with the present challenges of religious tolerance in the workplace. It offers insight into the structural and psychological foundations of current interfaith dynamics and highlights the necessity of deliberate, policy-driven efforts to promote inclusion and mutual respect. Nigeria's religious history is not only complex but also deeply intertwined with its political, economic, and social development. The legacy of both cooperation and conflict provides a nuanced backdrop against which contemporary issues of religious tolerance in the workplace must be understood. This study draws on these historical narratives to examine how they shape professional interactions in multifaith organizational settings, with the goal of fostering a more inclusive and harmonious work environment.

3. Conceptualizing Religious Tolerance and Professional Interaction in Multifaith Workplaces

Professional interaction refers to the range of verbal and non-verbal communication processes, collaborative efforts, and interpersonal engagements that take place within formal work environments. These interactions constitute the social and organizational fabric through which tasks are executed, goals are achieved, and organizational culture is reinforced (Robbins & Judge, 2019). In multifaith workplaces where employees may hold divergent worldviews, values, and religious practices the quality of professional interaction is shaped not only by conventional workplace norms but also by how well religious diversity is acknowledged and accommodated. Religious tolerance, in this context, is not merely the passive acceptance of religious difference, but the active promotion of respect, inclusion, and equity across religious lines. It is conceptualized as a multidimensional construct that includes attitudinal openness, policy frameworks, and behavioral practices that enable individuals to freely express and live according to their religious convictions without fear of marginalization or retaliation (Ali & Syed, 2017). When embedded within the culture of an organization, religious tolerance functions as a key enabler of productive and respectful professional interaction.

One foundational indicator of religious tolerance in workplace interactions is the adoption of inclusive communication practices. This includes the use of religiously neutral greetings, gender-sensitive and non-sectarian language, and careful scheduling of meetings and organizational events to avoid clashes with major religious observances. Studies suggest that such inclusive practices not only improve employee engagement but also reduce interpersonal friction in religiously diverse teams (King, Gulick, & Avery, 2010). In contexts like Nigeria where religious observances such as Friday Jumu'ah prayers, Christian vigils, or traditional festivals may intersect with work obligations such flexibility is essential for cultivating mutual respect and institutional credibility. Respectful and structured conflict resolution mechanisms around religious differences further exemplify an organization's commitment to religious tolerance. Interpersonal or policy-based conflicts rooted in religious disagreement can be particularly volatile, as they often touch upon deeply held identities and moral convictions. Therefore, organizations must establish procedures such as interfaith dialogue forums, neutral mediation structures, and grievance redress systems that facilitate constructive and empathetic engagement with such issues (Van Dyne, Ang, & Botero, 2003). This approach prevents escalation and encourages a culture of civility and trust.

A further manifestation of religious tolerance lies in the equitable participation of all employees in both formal and informal dimensions of organizational life. Research has shown that religious minorities are often underrepresented in leadership positions and excluded from informal workplace networks, thereby limiting their access to social capital and professional mobility (Syed & Pio, 2010). To foster true inclusivity, organizations must consciously dismantle such barriers and promote equal opportunities in recruitment, team leadership, mentorship programs, and professional development initiatives regardless of religious affiliation. This, in turn, enhances organizational commitment and encourages collaboration across religious boundaries. Sensitivity to religiously grounded lifestyle practices including holiday observances, dietary restrictions, and dress codes also serves as a critical marker of religious tolerance in professional interaction. For instance, allowing flexible work arrangements during Ramadan, respecting Christian Sabbath observance, or recognizing traditional spiritual observances enhances employees' sense of inclusion and dignity. Similarly, providing halal, vegetarian, or fasting-compliant meal options at corporate functions or permitting modest religious dress such as hijabs or turbans signals that an organization is attuned to the holistic well-being of its workforce (Hashim, 2009).

In sum, conceptualizing religious tolerance within the framework of professional interaction requires a paradigm shift from mere non-discrimination to proactive inclusion. It necessitates that organizations adopt comprehensive diversity and inclusion strategies that are culturally competent and contextually responsive. By institutionalizing religious tolerance through leadership modeling, policy formulation, and employee engagement organizations can significantly enhance the quality of professional interactions. The resultant environment is not only more harmonious but also more productive, innovative, and reflective of Nigeria's religiously plural society.

4. Descriptive Realities of Multifaith Work Environments in Nigeria

Multifaith work environments in Nigeria are both a reflection and a microcosm of the country's broader religious pluralism. With a population nearly evenly divided among Muslims, Christians, and adherents of traditional African religions, religious diversity has become a structural feature of organizational life particularly in urban centers such as Lagos, Abuja, Port Harcourt, and Kaduna. These cities serve as economic, administrative, and sociopolitical hubs where individuals from diverse ethno-religious backgrounds converge, thereby creating workplaces that are inherently multifaith in nature (Adeosun, 2011). In sectors such as finance, oil and gas, civil service, higher education, and healthcare, religious heterogeneity is widely observable. These sectors often employ individuals from all major faith groups, necessitating a workplace culture that is responsive to religious diversity. One of the most prominent practices in such environments is flexibility in work schedules to accommodate religious observances. For example, Muslim employees are often granted time off to attend Friday Jumu'ah prayers, while Christian staff may be permitted early closures on days preceding significant liturgical events. Such accommodations reflect a de facto form of religious inclusion, even when not explicitly codified in human resource policy (Hashim, 2009).

Another prevalent feature of inclusive practice is the recognition and celebration of major religious holidays across the faith spectrum. Organizations frequently acknowledge public holidays such as Eid al-Fitr, Eid al-Adha, Christmas, and in some cases, traditional religious festivals specific to local contexts. These celebrations, whether through messages from management, staff events, or symbolic decorations, serve to affirm the religious identities of employees and cultivate a culture of mutual respect (Syed & Pio, 2010). These acts of recognition are not merely symbolic; they contribute meaningfully to employee morale and perceptions of belonging.

Beyond formal gestures, unwritten social norms of mutual respect also serve as informal mechanisms for sustaining religious harmony. Employees often exhibit tacit understanding by avoiding proselytizing or engaging in theologically charged debates during work hours. Such restraint reflects an evolving professional ethic wherein religious sensitivity is linked to emotional intelligence and interpersonal diplomacy (King et al., 2010). These norms help prevent religious frictions that could otherwise escalate into workplace conflicts. However, despite these positive developments, several challenges persist. A recurrent concern is perceived or actual religious favoritism in leadership appointments and promotion pathways. Employees have reported instances where managerial positions appear to be concentrated within certain religious groups, leading to perceptions of structural inequity and exclusion. This subtle form of bias not only contravenes principles of meritocracy and fairness but also undermines intergroup trust and cohesion (Ali & Syed, 2017).

The situation is further complicated during periods of national political or religious crises, which often exacerbate latent tensions within the workplace. For instance, during episodes of sectarian violence in Jos or communal clashes in Kaduna, employees have reported heightened inter-religious suspicion and decreased willingness to collaborate. These periods test the resilience of workplace solidarity and reveal the fragility of religious tolerance when not institutionally reinforced (Suberu, 2001).

A significant structural gap lies in the absence of clear organizational policies or frameworks for managing religious diversity. While some organizations operate with informal practices of accommodation, the lack of codified guidelines often results in inconsistent implementation and discretionary decision-making. This absence leaves room for subjective interpretations, which may privilege dominant religious groups and marginalize minority faiths. Consequently, the potential of multifaith work environments to harness cognitive, cultural, and relational diversity remains underexploited (Robbins & Judge, 2019).

The realities of multifaith work environments in Nigeria reveal a dual narrative of progress and challenge. On one hand, there is evidence of inclusive practices such as schedule flexibility, holiday recognition, and respectful workplace norms that foster religious tolerance and cohesion. On the other hand, unresolved issues such as favoritism, inadequate crisis navigation, and the lack of formal diversity policies continue to hinder the full actualization of inclusive professionalism. Addressing these structural and cultural gaps is essential for enhancing professional interactions and achieving sustainable workplace harmony in Nigeria's religiously plural context.

Table1: Conceptual Matrix of Multifaith Workplace Realities in Nigeria

Domain	Observed Practice	Benefits	Challenges
Work Schedule Flexibility	Adjustments for Jumu'ah prayers, church activities, and fasting periods	Enhances religious inclusivity, improves morale, supports spiritual well-being	Inconsistent across sectors; may strain productivity during peak hours
Holiday Recognition	Acknowledgment of Eid, Christmas, and traditional festivals	Promotes interfaith awareness and respect; fosters symbolic equality	Perceptions of unequal recognition; logistical disruptions during overlapping observances
Unwritten Norms of Respect	Avoidance of proselytizing and religious debates	Maintains peaceful work atmosphere, minimizes interpersonal conflict	May suppress open dialogue or lead to passive tension in unresolved issues
Leadership and Promotions	Informal perceptions of religious favoritism in appointments	N/A	Undermines fairness, triggers exclusion and distrust, reduces motivation among marginalized groups
Crisis Response Mechanisms	Ad hoc responses to national/religious crises (e.g., communal clashes)	Attempts at de-escalation	Limited preparedness; exacerbation of religious divides during crises
Policy Frameworks	Some organizations lack formal policies on religious accommodations	N/A	Leads to inconsistencies in treatment, increases discretionary bias, limits institutional legitimacy
Social Integration	Informal interfaith collaborations in team projects and shared goals	Encourages team bonding and mutual understanding	May be limited by ethnic or denominational fault lines in highly polarized settings
HR and Organizational Practices	Some diversity training and interfaith celebrations (in few multinationals or NGOs)	Cultivates cultural competence, reinforces organizational values	Mostly absent in indigenous firms and public sector institutions

From the table above, there is a critical need for standardized organizational policies addressing religious diversity to ensure equity, especially in promotion, leave structures, and inclusive language practices. however, Leadership must model religious neutrality and be trained in conflict-sensitive communication. Likewise Institutions should move from informal tolerance to deliberate inclusivity, integrating religious diversity into formal organizational culture.

5. Impact of Religious Tolerance on Professional Interaction

In multifaith workplaces where religious tolerance is actively institutionalized, religious diversity becomes a strategic asset. The inclusion of varied faith perspectives fosters broader cognitive frames, enhancing team creativity, communication, and problem-solving capacity (Syed & Pio, 2010). Employees in such environments experience psychological safety, allowing for open dialogue and greater collaboration without fear of faith-based judgment. Organizational policies that uphold religious inclusivity significantly reduce inter-religious grievances and foster constructive conflict resolution. Clear guidelines promoting mutual respect help prevent misunderstandings and minimize tensions, thereby maintaining workplace harmony and focus on core responsibilities (Ali & Syed, 2017).

Respect for employees' religious identities also strengthens workplace morale. When individuals feel their beliefs are acknowledged, they exhibit higher engagement, motivation, and organizational loyalty. This sense of inclusion reinforces commitment and contributes to enhanced professional interactions and performance (King et al., 2010). Leadership plays a pivotal role in embedding religious tolerance. Leaders who model inclusive behaviors influence organizational culture positively, equipping teams to manage religious sensitivities during critical interactions such as performance reviews, team formation, and conflict mediation (Hashim, 2009). Such cultural competence reinforces fairness and belonging across departments.

In sum, religious tolerance enhances team cohesion, reduces workplace conflict, fosters loyalty, and strengthens leadership effectiveness. Organizations that prioritize religious inclusion are better positioned to leverage the full potential of their diverse workforce, ultimately improving employee satisfaction and institutional performance.

6. Challenges to Religious Tolerance in the Nigerian Workplace

Despite increasing awareness of religious diversity in Nigeria's workforce, several persistent challenges hinder the full realization of religious tolerance in organizational settings.

First, informal biases embedded in professional interactions continue to shape workplace dynamics. These biases often manifest subtly through preferential treatment, exclusion from informal networks, or the reinforcement of stereotypes, particularly against religious minorities. Such microaggressions may not be overtly confrontational but have cumulative effects on employee morale and participation (Syed & Pio, 2010).

Second, workplace politics are frequently influenced by ethno-religious identities, especially in public sector institutions. Hiring, promotion, and leadership appointments are sometimes perceived to align with dominant religious or ethnic affiliations, which undermines meritocracy and deepens intergroup mistrust (Adeosun, 2011).

Third, there is a notable lack of structured training on religious sensitivity for both managerial and non-managerial staff. In the absence of formal programs, many employees remain unaware of how to navigate religious difference respectfully, inadvertently contributing to exclusionary practices or offensive behaviors (Ali & Syed, 2017).

Fourth, broader societal and media narratives often reinforce inter-religious mistrust, particularly during periods of national tension. Sensationalist reporting and politicized religious discourse spill over into organizational cultures, influencing how employees perceive and relate to colleagues from other faiths (Marshall, 2009).

Finally, the weak enforcement of anti-discrimination laws related to religion exacerbates these challenges. While Nigeria's constitution guarantees freedom of religion, implementation gaps and institutional inertia have limited the effectiveness of these protections in the workplace. Without robust legal and regulatory mechanisms, organizations are often left to self-regulate, with uneven outcomes (Umezinwa, 2018).

In sum, addressing these multifaceted challenges requires deliberate institutional commitment, policy reform, and cultural change aimed at embedding religious tolerance into both the formal and informal structures of organizational life.

Table: 2 Policy Action Matrix for Enhancing Religious Tolerance in Nigerian Workplaces

Identified Challenge	**Strategic Response**	**Responsible Actors**	**Expected Outcome**
Informal biases in professional interactions	Implement anti-bias training and interfaith awareness programs	HR departments, Diversity & Inclusion Units	Reduced microaggressions and increased cultural competence
Ethno-religious influence on workplace politics	Establish transparent, merit-based promotion and hiring frameworks	Executive Leadership, Public Sector Commissions	Enhanced trust and fairness in organizational processes
Lack of religious sensitivity training	Integrate religious diversity modules into staff orientation and leadership development programs	HR Units, Learning & Development Teams	Improved interfaith understanding and respectful engagement
Societal/media-fueled inter-religious mistrust	Promote internal communication campaigns focused on unity and pluralism	Corporate Communications, Interfaith Committees	Counteracts external polarizing narratives and builds workplace cohesion
Weak enforcement of anti-religious discrimination laws	Develop internal grievance redress systems and align policies with constitutional and labor law protections	Legal/Compliance Units, Labor Unions	Strengthened legal compliance and institutional accountability

7. Recommendations

- Develop clear religious inclusion policies and communicate them organization-wide.
- Train leaders and managers on religious sensitivity, diversity, and inclusion.
- Establish multi-faith advisory groups or diversity committees in large organizations.
- Create conflict resolution mechanisms specific to religious grievances.
- Encourage inclusive scheduling and equitable participation in all workplace events.

8. Conclusion

Religious tolerance is both a cultural asset and a strategic necessity in Nigeria's multifaith work environments. Historically rooted in interfaith coexistence and descriptively visible in evolving workplace practices, tolerance significantly improves professional interactions. As organizations in Nigeria continue to diversify, fostering a workplace culture of respect, equity, and inclusion across religious lines will be critical to achieving both social cohesion and organizational effectiveness.

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The Role of the Church in Mobilizing Women for Sustainable Peace in the Niger Delta

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Abstract. The paper explores the role of the church in mobilizing women to promote sustainable peace in the Niger Delta region. Its aims are to investigate the roles women play towards peace building and discuss how the church can effectively mobilize them towards sustaining peace. The data for this paper are based on secondary sources, while it is examined through the lens of Feminist Peace Theory. It was discovered that the women contribute to peace through prayer for peace, peaceful protests, formation of women groups and organizations and by discouraging their husbands and sons from taking part in conflicts. It was also discovered that the church in the Niger Delta can mobilize women through rereading of Biblical texts on gender; faith-based peacebuilding; women education and healthcare system; encouraging women organizations in the Church to be involved in peace building, and organization of programmes and outreaches for women. Others are: advocacy for women's rights and interest; encouragement of women's active participation in politics; reintegration of female combatants and victims of conflicts into society; promotion of gender equality and campaign against root causes of conflict. The study concludes that the church's focus on mobilizing women for sustainable peace is essential for addressing the complex challenges facing the Niger Delta region. The study recommends among others, that government should provide resources and support for church-led peacebuilding initiatives by encouraging and supporting women's participation in peace processes and decision-making and encourage increase in women's participation in politics as well as ensuring gender equality in the society and in all government appointments.

Keywords: Church, Women, Peace, Peacebuilding, Niger Delta

1. Introduction

The Niger Delta region of Nigeria has been affected by years of crisis, environmental degradation, and social unrest, resulting in significant humanitarian, economic, and environmental challenges. According to Sarah (2022:7), despite these challenges, the region has also seen remarkable resilience and efforts towards peacebuilding, with various stakeholders, including the church, playing crucial roles. The church, with its extensive reach and influence, has been instrumental in promoting peace and stability in the region. Stating the importance of the region in the country, Chinda & Frank (2022) note that the richness of oil in the Niger Delta made Nigeria one of the major oil producing nations. Nigeria as a member of the Africa Union (AU), NEPAD and ECOWAS, plays a prominent role as a peace keeper in West African sub-region.

Ironically, in the Niger Delta, Nigeria has not been able to maintain peace. Over the years, the region has witnessed violence and insecurity in diverse dimensions: abduction, killing, armed robbery, and kidnapping. The effects of this are devastation, sabotage, unemployment, militancy, lack of amenities and abject poverty. Abimbola (2019:39) is right when he asserts that oil and gas are among the problems causing unrest, confusion, destructions, underdevelopment in the nation of Nigeria, especially the Niger Delta region. The Niger Delta region continues to grapple with persistent conflict, environmental degradation, and social unrest, despite efforts towards peacebuilding. Unfortunately, women, who are often at the forefront of community struggles and peace initiatives, remain underutilized and underrepresented in formal peace processes (Ekiyor, 2005:7).

Women, often disproportionately affected by conflicts, are key agents of change and peacebuilding. If women are positively mobilized, they can serve as formidable agents of change and the church has an important role to play in this because of her comparative advantages over other sectors in society. But it seems much has not been done in the area of the role of the church towards mobilizing women for peacebuilding in the region. This is the problem that this paper aims to address. By exploring the church's initiatives and strategies in mobilizing women for peace building, this study aims to contribute to a deeper understanding of the complex dynamics of peacebuilding in the Niger Delta and the potential for sustainable peace (Ogege, 2009:11). The paper seeks to investigate the roles that women in the region have played in the past towards peace (building) efforts. It also aims to find out the different ways the church can mobilize women in the Niger Delta for them to be more effective in their efforts towards sustaining peace in the region. The paper is examined through the lens of the Feminist Peace Theory. Feminist Peace Theory posits that effective peace cannot be achieved when prescribed by a detached external source. It therefore stresses the importance of those who are directly affected by violence in peace process. Among others, the involvement of women in peace process is emphasized (Choi, 2021, Dersso, 2023).

2. The Concept of Peace

Peace is generally defined as the absence of war, fear, conflict, anxiety, suffering and violence, and the presence of peaceful coexistence. As noted by Olusakin and Sibani (2023:86), peace can be seen as a stress-free state of security and calmness that comes when there is no fighting or war, everything coexisting in perfect harmony and freedom. This indicates that peace comprises activities intended to create conditions that favour tranquillity. Coser (2006:44) is of the opinion that peace is a comprehensive and broad concept. At the macro parochial level, peace is the absence of conflict and war. At micro level, peace is subjective, depending on the internal state of mind, body and perceptions. The indispensable nature of peace for individual wellbeing and communal stability prompts Essien (2020[a]:149) to say that peace is an important ingredient for harmonious co-existence. According to her, individuals, families, nations, and even the whole world need peace. The absence of peace within the community brings chaos and lack of progress, and for the individual, it ushers in personal disequilibrium. This reveals the multi-dimensional value of peace not only as a societal necessity but also as a personal condition essential for stability and development. Overall, peace is dependent on economic, political, religio-cultural, geographical, climate and internal systems. Ibeanu (2006:13) asserts that peace is a process and peace is not a condition. He defines peace as a situation that is directly or indirectly linked to promote development and minimize strife or struggle, both in specific communities or larger societies. This indicates that peace is harmony in personal relations. Faleti (2007:23) opines that peace can either be negative, which is simply the absence of war or positive, which is the presence of justice.

According to the famous human rights activist Martin Luther King Jr., peace is the presence of justice in the society. In his words “True peace is not merely the absence of tension; it is the presence of justice, peace can only last where human rights are respected, where people are fed, and where individuals and nations are free” (cited in Abdul- Fateh, Yaser and Salem,2019:79). This means that peace encompasses all aspect of the society where justice is upheld. Hence peace is a state of calmness and justice which aids development (Sampson, 2023:7). Galtung notes that the term “peace” and “violence” are linked. Peace is the absence of violence, and should be used as a social goal. Galtung further states that like a coin, peace has two sides; negative peace and positive peace. Negative peace is the absence of personal violence, while positive peace is an absence of structural violence or social justice (cited in Ercoskun, 2020:3). Finally, Sampson, Olusakin and Essien (2023: 158) see peace not as a condition, but as a dynamic socio-economic process involving activities that improve development and reduces conflict both in specific societies and in wider international community.

Idoko & Mpigi (2021:12) opine that, in traditional life, the individual does not and cannot exist alone except corporately. He owes his existence to other people including those of past generations and his contemporaries. He is simply part of the whole. The community must therefore make, create or produce the individual; for the individual depends on the corporate group. This idea of corporate life served as an important tool for maintaining peace in traditional Africa

3. Sustainable Peace

The term sustainable peace or sustaining peace emanated from the twin resolutions of the UN General Assembly and the Security Council on Peacebuilding (A/RES/70/202 and S/RES/2282) in 2016. The term was arrived at based on a recognition that efforts to sustain peace are necessary both when conflict has broken out and even long beforehand by addressing the root causes to prevent “the outbreak, continuation and recurrence of conflict”. It builds on and expands the scope of post conflict peacebuilding. It is built on the foundation of social justice, equality and community engagement. It involves taking proactive measures to strengthen peace where it already exists by “reinforcing the structure, institutions and societal mechanisms that underpin it”. It makes any work on peace and security more effective (Peace Infrastructures.com, Mahmoud & Makoond, 2017). It is a shared task that requires the primary responsibility of national governments and authorities to identify, drive and direct priorities/strategies and activities to sustain peace. Prevention is the highest priority and it is at the center of sustainable peace. To sustain peace and prevent conflict, there is the need to address exclusion, injustice, inequality, corruption and other factors that drive conflict. It requires partnership among stakeholders. The aim of sustaining peace includes prevention of outbreak, escalation, continuation and recurrence of conflict, addressing root causes, assist parties to conflict to end hostilities, ensure national reconciliation and move towards recovery, reconstruction and development (Peace Infrastructures.org)

Peacebuilding focuses on where conflict exists to transit from war to peace, but sustainable peace makes a peaceful society its starting point. It seeks to understand the mechanism that facilitates peace in such society and seeks the adoption of such to maintain peace where there is conflict. According to Mahmoud & Makoond (2017:2), "sustaining peace begins with identifying those attributes and assets that have sustained societal cohesion, inclusive development, rule of law, and human security-the factors that together contributes to a peaceful society". It states further that "Peace is not so much as absence of conflict as it is the ability to manage and transform conflict in a peaceful and constructive manner" (Mahmoud & Makoond 2017:12). The factors that foster peace include solidarity and compassion between different ethnic groups, equitable distribution of resources, well-functioning institutions, tolerance for diversity, respect for rights of others, security from physical harm, and access to food and clear drinking water. "Inclusivity is key to sustaining peace. By inclusivity we mean the involvement of all stakeholders: private sector, women, and youth" (Mahmoud &Makoond, 2017:2). Sustaining peace is also context specific. The importance of national government cannot be compromised. Partnerships among people and incentives to maintain it foster sustaining peace not the peace imposed from the top, but the one within and below. Everyone in the community should see the need for peace and work toward it with the support of an inclusive leadership at all levels. In 2018, the UN Secretary General remarks "Sustainable Peace will only be realized through committed, inclusive national ownership that considers the needs of the most marginalized, including women, young people, minorities and people with disabilities" (Peace Infrastructures.org, Lee, 2025)

The UN's approach to sustaining peace includes shifting the primary agency to sustain peace from international to national and local levels. Also, it leverages on its three pillars of engagement which are peace and security, development, and human rights in addition to humanitarian action. Further, its emphasis has been shifted from re-active to pro-active as it responds to emerging risks of violent conflict. According to Peace Infrastructures.org, the UN Agenda 2030 for Sustainable Development and its 17 Sustainable Development Goals (SDGS) informed and inspired the concept of sustainable peace. Its Goal 16 aims at building peaceful and inclusive societies. Among the 12 points of the 16th goal that national government and societies and international community are expected to focus on to achieve the goal, 4 are germane to peace. They are promotion of rule of law and access to justice, reduction of corruption, development of effective and accountable institutions and ensuring access to information. Peace Infrastructures.org therefore submits that the SDGs emphasis on inclusion, access and a right-based approach make the whole of the Agenda 2030 directly relevant to sustaining peace and vice versa. Also, all policies must be patterned to sustain peace. Sustaining peace must be housed at the apex of national and local government structure (Mahmoud & Makoond, 2017:3). The UN twin resolutions of sustainable peace of April 2016 underscores the importance of women in sustaining peace. Hence, the importance of this paper.

4. The Niger Delta Region and Violence

The Niger Delta region is a vital area in southern Nigeria, known for its rich oil and gas reserves. The Niger Delta is the delta of the Niger River sitting directly on the Gulf of Guinea on the Atlantic Ocean in Nigeria. The region is located within nine coastal southern Nigerian states, which include: all six states from the South-South geopolitical zone, one state (Ondo) from South West geopolitical zone and two states (Abia and Imo) from South East geopolitical zone Sarah, totaling none states (Sarah, 2022:62). These states are Abia, Akwa Ibom, Bayelsa, Cross River, Delta, Edo, Imo, Ondo and Rivers States (Sarah, 2022:69). The region has over 30 million people according to 2006 population census, with diverse ethnic group speaking over 100 dialects spread in about 5,000 communities. The region has 185 out of the 774 local government areas of the country (ND links, 1)

Notably, the traditional occupation of the people is mainly fishing and oil palm farming. Therefore, the Delta has a high dependency on the river and land for survival. Unfortunately, the rivers and the lands are all polluted by oil spillages and sundry pollutions frequently happening there (Ogege, 2009:7, Olusakin, 2014, Olusakin, 2020[a]). The Niger Delta is a very densely populated region sometimes called the Oil Rivers because it was once a major producer of palm oil. The area was the British Oil Rivers Protectorate from 1885 until 1893, when it was expanded and became the Niger Coast Protectorate. As noted by Adebanjoko, (2021:7), the delta is a petroleum-rich region and has been the center of international concern over extensive pollution which is often used as an example of ecocide, due to oil spills by multinational corporations of the petroleum industry among others. However, one of its major impediments to development is corruption.

Obi (2018:187) argues that the nature of oil as a commodity of immense economic and strategic importance feeds into a combustible type of politics, clearly linked to zero-sum struggle over the vast providential wealth, it bestows on those who control it. This often leads to the monopolization of power over oil by the few who seek to defend their control of oil by any means and attempts to destroy any opposition or challenge to their monopoly of oil power. In a country of ethnic heterogeneity and elite fractionalization as in the Nigerian case, the struggle over oil merges with the struggle for power to fuel intense intra-ethnic competition in the Nigerian federation. What this indicates is that the elites in Nigeria have hijacked the country’s common patrimony for personal aggrandizement. Despite the heterogeneity of Nigeria, when it comes to our collective resources, all the factional, ethnic and religious sentiments are not acknowledged. All these can be traced to corruption, which is the major institutional problems that have impeded sustainable development in the country (Oko, Olusakin and Sampson, 2023:2).

Olusakin (2019:234) states that the agitation for resource control in the Niger Delta region has witnessed the formation of various militant groups. It is pathetic that the region contributes over 80% to the national revenue and there is no serious development going on, despite huge Federal Government allocation to the Ministry of Niger Delta Affairs and Niger Delta Development Commission. It seems the little it has allocated so far has not been adequately used for the purpose for which it was released. It is a sad reality that the people in charge of these funds are sons and daughters of the Niger Delta. Sampson (2023:54) in in agreement with Olusakin when he avers that the exploitation and exploration of oil wealth from their land reawakened the struggle for a better Niger Delta. This gave rise to the high rate of militancy, violence, insecurity, destruction of oil pipelines, kidnappings of oil workers from foreign nations which makes the region to look like war zone. In addition to being a major hub for Nigeria's oil and gas production, the region is home to mangrove forests, wetlands, and diverse wildlife.

The experiences of marginalization, corruption, environmental degradation among others, have plunged the region into countless conflicts over the years. The series of conflicts faced by the region can be grouped into communal tensions, political competition, organized criminality and resource-based conflict. These manifest in militancy, piracy, cultism, election violence, armed robbery, kidnapping, human trafficking, mob violence and land disputes, which has forced many people to run away from their homeland (ND links, 2021:1, Mpigi, 2023:78). However, recent trends in violence in the region is expressed in two forms: communal violence and cultic war, though this does not mean that other forms of violence like election violence, personal conflict and others are not rampart in the region. The manifestation of these forms of violence is made worse by emerging issues like increase in the prices of food, unemployment, farmer-herder clashes, economic recession among others (ND links, 2021:1). Government responses to violence have been in form of proscription of cult groups by law, prescription of huge consequences for cult members, establishment of special response unit against cultism, setting up of panel of inquiries or special committees which are mostly government appointee for conflict between communities and for election violence, tribunals or special committees. However, these approaches have not ensured sustainable peace, because they in most cases, do not focus on drivers of conflict, are not prefaced with conflict analysis and are set up after conflict had ensued and there is no provision for conflict prevention (ND links, 2021: 4).

To ensure holistic peace and security framework in the Niger Delta, there is the need for efforts to bring sustainable peace which does not focus on solution after the escalation of violence, but proactive efforts before violence begins. Hence, ND links (2021:5-6) recommends the following: focus on conflict prevention rather than mitigation. This will be based on early warning and early response and peace building. This approach requires participation and inclusion of civil society organizations and other non-security actors to complement the efforts of security agents. Conflict prevention will include adequate peace education, sensitization and awareness and other issues Also, there is the need to set up peacebuilding roadmaps that ‘highlights the steps to take in propelling the peace process forward’, ‘promote sustainable conflict-resolution planning, implementation, monitoring, evaluation and involvement of women in the post conflict intervention. Steps to achieve this include, one, engagement of stakeholders that will include, government agencies, civil society organizations, community leaders, academics, community groups and community-based organizations, vigilante outfits, Faith Based Organizations, security institutions and the media. Two, creation of a peace vision for the region may be in each state, that will be based on careful analysis of the conflict situation in the area, identifying stakeholders, trend and patterns. Three, creation of Peace Building Commission in each state which will draw members from the executive, judiciary, security institutions, Christian and Islamic

leaders, traditional leaders, women and youth (ND links, 2021:10).
While this recommendation is laudable, especially due to its involvement of women. It needs to be further emphasized that women's participation in any peace efforts in the state/region is sacrosanct, because in most cases, they are the carriers of the effects of conflicts. They suffer displacement, rape and other sexual assaults, loss of children and husband and become homeless, cheated and abandoned by their late husbands' relatives. The UN security council recognized the link between gender equality, peace and security in its Resolution 1325 adopted in 2000 when it calls for "an increase in participation of women at decision-making levels in conflict resolution and peace processes" (cited in Krook, Anlar, Aissa, Corredor & Vojvodic, 2019:). Also, its twin resolutions of sustainable peace of April, 2016 underscores the importance of women in achieving sustainable peace. It is therefore important to investigate the contribution of women in the Niger Delta towards peace efforts in the region. However, we need to ask the question, who are the Niger Delta women.

5. The Women of Niger Delta

Women in the Niger Delta region play vital roles in their communities, despite facing numerous challenges Sarah (2022:8). They have been at the forefront of activism, advocating for environmental justice, human rights, and peace. Women contribute significantly to local economies through various activities, including farming, trading, and small-scale businesses. For Mbonu (2011:60), women often take on leadership roles in their communities, promoting social cohesion and peacebuilding. Women in the Niger Delta face challenges such as environmental degradation, lack of access to education and healthcare, and gender-based violence. These challenges faced by them have affected the economic situation. Women in the Niger Delta mangrove forest ecosystem engage themselves in mainly fishing and gathering of seafoods. A dense vegetation of mangroves in their marine and brackish habitats found along numerous rivers and creeks have become dependable sources of fuel wood for domestic and small-scale food processing as well as income generation.

According to Ogege (2009:7), the Niger Delta women are known to be engaged in household subsistence activities and are highly dependent on the environment for their task. Women are expected to be caretakers of the welfare of their children and the home. Iruloh and Uche (2017:27) note that rural women are the last to be hired by the oil companies. This is where employers, stakeholders and sundry by pretense or ignorance have been unaware of inflicting the women folk with various unjust treatments in which most of them are languishing, and by all evaluation, if things continue to be what it is now, the women will not be able to live to exercise their God-given potential in times of needs which have always been through several experiences of theirs within the region. The menace of such disparity goes far beyond what can be imagined.

Ololade (2009:7) captures the situation of women in the Niger Delta thus, "Niger Delta women perform certain economic responsibilities within the family as wives, mothers, farmers and breadwinners. They are the principal care giver of the children and the aged. Even though they are food producers, harvesters and cooks, they are also expected to function as wage earners. This is because the intra housing income distribution pattern and the rise of matriarchal household in the country, coupled with poverty, force them to take active financial role in their families. Since most of them are uneducated and therefore unemployed outside the home, their major source of livelihood is subsistence farming as they comprise 60 to 80% of the agricultural labour force and account for 90% of family food supply"

The exploitation of oil resources in the Niger Delta has resulted in particular economic and environmental conflicts, with the female folks bearing the brunt of the situation. Olusakin (2019:229) has shown that oil provides over 90%of Nigeria's foreign exchange earnings, yet the people of the Niger Delta, especially the women are among the poorest in Nigeria. This is because in the area where the men are known to always go in pursuit of contracts, the women are engaged in full time farming. Emmanuel (2011:6) opines that women in the Niger Delta are like their counterparts in the other parts of the world, despite their number and crucial functions. The division of roles between the male and female sexes, as prescribed by most cultures assign the subordinate position to women. As a consequence, these women have for long suffered various forms of brutality, discrimination, inequality, exclusion and violence.

5.1 The Role of Women in Sustaining Peace in the Niger Delta.

The role of women in peace efforts is important. This is underscored by the UN Secretary-General's report to the Security Council when he called women leadership and participation in peacebuilding a "prerequisite for the fulfillment of the 2030 Agenda for Sustainable Development." According to him, "without women's participation, we will not achieve lasting peace; and without the stability of peace, we will not achieve sustainable development" (Department of Economics and Social Affairs).

In the Niger Delta, women play crucial roles in sustaining peace, often working at the grassroots level and through informal networks. They are instrumental in prayer for peace, conflict resolution, rehabilitation, and promoting economic development, despite facing significant challenges. Omoruyi & Isibor (2020:35) note that women in the Niger Delta have sought to bring about peace in their environment in different ways. These include through peaceful protests, formation of women groups, organizations and by discouraging their husbands and sons from taking part in conflicts. There are basically 3 types of women groups that play crucial roles in the Niger Delta in relation to conflict. The first one relates directly to the multinational companies (MNCs) and the state in terms of complaints, petition, representation, protest and disruptions. The second relates to all the stakeholders including the state, MNCs, traditional rulers, elders and opinion leaders, political and appointees, youth and other groups. In this category, women's role is that of moderators giving advice and suggestions. The third relates to the excess, perversions and the socially disruptive consequences of agitations and protests indicated by violence, crime and insecurity (Omoruyi & Isibor, 2020 35-36).

The most active women groupings in the oil economy according to Omoruyi& Isibor (2020:36) are the local community traditional women associations. They include culture and social-politically inclined women groupings. They motivate, encourage and support women protest or promote peace. These include the Warri Women Consultative Assembly, Federation of Ogoni Women Association, the Niger Delta Women for Justice (NDWJ) Niger Delta Women's Movement for Peace and Development (NDWPD). The Federation of Ogoni Women Association (FOWA) for example, has been active for over 20 years. In 1990s, they supported the Movement of the Survival of Ogoni People (MOSOP) in its non-violent protest against the destruction of Ogoni farms and livelihoods. Also, in 1991, about 1000 women in Yenegoa, led by the president of Niger Delta Women for Justice protested peacefully to the visiting senate delegation following the confrontation between military and youth after the destruction of Odi community. According to Omoruyi & Isibor, they had already called for the immediate release of over 2000 women and children and 1000 Ijaw youth locked up in Ebele barracks and Bori camp in Port Harcourt (2020:36,).

According to Arnet (2015:2), the history and waves of women's resistance and revolts towards injustice in the Niger delta dated back to the 1980s when there were uprisings of women; firstly, in 1984 by Ogharefe women of Ethiope local government, and again in 1986 by Ekpan women in the Okpe council area against a United State oil corporation. In the Niger Delta conflict, women were involved not as onlookers, but mostly as active participants. Majority of women were involved in the conflict as victims, survivors, protectors, activists, demonstrators, campaigners, combatants and peacemakers. Women as victims in conflict situation are mundane. In the Niger Delta Conflict, there have been cases of rape, torture and killings of women. On November 1993 in Ogoni land, due to MOSOP activities, the Nigerian government began a campaign of violence, murder, rape, burning, looting, beatings, torture etc. The Ogoni women publicly spoke about the rape they had suffered (Ekine, 2008:77).

Women also carried out protests against the oil companies and the government. The Itsekiri women in 2002 had embarked on a protest which involved taking over Chervon-Texaco airstrip at Escravos export terminal in Delta (Ekine, 2008). They had occupied the terminal for Ten Days. This occupation was different in the sense that the women protested naked (Ekine, 2008). As noted by Akpan (2014:171), in Africa, nudity was an extreme traditional and ritualistic way of protesting, it expressed the anger, the anguish, and the pain of the protesters and often times carries in itself a curse. In 2002, Ijaw women in Gbaramatu and Egbema Kingdom in Delta State also occupied the Chervron Abiteye flow station. Also in August 2002, women from Urhobo, Ijaw and Itsekiri in Delta State marched on SPDC and Chervron in Warri to demand improved socio-economic conditions and social services from the oil companies. Often times the protesting women were forcefully ejected from the oil companies' premises by the military, but that did not deter them, as there were several numbers of protests organized by the women in the Niger Delta region (Akubor, 2011:26).

The Warri Women Consultative Assembly, Federation of Ogoni Women Associations, the Niger Delta Women for Justice (NDWJ) Niger Delta Women's Movement for Peace and Development (NDWPD) amongst others have contributed significantly to promote peace in the region. For instance, the Federation of Ogoni Women Associations (FOWA) has been active for over 20 years. In the 1990s, they had stood with men and women of the Movement of the Survival of Ogoni people (MOSOP), taking part in non-violent actions to protest against the destruction of Ogoni farms and livelihoods (Ewubare,2015:87). Further, the Tere-Ama women's association a community-based organization, took direct action to persuade young men in the creeks in Okrika to stop them from participating in armed violence in the run up to 2007 general elections. The women resolved dispute over land ownership that threatened the main community market and livelihoods by calling the traditional leader to a meeting thereby avoiding bloodshed (Ekine, 2009:19).

Also, Women's associations such as Gbaramatu, Isoko, Itsekiri, Ugborodo and Ogbakiri Women's Peace Forum, the Academic Associates Peace Workers, the Kebetkache Women Development and

Resource Centre and Ekunuga women's association have participated in environmental activities, organizing prayers and peace initiatives in the Niger Delta (Badmus, 209:808). Also, Egwu (2013:1) records that the gender NGOs and women national associations such as the National Council for Women Societies (NCWS) were not left out in the peace building process. They have been active in peace building through the empowerment of women in the training and the articulation of women conditions and interest (Ikelegbe, 2005). In recognition of women role in peace building in the Niger Delta, the West Africa Network for Peace Building (WANEP) extended membership to different peace groups in the region such as the Kebetkache Women Development and Resource Centre. WANEP sought to promote women's empowerment, inclusion in communal and governmental decision making and peace building. WANEP has worked with different women groups in most of the Niger Delta states. The group (kebetkache) held mothers for peace marchers in towns like Emohua, Ogbakiri and Ogoni in 2007 The Ekunga Women Association convinced council of chiefs from Ekunuga and Okolomade communities to meet regularly to ensure peace in their communities" p36.The gender NGOs and women national associations like National Council for Women Societies (NCWS) have played active role in peace efforts through women empowerment and others (Omoruyi & Isibor, 2020:36-37).

From the foregoing, it can be deduced that Niger Delta women have played important roles in peace efforts through their various associations. They have played active roles through peaceful protest and other means to speak against injustice in the region that normally fuels conflict. However, it is believed that, with more encouragement and mobilization, they can play more active role than protest. They can participate more in every aspect of peace process, from pre-conflict period to post conflict period. They need more opportunities that can make them participate more at every stage of peace process. For example, to ensure their voice is heard in government, women in Niger Delta can join other women in the country to form political party or be actively involved in the already existing political party. If they win key positions in government, it will give them opportunity to stronger participate in peace efforts. This will give them voice among the elites who are always engaged in peace talks. For example, the formation of Northern Ireland Women's Coalition (NIWC) by a combination of Catholic and Protestant women's group in Northern Ireland helped the women to win two seats out of the 20 seats in the election. This position gives opportunity to women to be part of peace talk or efforts at the national level. This women's party played active roles in working across sectarian line in the country to achieve peace (Krook, Anlar, Aissa, Corredor & Vojvodic, 2019:20). The party members held regular meetings in which updates were provided on peace processes as well as the concern of both the Catholic and Protestant communities. The church can play active role in this direction by mobilizing them. In what follows, we will examine how the church can achieve this.

On the 20th anniversary of the UN Security Council Resolution 1325(2000) in 2020, the UN General Secretary, Anthonio Guterres discusses actions that can enhance women's leadership and full participation in transforming peace and security. These actions are; Systemizing women's leadership to inform conflict prevention and resolution, mediation and protection; creating dynamic and innovative partnerships to enhance women's participation; prioritizing and investing in community-based local women's networks; harnessing data and gender analysis for accountable decision-making and accelerating and leveraging women's mobilization to transform peace and political processes (2020). To be able to achieve these actions, the church, being an important stakeholder in community peace and development has a role to play.

5.2 The Role of the Church in Mobilizing Women in Sustaining Peace in the Niger Delta

The church has pivotal role to play in encouraging women to participate in sustaining peace in the Niger Delta. The comparative advantages that the church has over other sectors in society, makes this responsibility important. The church reaches a large number of people both at the rural and urban area. She provides a long-lasting sustainable service to the people. Due to respect people give to their churches and church leaders, church has the capacity to shape people's attitude and behaviour. Also, she has the potential to influence the powerful. She provides both materials and spiritual support. Many churches have a greater number of women than men (Olusakin, 2020[a]:12). As a prophetic organization, advocacy for peace in society is one of the key social works of the church. The church has involved in sustaining peace through mediation in the time of conflicts and through promotion of social justice. Her involvement is not a modern engagement; it has started from the period of the missionaries when foundation was laid for social cohesion and education through missionary activities. She also involves in advocacy for human right and social justice. Christian Association of Nigeria has been active in this direction. The church has through different forms advocated accountability and transparency in government. Through inter-faith dialogue, she has made crucial contribution to peace efforts. In many churches, women form over 60% of the members. Hence, mobilizing them by the church has a lot of benefits. If the church spare heads mobilization of women for sustainable peace in the Niger Delta, it can produce better result than other sectors. There are many ways the church can mobilize women towards participation in sustainable peace efforts. Some of them are discussed below:

5.2.1 Rereading of Biblical Texts on Gender

The church needs a rereading of Biblical texts that purportedly push women to passive position in society. Given the needed encouragement, women can achieve whatever they decide to achieve and the influence they have over their husband and sons is undoubted. In truth, the Bible teaches that "God created man and woman in His image and likeness…" (Gen. 1:27), and both were called to cooperate with God in bearing and bringing forth children into the world. They were also jointly commanded to conquer and have dominion over all other creatures of the earth (Gen. 1:28). Nowhere did God suggest or intend discrimination based on social or gender distinctions. If God ever intended a hierarchy between man and woman, He would likely have created a separate birth channel for the man, so that the inequality would be visibly marked (Essien, 2020[b]:30). The interpretation of Scripture, therefore, should be Christ centred. Jesus never intended women to be passive but to be agent peace, progress and development. Hence, some of these women followed him in his earthly ministry. The achievements of women like Okonjo Iweala, late Professor Dora Akunyili are testimonies to the fact that if the Bible is interpreted and applied in a way that makes Niger Delta women to understand their roles in sustainable peace, they can achieve much in the region.

For example, the August Meeting held by Igbo women annually has played pivotal role in ensuring "social-economic growth and policy implementations that will enhance peace". Claimed to be a product of the Catholic Women Organization, the group holds meetings and deliberates on issues affecting the peace and development of the area. It provides relief materials, gift and support for those who are affected by conflict. The women hold marches through the street with placards calling for end of hostilities and war. For example, after the encounter before the indigenous people of Biafra and Nigerian Military in 2022, the group did not only provide relief materials to the affected, the members marched through the streets, carrying placards with the inscription "End the War! Let there be Peace" to ensure a peaceful, and healthy environment for socio-economic growth in Eastern region. The group also support peacebuilding and conflict resolution approaches in their local communities in the areas of land disputes, domestic violence among others (Eyike, 2023).

5.2.2 Faith-Based Peacebuilding

This include gathering women to prayer for peace in the community and pray for forgiveness and healing in the hearts of those who have been hurt and offended through conflict. This can go a long way in initiating unity and peace between warring groups in the society. Mobilization can also be done through preaching and teaching on principles of peace, forgiveness, non-violence and reconciliation from the pulpit, challenging the parishioners most especially women to serve as agents of peace in their households, community and in the state.

5.2.3 Women Education and Healthcare System

At its inception, the Church was as interested in the spiritual needs of the people as it was in their educational, health, and economic needs, thereby giving holistic attention to the well-being of the entire community (Essien & Edem, 2024[a]:204). In this light, the Church must revive its commitment to these critical areas, particularly by prioritizing women's education and healthcare as strategic tools for peacebuilding and sustainable development. Proper training can be organized for women in the church in areas such as peacebuilding, conflict resolution, and leadership. This will help in enhancing their capacity to contribute to peacebuilding efforts. This can be done within the church through church's women organizations through a community-based training, organized by the church through her women organization. Women can also be mobilized through health care and education. The church should encourage the education of women at all levels and in different professions. This includes funding for the education and healthcare of the girl child, women and funding of women organizations. In most cases, conflict is a direct product or aggravated by illiteracy, poverty and lack of access to basic services. Education allows for personal development and shared sense of community. Through its health care system, the church has played major roles in the treating of and care in conflict affected areas.

5.2.4 Encouraging the Involvement of Women Organizations in Peacebuilding.

Many church women organizations are respected in society. They include Catholic Women organization who are the conveners of August Meeting which has become a powerful force in the peace efforts. Adequate encouragement given to such women organizations in the church will make them to be more effective in peace efforts. Also, the church can offer support in the area of women economic empowerment through skills training, microfinance, and entrepreneurship development. When women are economically empowered, they tend to have formidable voice in peace efforts.

5.2.5 Sustainable Peace Programmes and Outreaches for Women

Further, the church can initiate and sponsor sustainable peace programme that involve women, such as community dialogues, mediation, and reconciliation efforts. She can engage in community outreach programmes that promote peace, understanding, and tolerance and train women to play active role in such outreaches. In such outreaches, she can feature various activities like marches, lectures among others that are patterned toward peace and unity and how to serve as agents of sustainable peace.

5.2.6 Advocacy for Women's Rights and Interest

Advocacy for women's rights and interests, particularly in areas affected by conflict is another area where the church can mobilize women for peace. In those areas, women can be trained and be appointed to lead in the advocacy. The church can advocate inclusive decision-making processes in government that involve women in sustainable peace efforts. This can be done through members of the church who belong to the political class. The church can speak out for women right and encourage them to device avenues to seek for stronger participation in governance.

5.2.7 Encouragement of Women's Active Participation in Politics

Over the years, there have been renewed efforts to improve the participation and the election of women into key positions in the politics both in Nigeria in general and the Niger Delta in particular. Although these efforts have been immense and very concerted, only minimal successes have been recorded (Essien & Edem, 2024[b]:300). Therefore, the church in the Niger Delta can encourage women to participate fully in political parties in collaboration with women in other Faith Based Organizations in the region. Women group can lobby for women perspectives in peace talks and processes. Another way is formation of civil society organizations for peace that are faith based. The civil society organizations can draw members from diverse sectors: trade unions, academia, human rights group, students, ethnic groups and rural communities. This will give them a strong and loud voice in advocating peace in the area both before, during and after conflict. The church can play major roles in making sure cultural and religious norms are not used to exclude women. This is important because they are the most hit in every conflict situation.

5.2.8 Reintegration of Female Combatants and Victims of Conflicts into Society

The church needs to spearhead and encourage women and women organizations in and outside the church to ensure the reintegration of female combatants and victims of rape and those who lost their husbands in conflict hit back into the society. Discrimination against such women must be discouraged and the church can play active role in this. Their needs like education, housing (Including provision of household goods like oven, furniture etc.), food and healthcare must be prioritized. For those who lost their husbands in the process of conflict, the church must play active role in making sure they are not subjected to traditional practices of having their husband's properties taken over by the husband's surviving relatives. These especially affects women with female children only. By doing these, many of the reintegrated women can become advocate of sustainable peace in the society.

5.2.9 Promotion of Gender Equality and Campaign against Root Causes of Conflict

The church should advocate for the promotion of gender equality in all sectors, church activities and government operations. The budgeting of the country can be gender-responsive. The church can also mobilize women in the aspect of addressing the root causes of conflict in the area. The church can lead and involve women in the campaign again environmental degradation and social injustice in the region. Mpigi and Egwuagu (2024:15) linked the contemporary challenges confronting the modern Church to contradictions within the Church system. They contended that many people in the Church are ravaged by poverty, unemployment, and ill health, whereas the Church's resources are used to fund affluent and flamboyant lifestyles of Church leaders in virtually every denomination.

6. Conclusion

The Niger Delta region crucial in Nigerian economy. Hence, sustainable peace in the area is a must. The place of women in sustainable peace has been identified. Though the Niger Delta has witnessed participation of women in various peace process, it has majorly manifested in protest. Women in the region can do more towards sustainable peace. The importance of the church in this cannot be over emphasized due to her position in the society. The church can do a lot in mobilizing women for sustainable peace through education, healthcare, skill acquisition, economic empowerment, peace education and encouragement to have voice in government and others. Women are always the victims of conflict, so involve them in the process of peace is not a misplaced priority. It will make the region to be a better place to live. The church is therefore encouraged to rise to this responsibility. The following recommendations are hereby given. One, government should provide resources and support for church-led peacebuilding initiatives by encouraging and supporting women's participation in peace processes and decision-making. Two, increase in women's participation in politics as well as ensuring gender equality in the society and in all government appointments should be encouraged. Three, women should be given a forum to air their views on issues pertaining to them. Thus, there is the need to establish rapport and a working relationship between the various women groups across various Christian denominations in the Niger Delta region.

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The Shifting Landscape of Elderly Care: Implications of Youth Migration in Nigeria

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Abstract. Youth migration, a widespread phenomenon, has significant implications for the health and wellbeing of the elderly left behind. This review paper synthesizes existing literature to examine the complex relationships between youth migration and the health of older adults. The paper explores how youth migration affects the physical, emotional and social health of the elderly. It also examines institutional and policy frameworks in Nigeria to address the health and wellbeing of the elderly. Literature was sourced from relevant databases such as PubMed, Science Direct and goggle scholar using key words such as Youth migration, elderly health, Nigeria and caregiving. Inclusion criteria for literature was based on scholarly articles in reputable journals within 15years frame (2010-2025) including data/reports from national and international organizations/agencies. It also considered articles that examined youth migration in sub-Saharan Africa especially the Nigerian context with a focus on international migration. Findings from this study provide valuable information on the complex interactions between youth migration, caregiving deficits, social isolation and elderly health. This paper has established that there is high rate of youth migration with massive brain drain especially in the health sector. Specifically, among others, findings indicate that youth migration significantly impacts health of the elderly especially their mental health, although some may enjoy remittances. It however, emphasized that caregiver deficit led to social and economic consequences that exacerbate challenges in the health of the elderly. Consequently, the findings underscore the need for policy and community-based interventions supporting elderly individuals with migrant children. It also advocates that healthcare access and utilization should target elderly individuals both rural and urban settings. Furthermore, there is the need for Nigerian government to provide enabling environment hence discouraging migration of its citizens.

Keywords: Youth migration, Elderly health, Nigeria, Caregiving

1. Introduction

Migration, whether internal or international is a global reality and can be considered an integral part of globalization with both positive and negative influences on economies and societies. While the importance of migration to economic, social, political and health development cannot be overemphasized, its negative impacts on both people and societies are also raising concern across the globe (World Bank, 2023; Korzan et al., 2021; Adepoju &Van der wiel, 2010). In the past decade, the number of people moving within and across boarders has been steadily growing, surpassing global population growth rates (United Nations (UN), 2017). According to UN, in 2017, there were 258 million international migrants globally an almost 70% increase compared to the year 1990 (UN, 2019).

In Sub-Saharan Africa, family members play a significant role in the care for elders, providing up to 90% of home care (Chigozie et al., 2024; Kisangala et al., 2024; Essuman et al., 2018) Elderly care seen in the form of institutionalized care in developed countries is rarely seen in this region. Values premised on love and empathy are gradually being replaced by materialism and abandonment, which account for insecurity, increased physical and psychological abuse as well as neglect of the elderly (Aboh et al., 2025; Mudiare, 2013)

Active aging describes the interaction among factors such as maintenance of health and wellbeing, involvement in social activities and overall security or protection which promote optimal health and wellbeing during the process (Walker, 2016). Poverty remains a major challenge in many developing countries including Nigeria. Elderly persons who have retired from the economic productive phase are most vulnerable to experiencing economic hardship

(Animasahun & Chapman, 2017). Since the statutory age of retirement is the cut off for being categorized as an elderly person, majority of these groups of people are not socially and economically secure. They are usually faced with the paradox of dwindling financial resources, increased health challenges and a geometric rise in medical expenses (Odaman & Ibiezugbe, 2014). Provision of social services such as income security, health care, housing and legal assistance positively influence the psychosocial health of the elderly (Oladeji, 2011).

Aging in developing countries is occurring against a backdrop of dwindling financial resources with very little formal arrangement for support of the elderly. Lack of, or very weak infrastructure to address emerging issues on aged care and support are quite evident, unlike in developed countries that have gradual population aging (Togunu-Bickerstett & Akinyemi, 2014). Care and support for the elderly requires that adequate welfare be provided at family and community levels, by strengthening family support and developing community-based programmes on such issues like housing, health, medical and nutritional care, income and maintenance as well as personal social services. Health status of the elderly is a function of the care and support they receive. Chronic diseases suffered by the aged are traceable to lack of or inadequate care and support as well as poor nutrition and physical insecurity (Olayiwola et al., 2010). According Togunu-Bickerstett and Akinyemi (2014), aging is not just a natural process that reflects biological and physiological changes but a social fact with significant impact on society and culture.

The traditional family structure in most African countries was patriarchal and characterized by an extended family system. It was a close-knit social unit which emphasized care and support for the elderly members in terms of food supply, welfare and security. Elderly care did not pose any challenge because of kingship ties that bonded family members. The elderly were seen as a veritable source of wisdom and knowledge for guidance of the young in the traditional society and they were also held in very high esteem (Ani, 2014). Traditional society believed in aging with dignity and emphasized the importance attached to old age. Aging was viewed as a stage in life where the elderly should be wealthy, and not poor, hence the importance attached to elderly care and support in traditional days (Togunu-Bickerstett & Akinyemi, 2014). However, the traditional extended family which emphasized respect and assistance for the elderly has been eroded by a nuclear family system, rapid economic growth, migration of youths to seek for employment and career opportunities, urbanization and industrialization

Population aging is an essential demographic phenomenon of the 21st century that is fueled by the expansion of elderly adults around the world (Ojijieme, Oi & Chui, 2022). WHO (2021), predicts that the population of the elderly adult to double and outgrow the population of children aged five and below between 2015 and 2050. In low-income countries, socio-economic factors such as inadequate financial and family support are leading inhibitors of healthy aging (Chukwuorji, et al., 2017; Jeste et al., 2013). Therefore, non-conventional financing sources such as remittances are growing more relevant as an alternative source of income. As the number of elderly grows, their economic, social and cultural wellbeing is at risk, especially in developing countries (WHO, 2021). Majority of older adults face various challenges in daily life and often require physical and psychosocial support and regular medical care. The global population of people aged 60 years and above is estimated to rise from 900 million to 2 billion between 2015 and 2050; an increase from 12% to 22% of the total global population, with about 80% of these older people living in low- and middle-income countries (Shrivastava, Shrivastava & Ramasamy 2013).

Remittances have far-reaching impacts in reducing poverty and inequality and in fostering socioeconomic development (Ratha, 2013; Adams, 2011). It smooths out consumption and household expenditures on a micro level since households allocate this additional income for other critical alternative uses such as health. Conversely, some researchers argued that remittances could not adequately compensate for loneliness, poor mental health, and bodily wear and tear associated with labour participation by elderly adults left behind due to migration (Tachibana et al., 2019; Antman, 2010). While youth migration can have some positive financial implications for elderly parents, the overall impact on their health and particularly their mental well-being is very significant. It is therefore essential that policymakers, researchers and practitioners understand the dynamics and complexities of youth migration and its impact on elderly care in Nigeria. By exploring the opportunities and challenges presented by this shifting landscape, innovative solutions that ensure the dignity and wellbeing of the elderly population in the country can be developed.

2. Emerging Pattern of Youth Migration

Migration involves the process whereby individuals leave their own country and become permanent residents of other countries. Annually millions of people around the world migrate to other countries where they become citizens (Urbanski, 2022). The decision to migrate is influenced by a variety of factors and is multifaceted, thus making it complex to generalize a single reason. International migration towards developed countries in most cases is caused by pull factors (Thet, 2014). The phenomenon of migration has been in existence for centuries and is driven mostly by economic, social-political factors, natural disasters, conflicts, urbanization, as well as population issues (Urbanski, 2022). Frightening economic and political instability may as well be a push for migration trend. This is because, opportunities for job mobility, business ventures, personal relaxation and greener pastures may be opened outside the frontiers of a nation's domestic boundary. Insecurity and political crises could also pose some sort of challenges and hence the desire to migrate. Other reasons span from trade in illicit businesses like drug, human parts/organ to smuggling of contraband goods and services (Umar et al., 2018). In Nigeria and other sub-Saharan African countries, a significant pattern of youth migration is emerging characterized by a move from rural areas to urban centers and a growing trend of international migration often driven by a combination of economic, social and environmental factors. This migration is reshaping both rural and urban landscapes, as well as presenting opportunities and challenges for the region. Migration takes place when the benefits of migration are perceived by migrants to have comparative advantage. The disproportionate economic situation between developed and developing countries is quite apparent as migrants from developing nations in their quest for better employment opportunities are usually pulled by developed nations in need of labour (Urbański, 2022). The recent frenzy for international migration among young people in some sub-saharan countries is alarming. In Nigeria, the new trend has bred the adoption of the colloquial term japa among the populace to describe the mass outmigration in Nigeria (Ogunade & Awosusi, 2023).

Migration in sub-Saharan Africa is likely to skyrocket, with the region currently having eight of the ten top countries with the highest international migration rates since 2010 of which Nigeria is one (Pew Research Center, 2018). The increasing levels of political instability stemming from wars, coups, insurgency including trafficking in arms, people and illicit goods has intensified the desire to migrate among residents. The availability of smartphones and internet facilities coinciding with these factors has further increased accessibility to information and the motivation to travel (Kirwin & Anderson, 2018)

Domestic and international migration, plays a critical role in determining evolving population characteristics, mostly in terms of significant youth population, rapid population growth and urbanization (Adebayo, 2024). Nigeria has been undergoing major demographic changes in contemporary times. The issue of rapid population growth motivated by high birth and low mortality rates is one of the obvious trends in this region (Adebayo, 2024). Another characteristic feature of this region is its youthful population which has consequences for employment, social services and education. 60% of migrants are between 15-34years (International organization for migration (2020). Top destinations: Europe (34%), North America (26%), other African Countries (20%) (Akinyemi & Isiugo-Abanihe, 2014). Urbanization another important demographic trend in Nigeria, pose serious challenges associated with infrastructure, accommodation, and access to basic services. Kirwin and Anderson (2018), remarked that it was unsurprising to identify urban dwellers in the West African sub-region as more likely to migrate since many urban dwellers have made at least one move from a rural setting. The demographic distribution of ethnic groups is crucial as ethnicity is a key component of the region's politics, identity and social dynamics and also an important tool for addressing conflicts and issues of governance (Adebayo, 2024).

The phenomenon of migration is not restricted to educational accomplishment, age of gender as educated and uneducated, young and old as well as male and female are involved in this act (Popogbe & Adeosun, 2022). Across West Africa, men tend to be more likely to migrate than women, although this differs based on religion. In Nigeria and Burkina Faso, both with significant Christian population, women are at parity with men in their aspiration to leave home, while in Niger where majority are Muslims, women are half as open as men to leaving (Kirwin & Anderson, 2018).

3. Status of Care for the Elderly in Nigeria

The number of persons aged 60 and above globally is estimated to increase from 900 million to 2 billion between 2015 and 2050, with the low- and middle-income countries contributing to about 80% 0f this population (United Nations Department of Economic and Social Affairs [UNDESA], 2015), In sub-Saharan Africa, it is projected to increase significantly, leading to a greater demand for care. Presently, the region records about 46 million older people, with the number expected increase by 2050 to about 165 million (WHO, 2016). The situation is also similar in Nigeria with the elderly making up about 3.1% of the total population of 191million (National Council on Aging, 2016). Care for the elderly in Nigeria is primarily a family responsibility, with some relying on informal mechanisms like kinship networks and mutual aid societies or formal social welfare programmes and pensions, which are often minimal or non-existent. There is a growing need to develop long-term care systems that can be compatible with cultural values and retain family involvement. Despite a clear normative preference for family and community based long term care for the elderly, government efforts to support these forms of care are very limited. Traditional family-based care remains

the dominant form of care for elderly individuals, with family members expected to provide emotional, financial and practical support. Other informal caregivers such as neighbours and community members also play a vital role in supporting elderly individuals.
Some of the salient features of the aged population are, a dependent population, a period of onset of some chronic diseases, a population with special needs, care and support ranging from health, financial, emotional and psychological needs. Report from several studies, reflect the importance of family, community and government support to the health status of the elderly (Dokpesi & Omoruyi, 2014). Shrinking work capacity and other vulnerabilities resulting in physical, psychological, social, health and financial challenges, authenticate the need to prioritize care and support for these individuals (Ani, 2014). Furthermore, social isolation has been linked to increased mortality at this stage as isolation has been associated with increased blood pressure, depression, dementia as well as suicide in several studies (Ugiagbe, 2018). These challenges tend to be more complex in a country without policies for the age thus exposing them to high risk of ill health and disability particularly from chronic diseases as a result of lack of access to health care. Majority of them are also faced with, loss of vision, diabetes, obesity, tooth loss, bone fracture, arthritis/rheumatism, stroke, Alzheimer's diseases etc. (Ani, 2014). They are also prone to poverty because of their economic redundancy in a society with no dependable social pension for them.

Care for the elderly in Nigeria is a complex issue often linked to a shift in cultural values, with materialism and a decline in traditional family structures contributing to reduced care and support for elders. The emphasis on individual success and career advancement has overshadowed the needs and wellbeing of older family members in contemporary times. Younger generations, as indicated in several studies, often focusing on personal gain and advancement, prioritize their own needs and aspirations over the wellbeing of their elders, leading to a weakening traditional caregiving role (Adamek et al., 2022; Magezi, 2018; Mudiare, 2013). Historically, African societies placed a high value on elders and their wisdom, with family expected to provide care and support. Modernization, urbanization and globalization have eroded these traditional values, prioritizing individual achievement above family bonds (Anugwom, 2023). Intergenerational living, a cornerstone of traditional African family structures, is becoming less common, leading to a decline in the respect and care given to elders by younger family members.

The challenges faced by the elderly include poverty, as a result of reduction or loss of earning power, chronic diseases resulting in financial burdens and increased utilization of health facilities and elderly abuse often leading to injury, pain, trauma, depression and death. These challenges are further compounded by the poor or unavailability of social security policies for the aged especially in developing countries (Animashaun & chapman, 2017). In some cases, the elderly are subjected to long hours of flight to unfamiliar environments for medical tourism. Such medical interventions are usually sought when they are already in deteriorating conditions and may end up dying in foreign lands, which many Africans view as a taboo.

4. Implications of Youth Migration on Care for the Elderly

Youth migration, while offering potential benefits, can create significant challenges for the physical health of older adults left behind particularly regarding access to care and support. The loss of intergenerational support and increased social isolation can contribute to elevated chronic stress and potentially worsen physical health outcomes. Youth migration can negatively impact the physical health of elderly parents, primarily by exacerbating existing health issues and increasing their tendency to develop psychological truama. Youth migration while offering economic benefits like remittances can negatively impact the physical and mental health of elderly parents left behind. Studies show a correlation between youth migration and increased stress, social isolation and poor mental health symptoms among older adults. However, the impact on physical health can be mixed, with some studies indicating no significant association between chronic diseases, while others show links to poor self-rated health and increased outpatient visits (Liu, et al., 2021;

Poverty is not only a function of financial strength but also in terms of access to social services (Khan et al., 2017). On this premise, sub-Saharan countries have been considered the poorest in the world with the risk of poverty increasing at old age. Social factors such as disappearing trend of care from children, family and community, government factors in terms of poor pension programmes, social security and health systems all contribute significantly to the dilemma of the aged (Daramola et al., 2019) Elderly individuals may experience reduced mobility, making it difficult for them to access healthcare services. Without younger family members to accompany them, elderly individuals may face challenges in navigating the healthcare system. They are likely to delay or forgo necessary medical care due to lack of support or transportation. Furthermore, without adequate support, elderly individuals may struggle to manage chronic conditions such as diabetes, hypertension or arthritis.

Despite commendable global advancements in disease management and health promotion strategies, challenges in disability, declining cognition and maintaining social network pose a nightmare to older persons and their families in Nigeria (Animasahun & Chapman, 2017). Due to global improving healthcare, life expectancy is increasing and with it the ageing population. As the number of elderly grows, their economic, social and cultural wellbeing is at risk, especially in developing countries (WHO, 2021). Majority of older adults face various challenges in daily life and often require physical and psychosocial support and regular medical care. The migration of youth means a decline in the level of care and support provided by the children to their aging parents. This can lead to lack of assistance with daily tasks, mobility challenges and difficulties managing chronic conditions. It can also lead to increased loneliness and social isolation for elderly parents, potentially impacting their health. Reduced social interaction and engagement can contribute to a decline in physical activity, mental wellbeing and overall well-being. The absence of immediate family support can make it harder for elderly parents to access healthcare and medication especially in areas with limited public transportation.

Remittances have far-reaching impacts in reducing poverty and inequality and fostering socioeconomic development (Ratha, 2013; Adams, 2011) It smooth out consumption and household expenditures on a micro level since households allocate this additional income for other critical alternative uses such as health (Vilar-Compte et al., 2021; Amarya et al., 2018). Remittances are essential sources of income in most countries in sub-Saharan Africa, as highlighted earlier. Conversely, some researchers argued that remittances could not adequately compensate for loneliness, poor mental health, and bodily wear and tear associated with labour participation by elderly adults left behind due to migration (Ebimgbo & Okoye, 2022). Even where remittances are received, the impact of youth migration still has enormous direct implication for the health and wellbeing of the elderly. The re-organization of the care pattern already established for the elderly can affect their mental health and stability. In some cases, total strangers are brought in or employed as care givers often with minimal supervision from younger family members due to distance. Consequently, the elderly may have access to remittances, but may suffer extortion, maltreatment including verbal and physical abuse, abandonment, insecurity and even death.

5. Pathways for Enhancing Care for the Elderly

Globally, the elderly are emerging as the fastest growing segment of the population, with developing countries having little or no safety net in place for them (Adelakun and Obue, 2020). With the elderly in Africa speculated to triple between 2020 and 2050, it has become imperative countries within this region pay close attention to this group by developing actionable policies geared towards strengthening informal and formal care for them. Developing long-term care systems in Nigeria requires national coordination, mapping of existing resources, cross-national and exchange and strong partnerships between governments, families, NGOs and the private sector. The following pathways can be explored to achieve care for the elderly.

5.1 Strengthening Informal Care Networks

The absence of formal care giving including cultural prescription for aging has enhanced informal care giving in sub-Saharan countries including Nigeria (Ezulike et al., 2024. As a result of the high youthful population and low life expectancy in Nigeria, this care is usually provided by children, grandchildren, extended family members as well as neighbours and other community members who are young and probably in their middle age (Ikeorji & Ubani, 2024; Tanyi et al., 2018). Informal care giving in Nigeria is deeply entrenched in the African philosophy which emphasizes care giving as the cultural right of the elderly with motives which include spirituality, reciprocity as well as obligation and tradition (Zarzycki et al., 2022; Akinrolie, et al., 2020; Ojembe & Kalu, 2019). The traditional African society rely on this as a veritable medium of care for the aged. However, the current trend of youth migration in Nigeria as a result of economic and security challenges, forcing children to move to other countries, far away from their parents, is a serious threat to this age long tradition of elderly care (Ebimgbo & Okoye, 2022)

Despite this challenge, informal caregiving should be maintained by extended family members and community, motivated by empathy, reciprocity, and desire to maintain longevity including cultural heritage, not necessarily an act of responsibility, financial or material benefits. Strengthening community-based care networks can help provide support for the elderly even in the absence of their children and grandchildren. Encouraging neighborhood care initiatives can also help build a sense of community and provide emotional and practical support for the elderly. Establishing elderly support groups can also be considered, as they provide a platform for the elderly to share their experiences, receive emotional support and information on available resources. A well-established informal care for the elderly will improve the social, physical and psychological wellbeing of the aged in Nigeria.

5.2 Formalizing Care Services

Quality life and health for the elderly can be enhanced by access to formal support care services. The benefits of formal support services in complementing family home care cannot be overemphasized. Formal care services reduce the burden of elderly care from family members and relatives especially when they live apart from the aged parents or family member. Formal health services for the elderly in Nigeria despite being almost non-existent, equally suffer several barriers including, financial accessibility as a result of low income and high charges, unfriendly healthcare facilities due to poor attitude of caregivers to elderly care, physical accessibility due to distance and lack of support from family members (Iwuagwu et al., 2022, Ebimbgo & okoye, 2022; Ani, 2014).

Providing home-based care services can help support the elderly in their own homes, reducing the need for institutional care. Establishing institutional care facilities can also provide a safe and supportive environment for the elderly who require more intensive care. Unfortunately, these services are scarce in Nigeria and even where they exist, they are quite expensive with untrained or undertrained care givers (Ikeorji & Ubani, 2024). Another major challenge with institutional care in Nigeria is the cultural attachment to one's home. The elderly in this region are more comfortable receiving care in their homes rather than being cared for by strangers in totally unfamiliar environments. However, in contemporary times, the paradigm shifts in care giving, occasioned by migration of younger family members, intensifies the need to promote formal care giving in Nigeria. Overcoming these challenges, will require the integration of formal and informal care services, with family and community members fully involved. Community Health Extension Workers (CHEWs) in the various Local Government Areas can be trained to provide home care services for the elderly with the support of family and community members at little or no cost. Offering such respite care services can provide temporary relief for family caregivers and help prevent burnout. In addition, a section for geriatric care should carved out in the Primary Healthcare Centers (PHCs), with facilities, schedules and other services planned to provide comfort and adequate care for the elderly. Same should be replicated in the secondary and tertiary health facilities with doctors, nurses, social workers and other health practitioners specializing in geriatric care.

Furthermore, the healthcare system in Nigeria should leverage on technology. Tele-health Service can help provide the elderly with access to healthcare services remotely, reducing the need for hospital visits. Creating digital platforms can help connect the elderly with caregivers, healthcare providers and other support services including developing mobile health applications that monitor the health of the elderly and provide timely interventions. Developing policies that support the care of the elderly will also help to ensure that the needs and rights of the elderly are protected. Such policies will raise awareness and mobilize sufficient funding and resources to support the development of social and healthcare services, including programmes for the elderly.

6. Conclusion and Policy Implication

This study has provided valuable insights on the complex interactions between youth migration, caregiving deficits and elderly health. It has established that there is high rate of youth migration with massive brain drain especially in the health sector. Youth migration from Nigeria to other countries is driven by economic, social and political factors thus leading to reduced caregiving support, emotional distress and social isolation for elderly individuals in Nigeria. It emphasized that caregiver deficit led to social and economic consequences that exacerbate challenges in the health of the elderly. Youth migration while increase remittances to the elderly in Nigeria, does not take the place of physical contact and care from loved ones.

Care in the traditional African society is based on intergenerational mutual responsibilities often reflected within families with the children depending on their parents for care and support at the early stage of life and an expected swap in roles when the parents become old (Ani & Isiugo-Abanihe, 2022). Thus, care for the elderly in traditional African society rely on the extended family system, although there is a gradual decline in this mechanism. The anticipated increase in the elderly population coupled with mass exodus of young families will demand government intervention at all levels, through policies geared towards supporting healthy aging. These policies should focus on formal as well as informal care service providers.

In Nigeria presently, there are no policy provisions for informal care givers. It is imperative that policies providing financial support, education and training, access to healthcare services as well as respite be put in place for informal caregivers, to reduce burnout and optimize their care giving role. Also, centers should be established to implement the Senior Citizens Act, enacted in 2018 to provide adequate care and support for the elderly, specifically those above 70years. In addition, the curriculum developed in 2023 to provide standardized care for the elderly covering healthcare, legal protection and social welfare should be fully utilized.

Finally, policies aimed at addressing social, economic and security challenges in the country should be put in place to discourage migration of citizens to other nations, thus maintaining informal care giving. In addition, retirement for the elderly should be joyfully looked forward to where necessary arrangements such as seamless and regular payments of gratuity and pensions are ensured including adequate coverage for the elderly in the National Health Insurance Scheme.

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Therapeutic Potency of the "Holy Mud and Water" in Selected African Initiated Churches in Rivers State, Nigeria

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Abstract. Western biomedicine is an explicit method to therapeutic illnesses with evidence-based treatment validated through biological research, with treatment administered via formally trained doctors, nurses, and other such licensed medical practitioners. In contrast, the African Initiated churches (AICs) see the therapeutic efficacy in restoring health in nature. Unfortunately, there were several attempts in the form of crusades to eliminate any 'primeval knowledge', and spirituality by the scientifically, economically and socially dominant western powers. Despite its significance, little research exists on the therapeutic efficacy of holy water in AICs. And besides the wide application of the sacred elements of mud and water, the therapeutic potency of it, remains poorly understood, leading to scepticism and mistrust. This knowledge gap necessitates an in-depth examination of holy water's role in AICs. This paper therefore is an attempt to show the therapeutic potency of the holy mud and water adopted as found in some African initiated churches in Rivers State, Nigeria for healing processes. The paper adopts the local content policy of Nigeria which was specifically designed to build domestic capacity relevant for service and product delivery; and encourage increase participation of local and indigenous institutions, ideas, knowledge and heritage for human socio-spiritual wellbeing as the theoretical tool to validate this research claims. A qualitative and descriptive method blended with ethnographic approach was employed to investigate the therapeutic potency of holy mud and water in three selected AICs. This study draws on symbolic interactionism as the theoretical frame and analytical mill. The results indicate that holy mud and water is perceived as a multifaceted healing agent, addressing spiritual, psychological, and physical ailments. Findings reveal that naturopathic (alternative) medicine such as the "Holy mud and water" are local wisdom and potent natural and spiritual objects for healing and wellbeing and recommends that indigenous knowledge such as this should be encouraged and harnessed as it is cost effective accessible and easily available. Paper further recommends an integration of traditional healing practices into mainstream healthcare. There should be enhanced collaboration between the AICs and healthcare providers and conduct further research on the therapeutic potency of holy mud and water in Nigeria.

Keywords: Healing, Ritual, Therapeutic, Holy Mud and Water

1. Introduction

In the realm of traditional medicine and spiritual practices, the yes natural elements such as water and mud have been cornerstone of healing and wellness for centuries. In Africa, particularly in Nigeria where this work is situated, African Initiated Churches have long recognized the therapeutic potentials of holy water and mud, incorporating these elements into their spiritual practices and rituals. Holy water and mud have been revered for centuries in various cultures and religions for their perceived healing properties. These natural elements have been used in traditional medicine, spiritual practices and cultural rituals to promote physical, emotional and spiritual well-being. The therapeutic potentials of holy and mud lies in their unique properties which are believed to possess curative and restoration powers.

Holy water, often considered as sacred and purifying agent, is used in various religious traditions to cleanse and protect the body, mud and spirit. Its therapeutic properties are thought to derive from its spiritual potency, mineral content and temperature. Holy water is used to treat a range of ailments, from skin conditions and musculoskeletal disorders to digestive issues and immune system support. Mud, on the other hand, has been used for centuries to detoxify, cleanse and heal the body. Its therapeutic properties are attributed to its mineral content, temperature, and texture, like water, mud is also used to treat skin disorders, pain etc. The combined use of the body water and mud is believed to enhance their individual therapeutic effects, promoting a holistic approach to healing. It also facilitates a deeper spiritual connection, enhance detoxification and cleansing, and promote overall wellbeing.

While the therapeutic potency of holy water and mud is deeply rooted in cultural and religious traditions, modern research has begun to uncover the scientific basis for their healing properties. Studies have shown that body/water and antioxidant properties which contribute to the therapeutic effects.
Despite the widespread application of the holy water and mud in some churches in media for therapeutic purposes, there is a lack of comprehensive understanding of their perceived therapeutic benefits, uses and cultural context. This knowledge gap hinders the integration of these traditional practices into mainstream healthcare, potentially limiting access to holistic wellness options for people seeking alternative or complementary therapies. Furthermore, the scarcity of empirical research on this area, raises concerns about the safety, efficiency and quality control of these traditional remedies, underscoring the need for a systematic investigation into the therapeutic potency of holy water and mud in these churches.

This paper, therefore, delve into the cultural and religious potency, therapeutic properties and applications, as well as the scientific research supporting their use. By re-examining the intersection of spirituality, traditional medicine and modern science, we can gain a deeper understanding of the healing potentials of these natural elements.

1.1 Research Objectives

- To examine the perceived therapeutic potency of holy water and mud in selected African Initiated Churches (AICs).
- To investigate the role of holy water and mud in addressing spiritual, psychological, and physical ailments among AIC members.
- To explore the symbolic significance and cultural relevance of holy water and mud in AIC therapeutic practices.
- To identify potential areas of integration between traditional AIC healing practices and mainstream healthcare systems.

1.2 Research Significance

Theoretical Significance

- **Contribution to African Spirituality:** This study enriches understanding of African spirituality, particularly in the context of AICs.
- **Advancement of Symbolic Interactionism:** By applying symbolic interactionism, this research deepens understanding of how individuals construct meaning around sacred symbols.
- **Integration of Traditional and Western Healing:** The study bridges the gap between traditional and Western healing practices, promoting cross-cultural understanding.
- **Expansion of Medical Anthropology:** This research contributes to medical anthropology by exploring the intersection of culture, spirituality, and health.

Practical Significance:

- **Informing Healthcare Policy:** Findings can inform healthcare policies on integrating traditional healing practices into mainstream healthcare.
- **Enhancing Cultural Competence:** The study promotes cultural competence among healthcare providers, improving service delivery to diverse populations.
- **Community Empowerment:** By documenting AIC healing practices, this research empowers communities to preserve and promote their cultural heritage.
- **Interfaith Dialogue:** This study facilitates interfaith dialogue, fostering greater understanding and collaboration between AICs and other religious groups.

2. Literature Review

2.1 Traditional Medicine and Spiritual Practices in Nigeria

Traditional medicine and spiritual practices have been an integral part of the healthcare system for centuries in Nigeria. Traditional healers use a combination of herbal remedies, rituals and spiritual practices to diagnose and treat various ailments. In recent years, there has been a growing interest in the therapeutic potentials of holy water and mud in some African initiated churches in Nigeria. These churches have a unique blend of traditional spirituality and Christian teachings, which has led to the development of distinct healing practices.

Research relating to holy water and mud in AICs is limited. However, existing studies suggest that these elements are used for various purposes, including healing, protection and spiritual growth. According to Afilake Bukumi, in the Celestial Church of Christ, holy water is used for baptism, healing and spiritual cleansing. In the Cherubim and seraphim church, holy mud is used for healing and protection. (Interview Sept., 12, 2024)

Scholars such as Owete K.I (2014) and Jacob Olupona (1991) highlighted the significance of traditional medicine and spiritual practices in Nigerian society. According to Soyinka, traditional medicine is vital part of Nigerian culture and its practices are deeply rooted in the country's history and mythology. Olupona, on the other hand, emphasized the importance of understanding traditional medicine and spiritual practices within their cultural context. These works posit comprehensive and in-depth analysis of traditional medicine and spiritual practices in Yoruba mythology and cultures, but paid less attention to healthcare delivery and more emphasis on Yoruba culture and many ethnic groups in Nigeria.

Other scholars, such as Oyerouke Olajuba (2003) and Ademola Jegede (2007), have explored the role of traditional medicine and spiritual practices in healthcare delivery in Nigeria. Olajuba has examined the intersection of traditional medicine and spirituality in Yoruba culture, while Jegede has investigated the pharmacological and toxicological properties of Nigerian medicinal plant. In recent years, scholars such as Lateef Adegbite (2010) and David Omosule (2012) have also explored the interface between traditional medicine and modern healthcare in Nigeria. Adegbite has highlighted the potential benefits of integrating traditional medicine into modern healthcare, while Omosule has examined the challenges and limitations of this integration (Akama, 1997).

More recently, Olufunke Adeoluwa (2015) and Akanmu Adebayo (2016) have explored the role of traditional healers in healthcare delivery in Nigeria. Adeoluwa has examined the experience and perspectives of traditional healers, while Adebayo has investigated the cultural significance of traditional healing practices. This review suggests that traditional medicine and spiritual practices play a vital role in Nigerian society and culture. These practices are deeply rooted in the country's history, mythology and cultural identity and they continue to shape healthcare delivery and cultural expression in Nigeria.

Naturopathy, or naturopathic medicine, is a system of medicine based on the healing power of nature. Naturopathy is a holistic system, meaning that naturopathic doctors (N.D.s) or naturopathic medical doctors (N.M.D.s) strive to find the cause of disease by understanding the body, mind, and spirit of the person. Most naturopathic doctors use a variety of therapies and techniques (such as nutrition, behavior change, herbal medicine, homeopathy, breathing techniques, and acupuncture). There are two areas of focus in naturopathy: Supporting the body's own healing abilities and empowering people to make lifestyle changes necessary for the best possible health. N.D.s treat both short bouts of illness as well as chronic conditions, and their emphasis is on preventing disease and educating people. (Fleming&Gutknecht; 2010: 37)

The modern form of naturopathy can be traced to 18th and 19th century natural healing systems. Such systems include:

- Hydrotherapy (water therapy), which was popular in Germany.
- Nature cure, developed in Austria, based on the use of food, air, light, water, and herbs to treat illness.

Benjamin Lust, a German immigrant, first introduced naturopathy to the United States in 1902 when he founded the American School of Naturopathy. The school emphasized the use of natural cures, proper bowel habits, and good hygiene as the tools for health. This was the first time that principles of a healthy diet, like increasing fiber intake and reducing saturated fats, became popular. In the mid 1920s to 1940, the use of naturopathic medicine declined. It was not until the 1960s that naturopathic-style holistic medicine became popular again. Today, naturopaths are licensed care providers in many states. They offer a variety of natural therapies, including homeopathy, vitamin and mineral supplements, Traditional Chinese Medicine, relaxation techniques, and herbal remedies. (Atwood; 2003:39)

2.2 Holy Water and Mud in Some World Religious Traditions

Water is a clear, colourless and odourless liquid substance that is essential for human survival and plays a crucial role in various aspects of life. As conventionally known, water is not meant for drinking alone, but also for agricultural purposes such as irrigation, crop growth and livestock production. In the industry, water is used for manufacturing goods, cooling systems and as a raw material. Water is used in hydroelectric power generation; it is also used for recreational purposes such as swimming and boating. Medically, water is used in the treatment of dialysis, surgery and wound cleaning. As earlier stated, and as it relates to the paper, water has spiritual and cultural significance in many societies, including baptism, purification, ritual and sacred ceremonies. In the Christian religious tradition, particularly in old and New Testament era, water was specifically used for purification and spiritual rebirth in baptism, see Exodus 29:4, Leviticus 15:13, Numbers 19:13, Ezekiel 36:25, Matthew 3:13-15, Mark 1:9-11, John 3:5, Acts 2:28 etc.

In Islam and Judaism, water is seen as a symbol of life and fertility as well as for spiritual growth and purification. In Islam, it is compulsory for a Muslim to perform ablution which is the washing of hand, feet and face with water or sand before the commencement of the five daily prayers (Kilani, 2008).

In the Asian religions such as Hinduism, Buddhism and Shintoism, water is considered sacred, seen as a symbol of wisdom and clarity. Fertility and abundance; and as a purifying agent and spiritual growth. All of the religions of the world have stories of the healing water of God. The therapeutic significance of water became incorporated into religious ceremonies where it remains as the ritual of baptism. The earliest forms of holy water were made by putting sacred plants into water. The temples of the Roman Empire were purified by putting herbaria into the water and sprinkling the floor and altars. In India water became holy by putting sacred leaves of basil (herb) into it. In the Zoroastrian religion of Iran, holy water was known as Zohar. The priest recited prayers, while holding two empty metal cups. As he prayed they were filled with water, which then became holy. Zoroastrian scriptures known as the Aban Yost contains verses of water. The Quaran mentions water sixty times. God and the angels were the source of the scarce water that people needed some of the verses reads: we opened the gates of heaven with pouring water and caused the earth to gush forth with spring. We send you water from the sky and give it, to you to drink. He sends down water from the sky to cleanse you.

2.3 Theoretical Framework

Symbolic Interactionism is employed in this paper to validate and authenticate our focus and interest. Symbolic interactionism is a theoretical tool in the social sciences, particularly in sociology to explain how individuals and group create meaning through their interactions with others and the symbols they use.

This theory was first introduced by Herbert Blumer in 1937, but it root can be traced back to the works of George Herbert Mead (1863-1931) and Charles Cooley (1864-1929). The position and assumption of this theory is that humans act towards things based on the meanings they assign. Individual actions are often interpreted by symbols. Secondly, meaning is derived, created and negotiated through interactions with others. Lastly, meaning is not fixed, but constantly evolving. This means that meanings can change. An application of this theory reveals that water and mud are symbols of spiritual cleansing, healing and transformation. The use of holy water and mud in rituals and ceremonies creates a shared meaning among participants reinforcing their beliefs and values. Through interaction, individuals negotiate the meaning of holy water and mud, creating a collective understanding of its significance. SI provides a valuable framework for understanding the therapeutic potency of holy water and mud in African initiated churches as can be seen in this contribution. By examining the symbols, interactions and meanings surrounding these practices, scholars can gain insight into the complex dynamics of spiritual healing and transformation. While the theory has its limitations, it remains a valuable theory for examining the dynamics of human social behaviour.

Naturopathic Doctors (NDs) according to Head and Kelly (2009) treat the whole person, which means they consider a variety of factors before they diagnose an illness. Accordingly, an N.D. might look at the patient's mental, emotional, and spiritual state; diet; family history; environment; and lifestyle before making a diagnosis. Some of the more common treatments used by a naturopath include in their opinion the following:

- Nutritional counselling
- Herbal medicine
- Homeopathic medicine
- Acupuncture

Hydrotherapy (water therapy): These therapies include drinking natural spring water, taking baths, alternating hot and cold applications, and water exercise, all of which are thought to stimulate healing and strengthen the immune system.

Physical medicine: This natural approach to healing involves using touch, hot and cold compresses, electric currents, and sound waves to manipulate the muscles, bones, and spine.
Detoxification. This therapy removes toxins from the body by fasting, using enemas, and drinking lots of water.

Spirituality: N.D.s encourage personal spiritual development as part of an overall health program.
Lifestyle and psychological counseling. An N.D. may use hypnosis, guided imagery, or other counseling methods as part of a treatment plan.

Pharmacotherapy: In states where N.D.s are licensed to prescribe drugs; many do use conventional medications in addition to natural therapies.

Naturopaths consider people to be participants in their health care, so you may be asked to make lifestyle changes, such as changing sleeping, eating, and exercise habits. (Head and Kelly; 2009)

3. Research Methodology

This study employed a mixed-methods approach, combining quantitative and qualitative data collection and analysis methods. The study utilized a cross-sectional survey design to gather data from participants. A purposive sampling technique was used to select participants from selected African Initiated Churches (AICs) in Nigeria.

A total of 15 participants were recruited from 3 AICs in Rivers State, Nigeria. Participants were aged 18-65 years. A structured questionnaire was used to collect quantitative data on participants' demographics, health status, and experiences with holy mud and water. In-depth Interviews: Semi-structured interviews were conducted with 15 participants to gather qualitative data on their experiences, perceptions, and meanings associated with holy mud and water. Participant observations were conducted during church services and healing sessions to gather data on the use and administration of holy mud and water. Thematic analysis was used to identify patterns and themes in interview and observational data.

4. Findings and Discussion

4.1 Christ Army Church of Nigeria: Beliefs and Practices in Relation to Holy Water and Mud

The Christ Army church was founded in 1912 by Garrick Sokari Braid, a Nigerian prophet and religious leader, in the 20th century. Garrick Sokari Braide in 1882 in Bakana, in Degema local government area of Rivers State, Nigeria. He was raised in a Christian family and educated by Scottish missionaries. Braide became a prophet and evangelist, preaching in various parts of Nigeria. The church was founded with a focus on spiritual purity, holiness and the power of the Holy Spirit. There is a strong belief and emphasis on prayer, fasting and other forms of spiritual disciplines to achieve spiritual growth and healing. Though Braide faced severe persecution from colonial authorities and traditional leaders who viewed his religious movement as a threat, the church continued to exist today with a presence in Nigeria and other parts of West Africa. Garrick Sokari Braide died in 1918 (karibo, 2024).

In this strand of Christianity, there is the belief that the holy water possesses some spiritual cleansing properties which is used for purification, protection and healing. Mud is used for healing, spiritual growth and purification, symbolizing humility and connection to the earth. An interview with Alalibo Braid (23/8/2024); revealed that the use of water and mud is often accompanied by prayer, fasting and other spiritual disciplines, which is believed to bring healing, cleansing, purification and transformation in the individual.

Source: Researchers Phone Camera at Bakana the Supreme Headquarters of Christ Army Church: July 2024

According to Ibinabo Eferebo, Ipalibo West and Ibitroko Johnbull, holy water and mud are powerful tool for healing and spiritual growth. They added that the holy water and mud is believed to possess spiritual properties that facilitate healing and growth (interview Sept., 12, 2024).
For Taribo Benebo We use holy mud to heal various ailments, including spiritual attacks, and physical illness. It is a powerful tool that connect us to Opu-Tamuno.
The common themes that emerged from the interviews was the belief that water and mud are sacred elements and that, they are inherent with powers that bring and restore wholeness to human health predicaments.

4.2 Celestial Church of Christ and Its Use of Holy Water and Mud

The Celestial Church of Christ was founded in 1947 by Samuel, Ilehou Joseph Oshoffe Dahomey, present day Porto-Novo, Benin. Samuel Oshoffa was born on May 18, 1909 and was raised by a Methodist family. He received a divine call to start a new church in 1947. As at September 29, 1947, the pioneer worshipers were twelve (12). However, by 1950 the church has expanded with branches or parishes in Benin, Nigeria and Ghana. (Oshoffa 1985; Omoyajowo 1983; Hacket 1987). It is on record that Oshoffa introduced unique practices such as the use of white garments, candle, incense and other sacred symbols. Members of this Christian denomination believes that the use of holy water and mud was revealed to their founder, S.B.J. Oshoffa, through divine revelation. Hence, there is strong emphasis on spiritual purity, using these items for cleansing and protection. According to Tolu Babatunde “we use holy water and mud as sacrament. Rituals and ceremonies; such as washing of feet, believing that they possess spiritual power and efficacy. Bassy Elizabeth explained that water and mud are used in baptism, healing services and spiritual retreats (Interview, July 15, 2024).

4.3 Cherubim and Seraphim Church of Nigeria

The Cherubim and Seraphim Church (C&S) has its roots in the 1920s Nigerian independence movement. Founded by Moses Orimolade Tunolase and Abiodun Akinsowon in 1925, the church emerged as a response to colonialism and the quest for African identity.

Orimolade, a charismatic leader, emphasized spiritual healing, divine revelation, and holy living. His vision attracted followers from various ethnic groups, and the church grew rapidly. By the 1940s, C&S had spread throughout Nigeria, with branches in Ghana, Liberia, and other West African countries.
The church's early years were marked by persecution and conflict with colonial authorities. Orimolade's emphasis on African traditions and spiritual practices was seen as a threat to colonial rule. Despite these challenges, the church persevered, and by the 1950s, it had become a prominent force in Nigerian Christianity. In the 1960s, C&S experienced significant growth, with the establishment of new branches and the development of its theological education. The church's unique blend of African traditions and Christian teachings resonated with many Nigerians seeking a more contextualized faith.

Throughout its history, C&S has maintained a strong commitment to social justice and community development. Church members have played key roles in Nigeria's independence movement, education, and healthcare. Today, the Cherubim and Seraphim Church is one of Nigeria's largest and most influential African Initiated Churches, with millions of members worldwide.

4.4 The Cherubim and Seraphim Church in Rivers State

The Cherubim and Seraphim Church arrived in Rivers State in the 1950s, with the first branch established in Port Harcourt. The church's early growth in the region was facilitated by the city's strategic location and economic importance. The church's presence in Rivers State was initially met with scepticism by local authorities. However, the church's emphasis on spiritual healing and community development resonated with the local population. By the 1960s, C&S had established several branches throughout the state. In the 1970s, the church experienced significant growth, with the establishment of new branches and the development of its theological education. The church's unique blend of African traditions and Christian teachings appealed to many Rivers State residents seeking a more contextualized faith. During the Nigerian Civil War (1967-1970), C&S played a crucial role in providing humanitarian aid and spiritual support to affected communities. Church members worked tirelessly to provide food, shelter, and medical care to displaced persons.

In the 1980s, C&S in Rivers State experienced challenges related to internal conflicts and leadership struggles. However, the church persevered, and by the 1990s, it had regained its momentum. Today, the Cherubim and Seraphim Church in Rivers State boasts numerous branches, schools, hospitals, and community development projects. The church remains a vital part of the state's social fabric, providing spiritual guidance, education, and healthcare services to thousands. The church's influence extends beyond Rivers State, with members playing key roles in Nigeria's national politics, education, and healthcare sectors, (Shalom Michael, gift Jackson and Ngowari Braid, Interv. August 2024)

5. Conclusions

This study has investigated the therapeutic potency of holy mud and water in selected African Initiated Churches (AICs) in Nigeria, shedding light on the complex relationships between faith, health, and well-being. The findings underscore the significance of these sacred substances in the spiritual and physical healing experiences of adherents. The research reveals that holy mud and water are perceived as efficacious tools for spiritual cleansing, protection, and physical healing. Respondents attributed various benefits to their use, including relief from ailments, emotional tranquility, and divine protection. These outcomes resonate with existing literature on the role of spirituality in health and well-being. Notably, the study highlights the syncretic nature of AICs, blending traditional African practices with Christian theology. This blending has resulted in unique forms of worship and healing practices that cater to the holistic needs of adherents. The therapeutic potency of holy mud and water serves as a testament to the resourcefulness and resilience of African religious traditions.

However, the study also raises concerns regarding the potential risks associated with the use of holy mud and water. Issues of contamination, exploitation, and lack of regulation necessitate attention from healthcare professionals, religious leaders, and policymakers. Ensuring the safe and responsible use of these substances is crucial for protecting public health. The findings of this study have implications for interdisciplinary collaboration between healthcare providers, religious leaders, and community stakeholders. By acknowledging the therapeutic significance of holy mud and water, healthcare professionals can better understand the cultural and spiritual contexts of patients' healing experiences. This awareness can inform culturally sensitive healthcare practices and foster more effective partnerships between biomedical and traditional healing systems.

In conclusion, this research demonstrates the therapeutic potency of holy mud and water in selected AICs in Nigeria, underscoring the complex intersections of faith, culture, and health. As scholars, policymakers, and healthcare professionals, we must engage with these findings to promote holistic, culturally sensitive, and effective healthcare practices that respect the diverse spiritual and therapeutic traditions of African communities.

6. Recommendations

- Interdisciplinary collaboration between healthcare providers and religious leaders.
- Development of guidelines for safe and responsible use of holy mud and water.
- Integrate traditional healing into mainstream healthcare and conduct further research on the therapeutic potentials of holy mud and water in Nigeria and beyond.

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Primary Source

S/N	NAME	STATUS	AGE	PLACE OF INTERVIEW	DATE OF INTERVIEW
1	KARIBO INNOCENT	CLERGY	48	IDAMA	2024
2	ALALIBO BRAID	MEMBER	56	BAKAMA	2024
3	EFREBO IPALIBO	MEMBER	62	BUGUMA	2024
4	TARIBO BENEBO	MEMBER	64	ABONNEMA	2024
5	BASSY ELIZABETH	MEMBER	37	AHU	2024
6	IBINABO EFEREBO	MEMBER	65	BAKAMA	2024
7	IPALIBO WEST	MEMBER	58	TOMBIA	2024
8	IBITROKO JOHNBULL	MEMBER	55	BAKAMA	2024
9	CHIBUEZE WOKE	MEMBER	36	ALUU	2024
10	SHALOM MICHAEL	MEMBER	18	ALUU	2024
11	TOLU BABATUNDE	CLERGY	65	ALUU	2024
12	LORD SAYLOR	CLERGY	57	SOKU	2024
13	GIFT JACKSON	MEMBER	26	ALUU	2024
14	NGOWARI BRAID	CLERGY	49	IDAMA	2024
15	TONYE JACK	MEMBER	33	ABONNEMA	2024

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Ethical Dilemmas in Academic Staff Promotion in Nigerian Universities – Developing an Equity-Based Evaluation Model

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Abstract. This paper investigates the ethical challenges present in the promotion processes of academic staff at Nigerian universities, suggesting an equity-centred evaluation model as a viable solution. The report conducts a critical analysis of existing frameworks, revealing systemic weaknesses such as gender imbalances, ethnic favouritism, inconsistent evaluation methods, and opaque decision-making that compromise meritocracy and institutional legitimacy. The suggested paradigm presents four fundamental principles: openness, meritocracy, inclusion, and accountability, implemented via defined evaluation measures, bias mitigation strategies, and independent monitoring systems. A comparative comparison with global best practices yields proposals for policy reform, encompassing the standardisation of promotion criteria, compulsory bias training for evaluators, and the creation of grievance resolution channels. The research contends that the adoption of equitable promotion methods will bolster institutional reputation, promote teacher retention, and prepare Nigerian universities for global competition. The findings underscore the pressing necessity for cooperative efforts among university administrators, regulatory agencies, and faculty associations to convert promotion regimes into authentic meritocracies.

Keywords: Academic promotions, equity-based evaluation, Nigerian universities, meritocracy, ethical dilemmas, faculty advancement, higher education reform, promotion bias, institutional equity, NUC guidelines

1. Introduction

The promotion of academic personnel in Nigerian institutions is essential for career progression, institutional development, and the attainment of academic excellence. Promotions are conventionally determined by a synthesis of pedagogical, research, community service, and administrative efforts. The procedure is complicated and often compromised by ethical concerns that diminish its legitimacy. Although promotions ought to reward merit and commitment, apprehensions of favouritism, ambiguous criteria, and institutional biases have undermined the perceived impartiality of these assessments (Sadiq et al., 2018).

Nigerian universities, akin to other institutions worldwide, depend on promotion processes to uphold academic standards and attract premier talent. However, recurrent accusations of nepotism, gender discrimination, and improper influence have cast doubt on the integrity of these procedures. Perceived inequity in promotions undermines trust, demoralises faculty, and diminishes institutional credibility. The stakes are significant—equitable assessments not only influence individual careers but also dictate the calibre of higher education in Nigeria (Alordiah et al., 2023; Igiebor, 2020; Osegbue et al., 2025a). Confronting these ethical dilemmas is crucial for cultivating a culture of transparency and meritocracy.

This study analyses the ethical challenges inherent in the promotion processes of academic personnel in Nigerian universities. Instead of providing empirical facts, it employs a conceptual framework, examining systemic deficiencies and suggesting policy-orientated remedies. The main aim is to emphasise persistent inequities—such as gender imbalances, subjective evaluations, and inconsistent policy implementation—and to promote structural improvements.

At the core of this discourse is the formulation of an equity-based evaluation model, intended to mitigate prejudices while acknowledging varied academic achievements. This paradigm emphasises equity by promoting explicit, uniform standards, impartial review committees, and accountability frameworks. This examination intentionally concentrates on policy and procedural enhancements, avoiding statistical enquiries to engage with the philosophical and ethical aspects of academic promotions.

To navigate this complex issue, the discussion revolves around three pivotal questions:

- What are the predominant ethical issues in academic promotions in Nigeria?
- How do existing policies perpetuate or mitigate biases?
- What principles should underpin an equitable promotion framework?

This paper aims to enhance the discourse on academic equity by addressing these topics, providing a framework for Nigerian universities to realign their promotion procedures with values of justice and merit. The primary objective is to not only critique but to motivate practical reforms—guaranteeing that promotions recognise authentic scholarship instead of privilege or favouritism.

2. Ethical Foundations of Academic Promotions

2.1 Defining Ethical Dilemmas in Academia

Academic promotions ought to be fundamentally meritocratic, with academic accomplishments, teaching proficiency, and institutional contributions dictating career progression. However, Nigerian colleges frequently confront ethical challenges that undermine this objective. A prevalent dilemma is the contrast between objective meritocracy and subjective evaluations (Zinovyeva, 2015). Although formal criteria, like publication records, years of service, and student assessments, are established, informal factors including favouritism, nepotism, and political manoeuvring sometimes affect outcomes. A senior lecturer with fewer publications may be promoted over a more prolific junior colleague solely based on personal connections, thereby eroding confidence in the system (Subbaye, 2016).

Another ethical dilemma involves reconciling individual career ambitions with institutional integrity. Universities must uphold academic standards in promotions; however, inflexible or unclear policies can hinder deserving candidates (Marcotte et al., 2021). For example, an early-career academic with innovative research may be impeded by bureaucratic delays or arbitrary criteria, while a less qualified but well-connected individual progresses. This not only demoralises faculty but also undermines the institution's credibility. When promotions are viewed as inequitable, they engender cynicism, diminish productivity, and may ultimately drive talented scholars away from academia (Osegbue et al., 2025b; Walton et al., 2012).

These issues underscore a fundamental inquiry: should promotions be based on knowledge or connections? If the latter prevails, the entire academic endeavour risks becoming a hierarchy of privilege rather than one of intellectual rigour. Resolving these difficulties necessitates more than just administrative adjustments; it involves a philosophical reassessment of the true essence of fairness in academic career advancement.

3. Philosophical and Theoretical Perspectives

To establish an equitable promotion system, we must refer to ethical theories that offer frameworks for justice, obligation, and communal accountability. Three viewpoints are especially pertinent:

3.1 Justice Theory (Rawls) – Fairness as Impartiality

John Rawls' theory of justice underscores procedural fairness, advocating for the uniform application of rules and the minimisation of prejudices through a "veil of ignorance", wherein decision-makers remain oblivious to a candidate's background. In promotions, this entails clear criteria, impartial peer evaluations, and uniform assessments. Nigerian institutions frequently underperform due to opaque committees and variable criteria that permit personal biases to affect results. Rawls additionally champions distributive justice—guaranteeing equitable allocation of chances and rewards. If promotions disproportionately benefit senior faculty or specific fields, the system is deficient (Nielsen, 2015).

3.2 Deontological Ethics – Duty Over Consequences

A deontological approach argues that evaluations must follow moral duties (e.g., honesty, fairness) rather than outcomes (e.g., pleasing powerful stakeholders). If a promotion committee disregards a candidate's inadequate research output due to their popularity, it constitutes an ethical breach, even if the decision mitigates conflict. Conversely, consequentialist thinking could support bending laws for "greater good" instances (e.g., retaining a well-liked professor to increase department morale). Nigerian academics typically lean toward consequentialism, where political expediency outweighs principle, weakening trust in the long term (Bülbül, 2021).

3.3 Ubuntu Philosophy – Communal Fairness in African Academia

The African concept of Ubuntu ("I am because we are") offers a unique lens, emphasising communal welfare over individualism. In promotions, this could mean valuing mentorship, collaborative research, and service to the institution—not just solo achievements. Nevertheless, when improperly implemented, Ubuntu can regress into collective bias, where in-group allegiance (e.g., ethnic or institutional affiliations) supersedes merit. Achieving the appropriate equilibrium is essential: an egalitarian system must acknowledge collective efforts while maintaining rigour (Subbaye, 2015).

These theories indicate that no single strategy is perfect. A hybrid model—prioritising Rawlsian justice while integrating Ubuntu's social values—could offer a more culturally responsive approach for Nigerian universities.

3.4 Equity vs. Equality in Promotions

A major contrast in improving promotion systems lies between equality (uniform treatment for all) and equity (customised support to rectify inequities). Numerous Nigerian colleges adhere to uniformity by using standardised criteria (e.g., "10 publications for promotion"). However, this overlooks contextual impediments:

- A female academic with parenting obligations may find it challenging to equal the productivity of a male counterpart.
- Early-career academics in impoverished departments are deprived of the resources available to their counterparts in prestigious institutions.

An equity-based model acknowledges these differences, offering solutions like:

Weighted evaluations: Counting mentorship or community engagement alongside publications.
Flexible timelines: Allowing parental or medical leave extensions for promotion deadlines.
Structural support: Providing research grants to marginalised faculty to level the playing field.

Equality presupposes a level playing field; equity eliminates obstacles to ensure equitable competition. This transition is crucial for Nigerian academics; without it, institutional biases will endure, and talent will remain unrecognised (Subbaye, 2016).

The ethical basis for academic advancements necessitates more than just procedural verification; it calls for a culture transformation. By incorporating Rawlsian fairness, deontological integrity, and Ubuntu's communal principles, Nigerian institutions might develop an equity-based evaluation framework that recognises genuine merit while rectifying historical disparities. The next step is translating these principles into actionable policies—ensuring promotions uphold not just institutional goals but the very ideals of justice that academia claims to champion.

4. Ethical Dilemmas in Nigerian University Promotions

4.1 Systemic Biases and Discrimination

Academic promotions in Nigerian institutions are intended to recognise brilliance; yet, systemic biases frequently skew results, privileging specific groups while disenfranchising others. A prominent concern is gender imbalance. Although the number of women in academia is rising, they continue to be markedly under-represented in prominent positions such as professorships, deanships, and vice-chancellorships. The obstacles are complex: increased teaching responsibilities, inequitable access to research funding, and cultural norms that impose excessive caring duties on female scholars. When promotion committees underestimate these structural barriers, they sustain a system in which merit is evaluated against a male-centric standard (Magoqwana et al., 2019).

A continual challenge is the conflict between ethnic/regional favouritism and meritocracy. The "federal character" notion in Nigeria, intended to guarantee equitable representation among states, frequently conflicts with academic rigour. This may result in promotions determined by regional quotas instead of academic merit, fostering animosity among more competent individuals. Diversity in leadership is essential, but if implemented rigidly, it may jeopardise institutional excellence (Habib, 2016).

The most detrimental bias may be nepotism and cronyism, where advancements depend on personal relationships rather than academic merit. A professor with powerful mentors or familial connections may progress more rapidly than a more qualified counterpart lacking such political affiliations. This "who you know" atmosphere undermines morale, as diligent academics perceive their achievements eclipsed by favouritism. When promotions become transactional—prioritising loyalty above competence—the entire academic institution deteriorates (Belluigi, 2019).

4.2 Flawed Evaluation Criteria

Despite efforts to mitigate biases, the criteria employed to evaluate candidates sometimes lack sophistication, favouring surface standards over substantive influence. A significant deficiency is the excessive focus on the quantity of publications—prioritising the number of articles over an assessment of their quality, originality, or societal significance. The "publish or perish" imperative results in submissions to predatory journals, the recycling of research, and a disregard for more profound scholarship. Simultaneously, innovative research in specialised areas may be disregarded if it does not conform to traditional output standards (Azman et al., 2016).

The efficacy of teaching is another victim of inadequate evaluations. Student feedback forms, sometimes swayed by popularity rather than instructional proficiency, serve as inadequate indicators of teaching ability. A lecturer who imposes demanding assignments may obtain lower evaluations than one who enhances grades to gain approval. In the absence of classroom observations or peer evaluations, teaching contributions are inadequately recognised (Booi et al., 2017).

Likewise, community service—a cornerstone of academic accountability—is often evaluated subjectively. Does organising a conference carry the same significance as mentoring junior colleagues? Is policy advocacy regarded with equal importance as administrative responsibilities? In the absence of explicit criteria, these contributions transform into leverage for those with committee power (Belluigi, 2020).

The most concerning issue is the absence of transparency in promotion discussions. Decisions frequently occur in private, providing minimal feedback to unsuccessful candidates. When a lecturer is denied promotion without justification, suspicions of bias proliferate. Secrecy engenders cynicism, rendering the process seemingly arbitrary rather than meritocratic (Ssentongo, 2020).

4.3 Consequences of Unethical Promotions

When promotions are compromised by bias or inadequate criteria, the consequences reach well beyond personal complaints. The most immediate victim is confidence in academic leadership. Faculty who view the system as biased withdraw, refraining from fully committing to institutional objectives. Why pursue excellence if success is contingent upon politics rather than merit? (Chipunza, 2017).

This disappointment drives brain drain, as discontented scholars pursue more equitable regimes outside. Nigeria forfeits its most talented individuals to universities where meritocracy prevails and biases are minimised. The remaining personnel, disheartened by stalled career progression, may engage in inadequate effort, further undermining academic standards.

Unethical promotions worldwide undermine university rankings and research integrity. When senior positions are occupied based on affiliations rather than qualifications, the institution's reputation deteriorates. Peer reviewers identify deficient scholarship; funding organisations scrutinise research integrity; international collaborators exhibit reluctance to participate. The reputation of a university depends on the quality of its faculty; if promotions compromise that quality, the institution deteriorates (Mkhize, 2022).

The ethical concerns surrounding promotions in Nigerian universities are manageable; however, they require immediate action. Mitigating systemic prejudices necessitates the implementation of policies that proactively combat discrimination, including gender-neutral review panels, anonymised application procedures, and stringent anti-nepotism regulations. Amending rating criteria to emphasise quality over number, teaching effectiveness over popularity, and transparent discussions over secretive committees will reinstate confidence in the system.

Universities must acknowledge that promotions are not merely administrative functions; they are moral declarations regarding the institution’s values. When conducted ethically, they promote quality, encourage diversity, and enhance Nigeria’s global academic reputation. Poor execution entrenches inequality, suppresses potential, and undermines the fundamental aim of higher education. The decision is unequivocal.

5. Existing Promotion Frameworks: A Critical Review

The academic promotion procedure in Nigerian universities functions under defined parameters designed to standardise career advancement while ensuring quality. Nevertheless, a thorough analysis uncovers substantial discrepancies between policy objectives and actual execution, along with considerable deficiencies relative to global best practices. This section evaluates the existing promotion schemes, emphasising their structural bases and deficiencies.

5.1 Current Policies in Nigerian Universities

At the national level, the National Universities Commission (NUC) establishes comprehensive rules for academic promotions, delineating fundamental criteria for each position, from assistant lecturer to professor. These often highlight a synthesis of pedagogical experience, scholarly contributions, and community engagement. The NUC's framework functions solely as a baseline standard, permitting individual universities to establish supplementary requirements. This freedom has resulted in contradictions, especially when contrasting federal, state, and private entities (Steinþórsd, 2018).

Federal universities, due to their established nature, frequently implement more stringent and bureaucratic promotion procedures, occasionally hindered by administrative delays. Conversely, state institutions may encounter political meddling when nominations and promotions are swayed by local governmental interests. Private institutions, although typically more efficient, sometimes prioritise financial factors or institutional allegiance over academic merit. The absence of uniformity among these systems results in an inequitable environment, where the trajectory to promotion is influenced equally by the type of university and the candidate's qualifications (Shaik 2021).

Furthermore, although the NUC stipulates specific benchmarks, including a minimum publication requirement, it provides minimal regulation for the assessment of these benchmarks. Consequently, several colleges concentrate exclusively on quantity, neglecting the quality and significance of research. Some experience uneven enforcement, wherein privileged candidates enjoy leniency while outsiders endure excessive scrutiny. In the absence of robust central monitoring, these discrepancies sustain imbalances in professional progression (Barnes et al., 2022).

5.2 Comparative Analysis with Global Models

Nigeria's promotion processes, when compared to those in more academically competitive regions like South Africa, the U.S., and Europe, have significant deficiencies that necessitate enhancement. Numerous prestigious international colleges utilise blind peer review systems, wherein evaluators judge research without knowledge of the author's name, hence reducing unconscious bias. Nigerian promotions frequently depend on internal committees, wherein personal relationships affect decision-making (Rooy, 2015).

A notable distinction is the employment of external evaluators. Institutions in South Africa and Europe sometimes necessitate independent assessments from scholars external to the candidate's university to guarantee impartiality. Nigerian academia, however, often prioritises internal evaluations, which may result in conflicts of interest, particularly at smaller institutions where faculty members frequently assess their peers. Implementing compulsory external evaluations would enhance credibility and align Nigeria with international standards (Archer, 2017).
Furthermore, prestigious universities prioritise balanced metrics, assessing teaching, research, and service in proportion rather than solely focusing on publications. For example, U.S. institutions frequently utilise teaching portfolios, student evaluations, and peer assessments to appraise educators, while European universities progressively emphasise interdisciplinary and societal impact in research. Nigeria's excessive dependence on publication counts, devoid of consideration for innovation or practical significance, constrains the acknowledgement of varied academic contributions (Nkosingphile, 2019).

5.3 Gaps and Limitations in Current Systems

Notwithstanding the presence of formal policies, Nigeria's promotion frameworks are hindered by inadequate enforcement of anti-bias measures. Gender and ethnic imbalances endure due to the infrequent implementation of accountability mechanisms to support anti-discrimination standards. Many colleges assert their commitment to meritocracy; nevertheless, few provide mechanisms to scrutinise promotion outcomes for biased tendencies or to publicly address complaints (Mbukanma, 2022).

A significant deficiency is the absence of accountability among promotion committees. Decisions are frequently rendered without comprehensive reasoning, resulting in rejected candidates lacking a definitive path of action. In certain instances, committee members may lack the qualifications to assess specific disciplines, resulting in conflicting standards. The absence of compulsory training for evaluators and public disclosure of promotion information renders the process unclear and vulnerable to manipulation (Subbaye, 2017).

The primary systemic restriction is the lack of long-term career monitoring. In contrast to colleges in Europe or North America, which frequently assess post-promotion performance to guarantee sustained output, Nigerian institutions hardly reevaluate promotion decisions. This establishes a situation in which, once achieving a rank, there is less motivation for continued brilliance, leading to academic stagnation (Schreiber, 2016).

5.4 Toward a More Robust Promotion System

The deficiencies in Nigeria's existing frameworks underscore the necessity for systemic improvements. Implementing blind reviews, external evaluations, and multidimensional assessment standards would conform the system to international best practices. Augmenting enforcement mechanisms—such as bias audits, committee training, and transparent reporting—would improve equity.

A promotion system should incentivise not just the attainment of rank but also continuous contributions to knowledge and education. Nigerian universities may develop frameworks that reward merit, promote equity, and enhance the nation's academic reputation globally by borrowing from more sophisticated models while tackling local difficulties.

5.5 Toward an Equity-Based Evaluation Model

The enduring ethical quandaries and structural deficiencies in Nigeria's academic promotion systems necessitate more than minor modifications; they call for a comprehensive rethinking of the evaluation and reward mechanisms for faculty accomplishments. This section introduces a thorough equity-focused evaluation methodology aimed at rectifying the deficiencies of existing frameworks while conforming to international best practices in academic career advancement. This proposed paradigm aims to convert promotions from a bureaucratic obstacle into a true meritocratic process that acknowledges many forms of brilliance while actively eradicating systemic prejudices.

6. Core Principles of the Proposed Model

This equity-based methodology is founded on four interconnected concepts designed to re-establish trust and fairness in academic promotions. The primary concept is transparency, necessitating that all criteria, processes, and decisions regarding promotions be publicly accessible and properly articulated. This model would require comprehensive rubrics that delineate the criteria for evaluating and weighting teaching, research, and service activities, in contrast to existing systems where faculty frequently find it difficult to comprehend the rationale behind their promotion or denial. Departments must provide annual workshops to elucidate these criteria, and individual candidates will receive targeted feedback regarding their promotion cases.

The second concept, meritocracy, transcends the superficial usage of the term prevalent in several Nigerian universities today. An authentic meritocratic system must establish advanced methodologies to objectively assess the entirety of academic labour. This signifies the acknowledgement that innovative research, impactful teaching, and significant institutional service are distinct yet equally valuable kinds of scholarly contributions. The model advocates a balanced scorecard methodology wherein superiority in one domain can offset a deficiency in another, contingent upon the fulfilment of minimal standards across all categories.

Inclusivity constitutes the third pillar, tackling the systematic obstacles encountered by women, early-career researchers, and professors from marginalised groups. This transcends passive non-discrimination to encompass proactive initiatives, including consideration of career interruptions due to childcare, modification of productivity expectations for teachers at under-resourced schools, and assurance of diverse representation on evaluation panels. The concept includes provisional special measures to expedite the progress of historically marginalised groups until equitable representation is attained.

The notion of accountability puts essential checks and balances into the promotion process. This entails the implementation of formal grievance procedures for applicants who perceive unfair evaluations, regular audits of promotion results to identify bias trends, and repercussions for committee members who breach evaluation norms. Importantly, accountability procedures would encompass post-promotion oversight to guarantee that promoted academics consistently uphold the norms of their position (see Table 1).

6.1 Key Components of the Model

The implementation of these principles transpires through three interrelated components that together provide a comprehensive evaluation environment. The initial component encompasses organised evaluation indicators that transcend mere quantitative assessments of publications or tenure. The concept advocates a multidimensional approach to teaching assessment, integrating peer classroom observations, analysed student feedback (with measures to prevent popularity contests), and records of educational advances. Research evaluation should prioritise quality over quantity by utilising metrics such as journal impact factors, citation indexes, and assessments of real-world impact, which is especially pertinent in the Nigerian setting where scholarship must tackle local concerns. Service contributions would be appropriately evaluated and may encompass departmental leadership, effective mentorship of junior faculty, and community involvement initiatives that further the university's public mission.

The second essential element comprises bias-mitigation measures aimed at addressing both conscious and unconscious biases in assessment. This entails reorganising promotion committees to guarantee variety in subjects, career stages, and demographic attributes, augmented by obligatory external reviewers from different institutions. The concept implements anonymous review procedures for research portfolios and teaching evaluations, eliminating identifying details that could provoke prejudices associated with gender, ethnicity, or institutional affiliation. Specialised training would assist committee members in identifying and mitigating prevalent evaluation biases, such as overestimating theoretical contributions from prestigious institutions while underappreciating practical research with local significance.

The model's third component implements appeals and monitoring mechanisms to rectify the existing deficiency in promotion decision recourse. An autonomous ombudsman office would be established at each university to address promotion issues, possessing the authority to examine cases for procedural anomalies or manifest prejudice. The Ombudsman may suggest reassessment by a different committee when appropriate. The National Universities Commission will perform annual audits of promotion outcomes across institutions, producing reports that identify inequalities and suggest corrective measures. These oversight systems establish numerous checkpoints to guarantee the system's integrity while preserving suitable respect for academic judgement (see Table 1).

6.2 Implementation Challenges and Solutions

The shift to this equity-based approach encounters substantial implementation obstacles that require careful consideration. The most significant barrier arises from established interests within the academic hierarchy—senior teachers and administrators who have profited from the existing system may oppose reforms that diminish their discretionary authority or necessitate more stringent explanations for promotion choices. The concept advocates for a staged implementation strategy, commencing with pilot initiatives at participating institutions and progressively expanding as evidence of efficacy is gathered. Early adopters may obtain preferred accreditation or research money from the NUC as an incentive for their involvement.

A significant difficulty pertains to evaluator ability, as numerous present committee members are inadequately trained in contemporary assessment methodologies or the identification of unconscious bias. The model mandates a certification programme for all promotion committee members, addressing rubric-based assessment, identification of various academic impacts, and strategies to mitigate prevalent evaluation biases. This training will be produced in collaboration with foreign specialists and tailored to the Nigerian situation, with mandatory refresresher courses every three years.

The effective implementation of these reforms relies significantly on the collaborative engagement of essential stakeholders. The National Universities Commission should advance from merely establishing basic standards to actively endorsing best practices via updated accreditation criteria and specific financing incentives. Academic unions such as ASUU play a vital role in safeguarding faculty rights and promoting systemic equity; their support can be garnered by highlighting how the model safeguards against capricious administrative actions. University governing councils must, crucially, offer continuous leadership and resources to effectively implement these reforms, rejecting the inclination to retreat to established yet erroneous practices in the face of adversity.

Table 1: Equity-Based Academic Promotion Model

Core Principles	Implementation Components	Implementation Strategy
1. Transparency	A. Structured Evaluation Metrics	Phase 1: Preparation (Year 1)
- Public promotion criteria	1. Teaching Assessment:	- Stakeholder consultations
- Detailed rubrics	- Peer classroom observations	- Policy drafting
- Candidate feedback	- Analyzed student feedback	- Evaluator training programs
	- Pedagogical documentation	
2. Meritocracy	2. Research Evaluation:	Phase 2: Pilot Testing (Year 2)
- Balanced assessment	- Journal impact factors	- Voluntary institutional adoption
- Minimum thresholds	- Citation analysis	- Process documentation
- Compensatory scoring	- Real-world impact	- Mid-term adjustments
3. Inclusivity	3. Service Valuation:	Phase 3: National Rollout
- Career interruption	- Departmental leadership	(Years 3-5)
accommodations	- Mentorship documentation	- Phased mandatory adoption
- Adjusted expectations	- Community engagement	- Continuous monitoring
- Diverse committees		- Framework updates
4. Accountability	B. Bias Mitigation Strategies	Support Structures
- Grievance mechanisms	1. Committee Composition:	1. Capacity Building:
- Promotion audits	- Cross-disciplinary	- Evaluator certification
- Post-promotion tracking	- Demographic diversity	- Annual refresher courses
	- External reviewers	- International exchanges
	2. Evaluation Protocols:	2. Incentive Systems:
	- Anonymous reviews	- Accreditation advantages
	- Standardized rubrics	- Targeted funding
	- Blind assessments	- Recognition awards
	C. Oversight Mechanisms	3. Stakeholder Roles:
	1. Institutional:	- NUC: Standard-setting
	- Independent ombudsman	- ASUU: Faculty advocacy
	- Alternative review option	- Councils: Resource allocation
	2. National:	
	- NUC outcome audits	
	- Disparity reporting	
	- Corrective protocols	

6.3 A Path Forward for Nigerian Academia

This equity-based evaluation methodology signifies more than a mere technical solution for promotion procedures; it presents a framework for restoring confidence and performance in Nigerian universities. By ensuring transparency in expectations, and rigour in evaluations while maintaining fairness, and accountability among decision-makers, the system may transition from its present atmosphere of scepticism and discontent to one that authentically incentivises and fosters academic success. The implementation obstacles are significant yet manageable, especially if improvements are pursued methodically with sufficient stakeholder involvement.

In the context of Nigerian universities contending against a progressively globalised academic environment, the capacity to recognise, cultivate, and retain exceptional talent via equitable promotion procedures would be increasingly vital. This model offers a framework for converting promotions from a source of scepticism into a catalyst for institutional enhancement, acknowledging the comprehensive spectrum of faculty contributions while maintaining the utmost norms of meritocratic equity. The consequence would yield not just fairer results for individual scholars but also an improved reputation and performance for Nigeria's whole university system.

6.4 Implications for Tertiary Institution Administrators

The suggested equity-based promotion paradigm entails significant consequences for university administrators in Nigeria, necessitating both strategic leadership and practical modifications for effective implementation.

6.5 Policy Reform & Standardization

Administrators must spearhead the change of institutional promotion policies to conform to the equity-based paradigm, establishing explicit, quantifiable criteria for teaching, research, and service.
Collaboration with the NUC is crucial for standardising practices among universities while permitting discipline-specific adaptability.

6.6 Capacity Building

Investing in compulsory training programs for promotion committee members is essential. Workshops ought to encompass:

- Implicit bias recognition
- Rubric-based evaluation techniques
- Best practices in peer review and mentorship
- Collaborations with global institutions may enhance the exchange of knowledge regarding equitable promotion schemes.

6.7 Transparency Infrastructure

- Development of digital platforms to track and publish promotion metrics (application rates, success rates by gender/department).
- Standardised formats for candidate portfolios and committee evaluations to guarantee uniformity.

6.8 Accountability Mechanisms

- Creation of autonomous ombudsman offices to address complaints, with direct reporting to university councils.
- Conducting regular audits to evaluate adherence to equity principles and pinpoint systemic obstacles.

6.9 Cultural Change Management

- Active involvement with uncooperative stakeholders via town halls, policy briefings, and pilot programs showcasing the model's advantages.
- Incentivization of equitable practices (e.g., linking departmental funding to promotion fairness metrics).

6.10 Resource Allocation

Budgetary provisions for:

- External assessors
- Promotion process digitization
- Faculty development programs to help candidates meet revised standards

6.11 Data-Driven Decision Making

Institutional research units should analyze promotion outcomes annually, tracking:

- Time-to-promotion by gender/rank
- Research impact vs. quantity trade-offs
- Correlation between evaluation methods and post-promotion performance

6.12 Strategic Priorities for Immediate Action

- Establish a cross-functional task team comprising academics, HR, and legal experts to adapt the equity model to specific institutional circumstances.
- Implement the framework in 2-3 departments, recording issues and solutions before a university-wide deployment.
- Engage ASUU and other unions early to co-create solutions and prevent implementation roadblocks.
- Administrators that adopt this move will establish their institutions as pioneers in academic equity, yielding quantifiable advantages in staff morale, retention, and international reputation. The operational obstacles are considerable yet manageable through gradual, evidence-based execution.

7. Conclusion and Recommendations

The issues of academic staff promotion in Nigerian universities expose systemic deficiencies that necessitate immediate adjustment. Our investigation has shown ethical issues—gender inequities, racial bias, inconsistent assessment standards, and ambiguous decision-making processes—that cumulatively erode meritocracy and institutional integrity. These concerns are not simply administrative hindrances; they are essential obstacles to Nigeria's academic advancement and global competitiveness.

This study presents an equity-based evaluation approach founded on four fundamental pillars: transparency, meritocracy, inclusivity, and accountability. Nigerian universities can convert their promotion procedures from causes of dissatisfaction to catalysts for academic performance by employing standardised assessment measures, bias mitigation strategies, and rigorous oversight mechanisms. This paradigm acknowledges that genuine excellence encompasses not only publishing metrics but also pedagogical innovation, research influence, and contributions to institutional service—all assessed using equitable, standardised procedures.

Three essential reforms must be prioritised. The standardisation of promotion criteria across all schools via revised NUC guidelines would eradicate existing discrepancies among federal, state, and private universities. These guidelines must prioritise quality over quantity, with explicit measures for evaluating instructional efficacy, research significance, and community involvement.

Secondly, compulsory bias training for members of promotion committees is essential. Regular training must tackle both conscious and unconscious biases, integrating case studies from Nigerian academics. The training should focus on practical methods for fair evaluation, such as blind review processes and rubric-based assessments.

Third, the creation of independent review bodies at both institutional and national levels would reinstate confidence in the system. Every university ought to establish an ombudsman office to address promotion issues, whereas a national academic appeals panel might resolve intricate situations. These entities must possess sufficient authority to propose corrective measures upon the identification of biases.

The execution of these measures will encounter opposition from established interests that profit from the existing conditions. Surmounting this opposition necessitates audacious leadership from university administrators, persistent advocacy from faculty unions, and stringent oversight from regulatory authorities. A phased implementation strategy—initiating with pilot programs at designated institutions—could validate the model's efficacy before nationwide adoption.

The enduring advantages warrant the exertion. Fair promotion processes improve institutional prestige, rendering Nigerian universities more appealing to both domestic and international academics. They enhance employee retention by establishing transparent, meritocratic career trajectories. Primarily, they cultivate an academic environment in which achievement is acknowledged and rewarded, irrespective of gender, ethnicity, or personal affiliations.

Actualising this goal necessitates engagement from all parties. University governing boards must commit funding for training and system enhancements. The NUC ought to integrate equality standards into accreditation criteria. Faculty members must engage in the reform of evaluation systems and ensure accountability among decision-makers.

Nigerian academia is at a pivotal juncture. The decision lies in preserving a dysfunctional system that repels talent or adopting reforms that enhance universities' worldwide significance. By implementing equitable promotion procedures, Nigeria may cultivate an academic environment that prioritises excellence, values each scholar's contributions, and enables universities to achieve their role as catalysts for knowledge and social advancement. The moment for action is now. The issues of academic staff promotion in Nigerian universities expose systemic deficiencies that necessitate immediate adjustment. Our investigation has shown ethical issues—gender inequities, racial bias, inconsistent assessment standards, and ambiguous decision-making processes—that cumulatively erode meritocracy and institutional integrity. These concerns are not simply administrative hindrances; they are essential obstacles to Nigeria's academic advancement and global competitiveness.

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Military Government and Development in Northern Nigeria: A Case Study of Katsina City, 1969–1999

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Abstract. The Nigerian military, whose central role was to defend the country against external aggression, and national security issues was found in the national politics, governance, and shadow of development from 1966 to 1999. The paper argued that though military government and its rules had been criticized by civilian administration across the globe, in Katsina city the case was different owing to designed programs that earned them the support of the people to the extent that the city experienced tremendous development and transformation beyond what was obtainable in the colonial era and even during the civilian administration of Nigeria's First and Second Republic. Furthermore, the emergence of the military government on July 29, 1966, led to the transformation of Katsina City from an administrative division to an area council in 1969, then to a Local Government Area (LGA) in 1976, and then to a Katsina State Capital City following 1987 state creation. Thus, all these phases of transformation led to a series of developments ranging from civil servant deployment and recruitment opportunities to the provision of healthcare facilities, electricity, and water; educational advancement; security of the city; construction of roads and markets, which attract lots of fortune seekers; and migration of Nigerian communities, which boosted the cosmopolitan nature of the city. To this end, through quantitative and historical research methodologies, coupled with functionalism theory and the aid of primary and secondary data, this paper examines the role of military government in the political and socio-economic development and transformation of Katsina City from 1969 to 1999.

Keywords: Military Government, Development, Katsina City, Political, Socio-economic.

1. Introduction

The military in Nigeria, whose central role is supposed to be defending the nations against external enemies' attacks on the sovereignty of the nation as well as providing internal security against all forms of threat when the need arises, was found in the Nigerian political landscape intervening in the political affairs of the nation. Nigeria, like other African countries, has experienced a larger part of its governance under the military regimes shortly after becoming independent in 1960. This was despite the intercession of military personnel in politics, which has been conventionally chastised as an aberration and absolute crippling down of political systems all over the world—Nigeria, France, Ghana, Uganda, Sudan, Somalia, Tanzania, Thailand, Iraq, Libya, Algeria, Afghanistan, Bangladesh, China, Azerbaijan, Cambodia, the Democratic Republic of the Congo (Ojo and Faghobohun, 2014:17-35), and even the recent military coups that had taken place in the Sahel region of Africa in countries like Mali, Chad, Guinea, Burkina Faso, Niger Republic, and now Gabon. However, whenever the military engages in the skyjacking of political power, they tend to justify their actions in the name of fighting corruption, enhancing socio-economic development, and putting an end to all sorts of indiscipline and insecurity deepened by political upheaval, ethnic and religious crises, terrorism, banditry, and kidnapping, followed by implementing programs that would lead to all-round development of their nations in areas of discipline, healthcare service, electricity and water supply, employment opportunities, agriculture, commerce, and industries, as well as nation-building to secure a better future for their countries.

Moreover, under democratic governance, Nigerians expect certain minimum dividends from the government, which include steady electricity supply; good health-care services; employment for its teeming youths; reduction in mass poverty; access to qualitative education; improved infrastructure; security of lives and property; and general well-being of citizens, among others. However, the nearly two decades and half of un-interrupted democracy (the Fourth Republic) in the country has been one of mixed results: untold hardship, pain, increased poverty and squalor amidst pockets of wealth, unprecedented insecurity, preventable and rampant killings of innocent people, and corruption. To some Nigerians today, military dictatorship is far better than the so-called democratic rule. In fact, according to the Desert Herald Special Report (2014), under the military government, citizens were virtually free to live and earn a living in any part of the country without fear of harassment and killings such as that of the dreaded Boko Haram that has defied military solution despite the enormous resources that are being wasted through security agencies.

Nonetheless, Katsina city which had been centre of administration as well as commerce and trade in the precolonial era (Shehu, 2012:1-2), and then the administrative capital of colonial Katsina Province (Wycliff, 2021:55-71), yet for several decades of the nation's history, the city has not received much scholarly attention on the everlasting legacy of the military government roles in the transformation and development of the city from 1969 when it emerged as Administrative Area (Area Council) under the Federal Military Government Administrative Reforms of General Yakubu Gowon (July 29, 1966– July 29, 1975), and then to May 29, 1999 which marked the end of the military government under the administration of General Abubakar Abdulsalam (June 9, 1998–May 29, 1999) and which ushered the Fourth Republic democratic government in the history of Nigerian civilian administration. Though scholars have written extensively on Katsina city, such as Saulawa (1977), Bakinkasuwa (2011), Lugga (2004), Shehu (2012), Sani (2012), Wycliff (2016), and Wycliff (2021:312-328), they were limited by periodization while others failed to isolate the impact of the military factor in the development of Katsina city as a case study. This was despite the fact that Katsina city has been home to powerful Nigerian military and political elites such as late General Hassan Usman Katsina (March 13, 1933–July 24, 1995) who was the first Military Governor, Northern Region (January 17, 1966–January 1967) and Chief of Staff to General Gowon during the Nigeria Civil War (July 6, 1967–January 12, 1970) (Falola and Genova, 2009:172-173, 193), and the first Hausa person to became an Army General in 1973, and member of National Party of Nigeria (NPN) upon his retirement from Nigerian Army in 1975 (Lugga, 2004:136-146); late Major-General Shehu Musa Yar'adua (March 5, 1943–December 8, 1997) who served as Chief of Staff under the military leadership of General Murtala Mohammed (July 29, 1975–February 13, 1976), and de facto Vice President of Nigeria as Chief of Staff, Supreme Headquarters under the military government of General Olusegun Obasanjo (1976 – 1979), a prominent national politician who founded the People's Front of Nigeria in 1979, but aligned himself with the Social Democratic Party (SDP) for the election of June 12, 1993. He was also known for declaring, "I know neither North nor South, East nor West. What I know is Nigeria" (Falola and Genova, 2009:185, 289, 371-372); and the late Alhaji Umaru Musa Yar'adua (August 16, 1951–May 5, 2010), who was former Executive Governor of Katsina State, May 29, 1999–May 29, 2007, and President, Federal Republic of Nigeria, May 29 2007–May 5, 2010, (Wycliff, 2022: 137-156). As such, this present time demands a more critical re-assessment of the military roles in the political and socio-economic development of the city from 1969 to 1999. In this regard, therefore, this paper is solely built on both primary and secondary data. The paper also deployed the use of quantitative and historical research methodologies in the analysis of the data obtained as well as insightful empirical observation of military trends in Nigeria from 1999 to 1999. The data collected was also correlated, corroborated, selected, and interpreted. This process gave a room for juxtaposing the different information collected in the course of the research. Hence, this study of military history in Katsina City will help African scholars, policymakers, and analysts to appreciate why military rule and military officers continue to wield significant influence and remain points of reference in the political and socio-economic development of Nigeria across the Federal Capital Territory (FCT), the 36 States, and the 774 Local Government Areas (LGAs), which were all created to accommodate the nation's multiethnic diversity.

Therefore, in attempting a historical analysis of military government roles in the transformation and development of Katsina city from 1969 to 1999, the paper is structured into sections. The first section is the introduction, followed by the second section, which provides clarifications of the key concepts used in the paper. The third section analyses the political and socio-economic roles of the military government in the transformation and development of Katsina City, which left an everlasting legacy in the history of the area and its environs. The fourth section analyses the challenges that posed a series of threats to the growth of Katsina City under the military leadership, while the fifth section is the conclusion.

2. Conceptual Clarification

To ensure a meaningful understanding of the subject matter, it is necessary to clarify several key concepts that are relevant to the phenomenon under study.

2.1 Military Government

The military is conceived as the "totality of the armed forces found in the world over, which include the Army, Navy, Air Force, and to some extent the Police" (Oyediran, 1996:1-2). Military government, administration, and/or regime, on the other hand, refers to government led by and dominated by military leaders, which is generally regarded as an aberration of governance and a negation of political development (Eshikena, 2012:15-20). This is to say that the military is a politicized institution, indulging more in governance than their conventional role in Nigeria (Eminue, 2006.22-23). This could possibly explain why the country experienced different military coups: those of January 15, 1966; July 29, 1966; July 29, 1975; December 31, 1983; and August 27, 1985. There was also an unsuccessful coup in which the Head of State, General Murtala Ramat Muhammad (November 8, 1938–February 13, 1976), was killed in February 1976, and another was nipped in the bud in December 1985 (Adu, 2023:549-557). An attempt to overthrow General Ibrahim Badamasi Babangida was made in April 1990. It is interesting to note that of those coups, only those of January 1966 and December 1983 were against civilian governments: the government of Alhaji Sir Abubakar Tafawa Balewa (1960–1966) and President Shehu Shagari (1979–1983). Furthermore, in the history of the Nigerian transition from military to civilian rule, only two military governments out of six had succeeded in transferring power to democratically elected governments. These were the transfers of power by the Obasanjo military regime to Shagari in 1979 and that of General Abdulsalam Abubakar to the civilian government of Obasanjo in 1999.

It is interesting to note that in the history of Nigeria, the military government usually comes out with designed programs and policies that would earn them the support of the citizens. Thus, enabling them to consolidate themselves in power with minimal pressure from global communities or opposition from political elites of the country. This shows that the military is a politicized institution, indulging more in governance than their conventional role in the Federal Republic of Nigeria.

2.2 Political Development

Political development is basically a process that is concerned with the improvement of institutions, attitudes, and values that form the political system of a society or nation. In conceptualizing political development, Hans Park defines it in terms of "the capacity of the political system to satisfy the changing needs of the members of the society" (Park, 58). In other words, the process is concerned with the improvement of the institutions, attitudes, and values that form the political system of a society. Its primary objective is to attain the well-being of citizens through proper utilization of human and natural resources and/or advancement of economic, social, political, and cultural institutions of a nation. It is, therefore, characterized by its special concern with equality of political institutions, the capacity of the political system in place, and the differentiation or specialization of governmental organizations.

The spirit or attitude towards equality as a distinguishing feature of political development includes, according to Pye, the level of participation, universalistic nature, and standards of achievement of political institutions or organizations. The capacity of a political system depends on the level of a nation's economy, the performance of its government—judged by its effectiveness and efficiency or rationality in administration, and the secularization of public policies; while differentiation has to do with the increase of structures, institutions, division of labor, and specialization followed by an ultimate sense of integration (Pye, 1965:13, 33-35).

Explaining further, Huntington sees political development as a synonym or some kind of political modernization. He identifies four major criteria by which this process can be determined. The first, according to him, is rationalization, which involves the movement from particularism to universalism or from a given political standpoint to a focus on functional differentiation and achievement. The second is nationalism and national integration, which emphasize nation-states and nation-building as the key aspects of political development. The third is a focus on democratization, which, in essence, is a focus on competition and equalization of power. The fourth is mobilization, which is a focus on political participation (Huntington, 386). Thus, greater political development consists in greater modernization of a state, greater mobilization, and greater political participation. In short, from Huntington's explanation, political development is ultimately an increase in national political unity and an increase in political participation.

Worthy of note, since her independence on October 1, 1960, Nigeria has, no doubt, been making some frantic efforts to foster the economic, social, and political well-being of her citizens. Many administrations are reported to have, in the past, thought of and actually presented plans that were geared towards achieving sustainable political development in the country. Such plans encapsulated programs that were to improve the status of socio-economic and political structures, thereby enhancing the general welfare of the citizens and the nation as a whole. In fact, development and growth have always been the government's top priorities since the attainment of independence. This has been the case because development planning, as experts believe, is the only avenue where the allocation and utilization of resources can be adequately handled (Ibietan and Ekhosuehi, 2023:297). Thus, the military governments in Nigeria were characterized with so many efforts towards the political development of the nation; one of such fundamentals was the creation of 36 states and 774 local government areas in order to promote political and socio-economic development across the three tiers of government (federal, state, and local).

2.3 Socio-economic Development

Socio-economic development, according to Ekele (2011:15-16), is an interface of social and economic development of people, with emphasis on human capital development, poverty alleviation, employment generation, and general economic development. On the other hand, Wise Geek (2008) conceptualizes socio-economic development as a process that seeks to highlight the social and economic needs of the people in more practical and utilitarian terms, as well as on a long run. Geek argues further that the general idea of socio-economic development is an improved standard of living and a healthy economy capable of sustaining the population. Considering all these facts, the military government, knowing fully that it was not generally acceptable by citizens of Nigeria, and also considering the need to promote good governance, engaged in political and socio-economic development of the country in order to make a difference from the civilian government, which they accused of bribery and corruption, poor infrastructural and social amenities development, indiscipline and insecurity deepened by political upheaval, terrorism, banditry, kidnapping, ethnic and religious crises.

To buttress this fact, Eminue (2006) and Ekele (2006) observe that the socio-economic improvement of nations is often used as the yardstick for measuring the performance of any government. Hence, when individuals aspire to or assume power, they typically outline their policies and programs aimed at transforming the socio-economic prospects of their countries. The same applies to military governments in Nigeria and the various military administrators or governors in Katsina State, whose capital city is Katsina. In fact, successive military regimes have frequently cited the state of the nation's political and socio-economic development as one of their justifications for intervening in politics. As expected, these governments often pledge to enhance the socio-economic development of the country. However, it should be noted that the strategies employed to achieve such objectives vary from one military government to another. Consequently, the key roles and/or contributions of the various military governments under the military governors in Katsina City—the state capital of Katsina State—include, among other areas, civil service reform, employment opportunities, healthcare services, education, security, infrastructure, migration, and intergroup relations. These topics will be discussed in subsequent papers.

3. Theoretical Framework

The use of theory as an analytical tool is important in this research work. For proper conceptualization of the military and its role in the political and socio-economic development of Katsina city from 1969 to 1999, taking a critical analysis, the researcher employs the use of the structural functionalism theory. This is because structural functionalism, or simply functionalism, sees society as a complex system whose parts work together to promote solidarity and stability (Gerber, 2010:14). In fact, functionalism addresses society as a whole in terms of the function of its constituent elements, namely norms, customs, traditions, and institutions. Thus, a common analogy, popularized by Spencer, presents these parts of society as 'organs' that work toward the proper functioning of the 'body' as a whole (Urry, 2000:23). In the most basic terms, it simply emphasizes the effort to impute, as rigorously as possible, to each feature, custom, or practice its effect on the functioning of a supposedly stable, cohesive system (Parsons, 1975).

The choice of this theory goes with the argument of Durkheim (Fish, 2005), which was concerned with the question of how certain societies maintain internal stability and survive over time. He proposes that such societies tend to be segmented, with equivalent parts held together by shared values, common symbols, or, as his nephew, Marcel Mauss, held systems of exchanges. Durkheim used the term 'mechanical solidarity' to refer to these types of 'social bonds,' based on common sentiments and shared moral values, which are strong among members of pre-industrial societies.

To this end, the theory of structural functionalism is important to this study because it describes the bonds that bring people together in a society. In order for groups to be cohesive in a social context, positive membership attitudes and behaviors have to be produced and maintained. Social cohesion can be looked at on both an individual and group level. Individual-levels include an individual's desire or intention to remain a part of a group, her attitudes and beliefs about the group, the individual's intention to sever, weaken, maintain, or strengthen her membership or participation in a group, and her susceptibility to group influence. Social cohesion at a group level is directly affected by the individual members.

4. Military Government and Development of Katsina City

The military is a nation's instrument used to enforce peace, guarantee safety of lives and properties, and ensure the stability of its citizens. According to the definition above, the military's response to threats to national security encompasses both internal and external dimensions. Beyond this primary duty, however, the military in Nigeria assumed a role in national leadership, establishing military rule, regimes, or governments since January 15, 1966. During this period, numerous policies were implemented, leading to significant political transformations as well as socio-economic developments in Nigerian communities, including Katsina City, which was not an exception.

4.1 Political Development

One of the historical moments in the military efforts and legacy in the political development of Katsina city was its creation as an Administrative Area (Area Council or Local Authority Council) in 1969 and placed under the North-Central State (created out of the former Northern Region, which comprises of Zaria and Katsina Provinces) for great efficiency as well as to check abuse of power by the traditional institutions and also to develop a local system with a view of making it more people-oriented and equally to promote more development in the area (Yahaya, 1980:195). Furthermore, the Area Council was empowered to, by concept and practice, make budgets, generate revenue through market dues and other local means, and also secure grants from the Local Authority Council for the development of the area (Usman, 2011:105). The genesis of that could be traced to the collapse of the democratic government of the First Republic on January 15, 1966, following the emergence of military government. This marked a turning point in the evolution of representatives of local government councils in Nigeria (Waziri, 2009:3-5). Thus, the consequence of that was the creation of Katsina City as an Area Council in 1969, a development that happened following the creation of the 12-states by the military government of General Yakubu Gowon on May 17, 1967.

Of equal importance to note is that under this military political development, Katsina city, which was under the status of an Area Council, had the following districts under its jurisdiction: Magajin Gari, Mallawa, Kaita, Kaura, Manai, Mashi, Durbi, Dan Yusifa, Ruma, Tsagero, and Jibia (Shehu, 2012:109). Moreso, under this new political setup, the late Alhaji Musa Yar'adua, who was father to the late General Shehu Musa Yar'adua and the late President Umaru Musa Yar'adua and who was also the former Minister of Lagos Affairs (1960–1966), was appointed in 1969 as the first Administrator of Katsina Area Council (Wycliff, 2021:20).

It is worthy to state that following the shortcomings of the 1969 reforms when Area Councils were created and coupled with continued agitation for further reforms that will make the local administration more functional, especially through the involvement of more citizens in the development of their local areas, as well as the need for autonomy to the Area Councils as the third tier of the government (Yahaya, 1980:204-205), Katsina Area Council, which had an area of 3,370 sq. km, was transformed to a Local Government Area in 1976 under the military government of General Murtala Ramat Muhammad, a development that coincided with the oil boom era in the country (Shehu, 2012:118-119). This development gave Katsina city the opportunity to provide necessary infrastructure, such as health facilities, feeder roads, and primary schools, which at the end improved the living standard and the well-being of the people. This also enables the community at the grassroots to identify their problems and aspirations since they are familiar and also have local details and intimate knowledge of their environment (Hashim, 1980:1). The development also led to the appointment of Alhaji Isa Kaita as the first Executive Secretary of the Katsina

Local Government Area and Alhaji Yusuf Riyoji as the Caretaker Chairman (Yahaya, 1980:204-205), with the Rimi, Kaita, Jibia, Tsagero, and Katsina Districts under the area. This development enabled Katsina City to witness massive infrastructural and physical development (Max Lock Survey Groups, 1978:8). The military government also gave special attention to accommodation and the secretariat. In fact, the creation of Katsina Local Government in 1976 led to the building of the Local Government Secretariat at Kayalwa and the Social Welfare Office along Nagogo Road in 1977 (KT-MPR, 2007:11-12).

Following this political development, which became a major landmark in the history of the city under the military government, was the creation of Katsina State from defunct Kaduna State on September 23, 1985, under the military government of General Ibrahim Badamasi Babangida (Wycliff, 2021:312-328). This further led to the transformation of Katsina city from a local government area to the capital city of the state (state capital). This made the city to have triple functions and honors: first as the administrative headquarters of the Katsina Emirate Council, second as triple functions and honors: first as the administrative headquarters of the Katsina Emirate Council, second as a local government area, and third as the state capital city of the 34 local government areas of the state and the seat of power owing to the location of the federal and state secretariates, the state government house, as well as the state headquarters offices of the Nigeran Army, the Nigeria Police Force, the Nigerian Correction Service, the Nigeria Customs Service, the Nigeria Immigration Service, the Department of State Security, and the National Drugs Law Enforcement Agency, amongst others. This development attracts lots of migrant communities across the 36 states of Nigeria and 774 local government areas as a result of either deployment under the civil service or as a result of employment opportunities in the state capital or private business sectors (Wycliff, 2016:84-92). In addition to that, the creation of Katsina State required the deployment/posting of so many military governors as administers of the state who equally reside in the state capital. See Table 1 below for a list of all the Military Governors of Katsina State from 1987 to date. As such, considering their seat of power is in Katsina City, the city experiences tremendous infrastructural and human resource development projects beyond what was obtainable in the colonial Katsina Province and First Republic democratic government of Nigeria.

Table 1: List of Katsina State Military and Civilian Governors, 1987–Date

S/N.	Name	No. of Executive Council	Tenure	Remark
1	Colonel Abdullahi Sarki Mukhtar	15	September, 1987–July, 1988	He was the first Military Governor of Katsina State and from the Hausa ethnic group of Katsina State.
2	Colonel Lawrence Anebi Onoja	18	July, 1988–December, 1989	He was Idoma by ethnic identity and from Idekpa Okpiko, Ohimini local government in Benue State.
3	Colonel John Yahaya Madaki	27	December, 1989–January, 1992	He was from the Nupe ethnic group of Gurara Local Government Area of Niger State. He handed over to the elected and first civilian Governor of Katsina State, Alhaji Saidu Barda, in January 1992 at the start of the Nigerian Third Republic under General IBB, who served as Military President.
4	Alhaji Saidu Barda	16	January, 1992–November, 1993	A was a Hausa man and an indigene of Katsina city.
5	Navy Captain Emmanuel A. Acholonu	19	December 1993–August 1996	He was the longest-serving governor of Katsina State posted by the military regime of General Sani Abacha. He is from the Igbo ethnicity of Imo State.
6	Colonel Samuel Bature Chamah	15	August, 1996–August, 1998	He was from the Kilba ethnic group of the Hong Local Government Area of Adamawa State. Posted to Katsina by General Sani Abacha.
7	Lieutenant Colonel Joseph Iorshagher Akaagerger	17	August, 1998 – May, 1999	He was from the Tiv ethnic group of Konshisha Local Government Area of Benue State. He was the last military governor of Katsina State to oversee the transition to civil rule that marked the Fourth Republic. This led to the emergence of the late Alhaji Umaru Musa Yar'adua as the third civilian governor of Katsina State.
8	Alhaji Umaru Musa Yar'adua	25	May, 1999–May, 2007	He was an indigene of Katsina City and the democratically elected governor that marked the Fourth Republic of Nigerian democracy. He later became

				President of the Federal Republic of Nigeria, May 2007–May 2010.
9	Barrister Ibrahim Shehu Shema		May, 2007–May, 2015	He was from the Fulani ethnic group of the Dustin-Ma Local Government Area of Katsina State.
10	Honorable Aminu Bello Masari		May, 2015–May, 2023	He was from the Hausa ethnic group of Kafur Local Government Area of Katsina State. He was also the former Speaker, House of Representatives, 2003–2007.
11	Dr. Dikko Umaru Radda		May, 2023–date	He was from the Fulani ethnic group of the Dustin-Ma Local Government Area of Katsina State. He is also former Director General/Chief Executive, Small and Medium Enterprises Development Agency of Nigeria (SMEDAN), 2016–2022.

Source: (Military Wiki, 2024; Wycliff, 2021:312-328; Shehu, 2012:)

It is worthy of note that the creation of Katsina State, under the first Military Governor and an indigene of the area, Colonel Abdullahi Sarki Mukhtar (September 1987–July 1988), had led to tremendous development of the Katsina State Civil Service, whose headquarters is located in Katsina city. In the first place, his appointment had led to the establishment of the main organ of the Civil Service, such as the Governor's Office, the Office of the Secretary to the Military Government, popularly known as the Office of the Secretary to the State Government (SSG), amongst other key offices on September 26, 1987 (Katsina, 2021:60-61). In fact, under the military government, Wycliff and Katsina (2023:67-78) noted that Katsina city witnessed the deployment of 17,538 staff to the Katsina State Civil Service Commission out of 25,873 staff from 43 ministries, parastatals, and agencies of the defunct Kaduna State. Hence, this led to the relocation of civil servants and their families out of Kaduna city to Katsina city (Bununu, Ludin, and Hosni, 2015:53-65). This led to an increase in the city population and infrastructural development through the building of government secretariats, ministries, parastatals, and agencies (Report of Staff Development, 1988:1–5; KTSCSC Report, 2015:13). More so, in the whole of the deployment process, there was special gender consideration, i.e., married men and women were deployed based on married ties, meaning both husband and wife were deployed together, whether indigene or non-indigene, contract and/or noncontract civil servants (Wycliff and Katsina, 2023:67-78). This promotes harmony as well as prevents families from being far from each other.

The deployment of the civil service also resulted to the placement and recruitment of more human resources in Katsina city. For example, the Ministry of Education received 8,000 staff. This was followed by employment of teaching and supporting staff in the years 1991, 1992, and 1993 (Wycliff and Katsina, 2023:73). In a similar development, the former Military Governor, Colonel Lawrence Anebi Onoja Samuel (July, 1988–January, 1990), upon assuming office, promoted about 1000 teachers in the month of September/October 1988 with effect from 1987. This is apart from the series of civil service reforms that were carried out in 1988 and then 1995 under the chairmanship of Allision Ayida. All these improved the performance and efficiency of civil servants within and outside Katsina City, as well as the development of the Katsina State Civil Service.

4.2 Socio-economic Development

In the areas of socio-economic development, the military government had played a crucial in the transformation of Katsina city. For example, the educational sector witnessed a series of advancements and developments, especially the tertiary institutions such as Katsina College of Arts, Science, and Technology (KCAST), established in 1973 along Dutsin-Ma Road of Katsina city by the then military government of the North-Central State. In fact, when Katsina city became a local government area in 1976, coinciding with the nation's oil boom era, the federal military government saw the need to improve the tertiary education to boost the human resources development of the city coupled with the oil boom era of the nation, the federal military government saw the need to improve the tertiary education in order to boost the human resources development of the city and the whole of the north; Consequently, in 1976, the Federal College of Education (FCE) was established along Dutsin-Ma in 1976 with the aim to produce well-qualified professional teachers of the Nigerian Certificate of Education (NCE), especially in the fields of humanities, science, technical, and vocational (Shehu, 2012:110; Omolewa, 1995:293). Similarly, in the year 1983, in the opposite direction of the FCE, the military government also established Katsina Polytechnic (later renamed as Hassan Usman Katsina Polytechnic in 1995) as part of its efforts to promote innovative science and technology, as well as to enhance comprehensive research institutions (Lugga, 2004:185).

In the area of secondary education, the military government had also made a crucial effort. For example, in its bid to expand secondary education, the

Military Government under Kaduna State established a first generation of day secondary schools in Katsina city—Government Day Secondary School Kofar Yan'daka along Batsari Road in the year 1977 (Wycliff, 2012:60), and then Government Day Secondary School Kofar Sauri along Kaita Road in the year 1980, as well as Government Day Secondary School Natsinta along Jibia Road in the year 1984 (Shehu, 2012:110, 124; Inko, 1992:1-4). Further to this, in 1988, the military government constructed a workshop at Government Day Secondary School Katsina and two classrooms at Women Teachers College (WTC), Katsina (KTS-MOE, 2011:1-4). In fact, between 1989 and 1990, two blocks of classrooms, two blocks of toilets, and a one-storey building were constructed at Government College Katsina (GCK). Additionally, in 1991, rehabilitation work was carried out in Hotels A, B, C, and D at Katsina College (KC), among other projects. Similarly, in 1992, 1 block classroom was constructed at Government Day Secondary School Kofar Sauri in addition to the construction of Model Qur'anic Primary School at Ambuttai (KTS-MOE, 2011:1-4). There was also rehabilitation of hostels at Arabic Teachers College (ATC) that included Bawo, Sarkin Yaki, Coomassie, Umaru Dallage, Nagogo, and Sambo Houses, as well as the school Assembly Hall. The military government also renovated the principal and vice principal staff houses in both ATC and WTC (Shehu, 2012:196). Thus, between 1995 and 1996, similar rehabilitation projects were undertaken, including the expansion of the mosque at the Ministry of Education headquarters, the renovation of the vice principal's quarters at Government College Katsina, the construction of a single block of student hostels at the Government School for the Blind in Katsina, and the comprehensive rehabilitation of Katsina College. In 1998, laboratories and classrooms were also constructed at Government Day Secondary School Kofar Yan'daka, as well as the rehabilitation of its administrative block and staff quarters to enable staff to have conducive offices and residences (KTS Nigeria Gazette, 2000: A62).
The military government also established a significant number of educational institutions and agencies in Katsina city to reduce illiteracy, promote standard Islamic education and moral values in society, and enhance science and technological education in Katsina state. This led to the establishment of the Agency for Mass Education in 1988 and the Katsina State Science and Technical Education Board in the year 1996 (Shehu, 2012:196-197). The implications of all of this development are that they led the recruitment of more Nigerians in the educational sector, thereby reducing the rate of unemployment and improving the educational standard of Katsina City and the entire state.

In the area of primary education, Katsina city also experienced the establishment and expansion of numerous primary schools, which significantly increased pupil enrollment of so many pupils. For example, from 8 primary schools in 1960 to 15 in 1970 and expanded to 28 by 1987 (KTLEA Office, 2011). More so, the introduction of the Universal Primary Education (UPE) Scheme in 1976, which provided books, midday meals, and other expenses, as well as organizing training, workshops for massive school teachers, rehabilitation of instructional materials, and also improving the adult education program, played a pivotal role in the city's educational advancement. For instance, a total of 51 teachers ended courses at the Arabic Teachers College Katsina in 1976 (New Nigeria, 1976:18). Furthermore, under the military government, Katsina City experienced high enrolment of primary school pupils and recruitment of teachers. For example, in 1974, there were 8210 pupils, 183 teachers, but that rose to 9220 pupils, 221 teachers, in the year 1976. Then rose to 10989 pupils, 280 teachers in 1979, and 12283 pupils, 283 teachers in 1980 (DRPS-KTLEA, 2012:1-3).
In the case of private investors in the educational sector, the military government encouraged private investment in the educational sector by granting opportunities to religious bodies, individuals, and groups to establish private nursery, primary, and secondary schools in Katsina city. The first such schools established by an individual was Auntie Ramatu College Katsina in 1980. To buttress this fact, Wycliff (2012:100) noted that between 1980 and 1999 there were 24 of such schools, each covering nursery, primary, and secondary education. Wycliff (2020:267-278) further argued that the existence of these schools in the city had complemented government efforts in the provision of standard education and a reduction in the rate of unemployment and underemployment through recruitment of academic and non-academic staff such as school principal, teachers, security personnel, bus drivers, and health workers. Besides, the existence of these schools had contributed to the internally generated revenue of the city, especially through registration of the schools, payment of annual dues, and PAYE taxes of the staff (Wycliff, 2021:401-420; Wycliff, 2019: 69-85). It has also led to the development of private schools as a business enterprise, generating significant wealth for proprietors and/or proprietresses (Wycliff and Afordia, 2021:96-115; Wycliff, 2017:2058-2067).

Health, which occupies an important position in the socio-economic development of any society, was another key area in which the military government has played a vital role since the creation of the Katsina Area Council in 1969. In fact, the North-Central State expanded the Katsina General Hospital, while the Katsina Nurses Training School was considerably improved (Shehu, 2012:111-112) in order to produce enough medical personnel for the healthcare services within and outside Katsina city. More so, to tackle the overstretching of the exiting healthcare facilities medically affected by the growing population of the city, 4 maternity and health child clinics were built along the 4 gates of Katsina city in 1988 at the cost of ₦530,900. 20 each. This was followed by the establishment of a diagnostic center in 1988 at the Katsina General Hospital, as well as spending about 100 million naira on the construction of the Katsina State Specialist Hospital in 1992 (Wycliff, 2021:32-34). It is interesting to note that each of these developments is also associated with the recruitment of more medical personnel, such as doctors, nurses, midwives, laboratory scientists, and environmental/sanitation officers.

Furthermore, opportunities were equally given to the private sector to establish private healthcare centers in Katsina city. This led to a significant proliferation of private clinics to the extent that between 1980 and 1999 there were 9 of such clinics. Notable examples include Samari Clinic established in 1980, Okmos Clinic in 1985, Amfani Clinic in 1988, Alheri Clinic and Maternity Home in 1991, and Sauki Clinic and Maternity in 1998 (Wycliff, 2016:161-163). Thus, the existence of these clinics in the city has provided comprehensive healthcare services to people, created employment opportunities for medical personnel from different parts of Nigeria, and contributed to government revenue through property taxes. Additionally, the financial success of these clinics has enabled them to acquire more land and expand their facilities, as seen in the cases of Alheri Clinic and Maternity Home and Sauki Clinic and Maternity.

Water and electricity supply were among the major development the city experienced under the military government. To alleviate the water shortage affecting the city's growing population of the of the city and its environs, the military government constructed Ajiwa Dam in 1977, which supplied approximately 1.5 million gallons of water daily to the city (Katsina Master Plan Review, 2007). In fact, between 1977 and 1999, the dam provided up to 25 million liters of water per day (KTS-WB Report, 2011). This development had aided the provision of portable drinking water as well as the ones for domestic and industrial purposes. In the area of electricity, before the creation of Katsina State in 1987, new electricity substations were established at key locations, including Ibrahim Badamasi Babangida Way, Kofar Guga, Ajiwa Water Works, the State Secretariat, and Hassan Usman Polytechnique to meet the increasing demand in Katsina City, which served as an undertaking unit (Shehu, 2012:11). In fact, as a result of the increased number of electricity consumers in Katsina City, 9 out of the 34 local government areas were carved out to form the Funtua Business Unit in 2002 (NPHC, 2012). Hence the provision of the electricity in Katsina city had attracted people to utilize the opportunity to establish small-scale and medium enterprises. This boosted so many trades, commerce, and industries in the area and its environs.

To facilitate urban transportation—intracity and intercity transport systems, the military government in 1987 established the Katsina State Transport Authority (KTSTA) initially equipped with about 15 vehicles, the KTSTA was located in Katsina City along Batsari Road (Shehu, 2012:202). Between 1995 and 1996, the KTSTA's operations were significantly strengthened when it benefited loans of 10 buses (MBO 1414) and 10 buses (MB 608 D) from the Federal Urban Mass Trasport Agency (FUMTA) and the Urban Development Bank of Nigeria (KTSTA Office, 2011). Thus, the ability of the KTSTA to provide an effective and efficient transport system had enhanced the movement of passengers and their goods and services within and outside Katsina city. This development also led to the establishment of so many motor parks in the capital city in the year 1991, especially in places like Kofar Marusa, Kofar Durbi, Kofar Yan'daka, and Kofar Suari, while that of Kofar Guga was in the year 1994 (Works Department, 2011). In a similar development, the military government, in consideration for easy mobility of people and their commodities, undertook the construction of Katsina city township roads and the dualization of bypass and gateway roads with a central verge, side drain concrete with pedestrian pavement, and also with streetlights in the 1990s. furthermore, in 1992, there was rehabilitation and construction of major roads linking Katsina city with neighboring areas. For example, Katsina–Dutsinma–Kankara Road, Katsina–Jibia–Gurbin Baure Road, Katsina–Daura–Zango Road, Katsina–Tsagero–Mani Roads, and Katsina–Kaita–Dankama Road (Shehu, 2012:203; KTS-MOWHT, 2011). Hence, the construction of the new roads as well as the rehabilitation of the old ones had enhanced the living conditions of the people as it provided easy mobility for businessmen and women and employment opportunities to road construction companies, as well as the large number of skilled and unskilled laborers who secured employment with the companies and the emergence of motorcycle transport services (Wycliff and Sararinkuka, 2021:37-50). It also reduced traffic congestion and unwarranted accidents in Katsina city, giving the city a modern urban outlook comparable to other state capitals such as Kaduna, Kano, and Lagos.

The military government also played a crucial role in the development of commerce and industries in Katsina city. For instance, during the tenure of Military Governor Colonel Samuel Bature Chama (1996–1998), there was the establishment and commissioning of a well-designed modern central market in 1997 along Tafawa Balewa Way (Shehu, 2012:211-212). The market featured 2,754 stores equipped with essential facilities such as fire service and security lights, overhead tanks, and toilets. It accommodated traders specializing in a wide range of goods and services, including household items, consumable items, textile materials, cosmetics, electrical and electronic, bookshops and stationaries, saloons, etc. There was also a police station and commercial bank in the market, ensuring the security of lives and property while facilitating smooth financial transactions between customers and wholesalers or retailers (Wycliff, 2021:312-328). The central market also became a source of internal generated revenue (IGR) for the government through store/shop rent, market dues, fines, and other taxes. Furthermore, the location of the market had led to the development of unplanned settlements like Sabuwar Unguwa and Rahamawa, which were farmland but converted to residential areas in 1997 (Shehu, 2012:211-212). This encouraged private land developers to create layouts. In fact, the sales of plots of land at a cheaper rate in the area had attracted lots of people to settle there. More so, the establishment of the market had also eased the problems and burden experienced in the old Katsina central market located around Katsina Central Police Station, which was characterized with a lack of lavatory facilities and an organized waste disposal system; congestion and blockages of market rows, which affected the proper conduct of transactions between customers and traders; and blocking of the main road, causing accidents almost on a daily basis due to the absence of packing space, which made customers pack their vehicles indiscriminately (KUPDA, 2011).

Considering unemployment as a threat to the sustenance of peace, stability, and security of the nation, the military government established the National Directorate of Employment (NDE) in 1987. Under the NDE vocational skills development programs, about 358 individuals secured employment in 1997, 663 in 1998, 548 in 1999, and 822 in 2000 in Katsina city (Shehu, 2012:292, 295). This development, to a large extent, reduced the unemployment rate among able-bodied men and women, thereby making them self-employed.

In tackling environmental challenges confronting Katsina city, especially desertification, unplanned settlements, and agriculture population pressure, the military government established the Katsina State Afforestation Unit (KTAPU), Katsina State Agricultural Development Authority (KTARDA), EEG/FGN, and later the International Food and Agricultural Development (IFAD), as well as the State Environmental Protection Agency (SEPA) in 1994 (Al'adunmi, 1997:11; KTAPU, 2011; KTARDA, 2011). All these agencies had played vital roles in terms of intensive reforestation programs, ranging from planting woodlots, windbreaks, and natural regeneration of trees. They also introduced wood- and mud-burning stoves to reduce reliance on fuelwood and curb illegal tree cutting for firewood. The military government also embarked on environmental sanitation, where it procured tippers for evacuation of garbage and also introduced weekly sanitation exercise through employing casual laborers to clean the major streets of the major streets of the capital city (Baba-Yakubu, 2010:14–15; Shehu, 2012:290). This tradition was maintained throughout the military government era and even introduced by the democratic government, but on a monthly basis.

Under the military government, Katsina city had witnessed the development of centers of worship of the Christian community who were migrant communities such as civil/public servants like civilians, police, customs, and immigration officers deployed between 1976 and 1987 across the 36 states, 774 local government areas, and the Federal Capital Territory of the nation to work as public/civil servants, Corp members of the National Youth Service Scheme (NYSC), or as employees of the private sector such as construction companies, financial institutions, private schools, and hospitality industries (Wycliff, 2022:1-18). Between 1936 and 1968, there were only 7 churches in the city, but that rose to 11 between 1976 and 1984 and then to more than 29 between 1987 and 1999 (Wycliff, 2019:231-247). Notable examples include the Evangelical Church of Christ in Nigeria (ECCN), established in 1976 along Nagogo Road, the Seventh Day Adventist Church in 1987, and the Mountain of Fire and Miracles Ministries (MFM) in 1999 along Gawo Road near Kofar Kaura (Rabe and Wycliff, 2018:481-496). The construction of the beautiful churches with modern architectural designs as centers of worship played an important role in the physical development of the city, employment of clergymen, physical and spiritual growth of the Christian community, spread of Christian missionary primary and secondary schools, and peacebuilding avenues between Christian and Muslim communities in the city (Wycliff, 2019:231-247).

In addressing the environmental challenges confronting Katsina city, particularly desertification, unplanned settlements, and agricultural population pressure, the military government established the Katsina State Afforestation Unit (KTAPU), Katsina State Agricultural Development Authority (KTARDA), and EEG/FGN. This was followed by International Food and Agricultural Development (IFAD), as well as the State Environmental Protection Agency (SEPA) in 1994 (Al'adunmi, 1997:11; KTAPU, 2011; KTARDA, 2011). All these agencies had played vital roles in terms of intensive reforestation programs, ranging from planting woodlots, windbreaks, and natural regeneration of trees. This was followed by the introduction of wood and mud-burning stoves to reduce the use of fuel and the illegal cutting of trees for firewood. The military government also embarked on environmental sanitation, where it procured tippers for evacuation of garbage and also introduced weekly sanitation exercise through employing casual labourers to clean the major streets of the major streets of the capital city (Baba-Yakubu, 2010:14–15; Shehu, 2012:290). This tradition was maintained throughout the military government era and even introduced by the democratic government, but on a monthly basis.

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5. Conclusion

From the foregoing, it is clear that the development of Katsina city in the post-colonial era, especially in the period under review, was largely influenced by military factors, ranging from the transformation of the area council to its status as the administrative headquarters of Katsina State. In fact, each phase of the city's transformation was associated with one development project after another, either in the aspect of education, healthcare facilities, or road construction. The population increased due to new business opportunities in commerce and industries, as well as employment opportunities in the civil service. To this end, this paper has demonstrated that, although the military government's role in the political and socio-economic development of Nigeria ended on May 29, 1999, the history of nation-building and the development of Nigerian societies will never be completed without special reference to its contribution. Besides, the failure of the democratic government since the Fourth Republic had made lots of Nigerians call for military rule in the government of the nation. This explains why even in the contemporary Nigerian government, the highly trained armed forces are used for non-military purposes within the country.

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Integrating Indigenous Knowledge into Digital Learning for Enhanced Student Well-Being: A Counselling Perspective in Higher Education

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Abstract. The integration of digital technologies in higher education offers opportunities to create inclusive, culturally responsive learning environments. However, the inclusion of Indigenous knowledge in digital platforms remains limited, potentially impacting students' sense of identity, well-being, and academic success. This study explores the integration of Indigenous knowledge systems in digital learning environments from a counselling perspective, focusing on students in Nigerian universities. Using a quantitative research design, structured questionnaires were administered to 273 students across various institutions. Results revealed that students frequently use digital platforms (M = 3.95, SD = 0.94) and perceive them as enhancing their learning (M = 4.08, SD = 0.80). However, their familiarity with Indigenous knowledge content was moderate (M = 3.20, SD = 0.96), and they only occasionally encountered such content (M = 3.36, SD = 0.97). The inclusion of Indigenous knowledge was deemed important for well-being and academic success (M = 3.73, SD = 0.90), positively influencing students' sense of identity (M = 3.94, SD = 0.71) and mental health (M = 3.81, SD = 0.79). Moreover, integrating Indigenous knowledge was seen as beneficial for addressing academic challenges (M = 3.61, SD = 0.85). The study recommends the deliberate integration of Indigenous knowledge in digital learning platforms to enhance student well-being and academic performance. Improving access to Indigenous content can foster a stronger sense of belonging and motivation among students. Future research should focus on developing practical strategies for the effective inclusion of culturally relevant materials in digital education, contributing to both academic success and cultural preservation.

Keywords: Digital Learning Platforms, Higher Education, Inclusivity, Indigenous Knowledge, Nigeria.

1. Introduction

The digital transformation of higher education has significantly reshaped the way knowledge is disseminated, accessed, and experienced. As universities worldwide embrace digital platforms to enhance learning and teaching, there is a growing concern about the inclusivity and cultural relevance of the content delivered through these channels. In regions like Nigeria, where Indigenous cultures and knowledge systems play a vital role in shaping identities and worldviews, the integration of Indigenous knowledge into digital learning environments is not just desirable but essential.

This study is rooted in the understanding that education must be culturally responsive to be effective, particularly in multicultural societies. From a counselling perspective, the well-being of students is closely tied to their sense of identity, belonging, and connection to their cultural heritage. Digital platforms, while offering unprecedented access to information, often fall short in representing diverse cultural narratives, which can lead to a sense of alienation among students from Indigenous backgrounds.

The purpose of this research is to explore how Indigenous knowledge systems can be effectively integrated into digital learning platforms within Nigerian higher education. By focusing on the experiences and perceptions of university students, this study seeks to understand the impact of culturally inclusive digital curricula on student well-being, academic success, and cultural preservation. The findings are expected to contribute to the development of practical strategies that support the mental health and educational outcomes of students in a digitally transformed educational landscape.

2. Literature Review

2.1 Digital Transformation in Higher Education

The shift towards digital learning has been accelerated by technological advancements and the global need for accessible education. Digital platforms offer flexibility and scalability, enabling students to learn at their own pace and access a wide range of resources. However, the effectiveness of these platforms is contingent upon their ability to cater to diverse learner needs, including cultural relevance (Selwyn, 2016). While digital transformation has broadened access to education, it has also created challenges related to the inclusion of non-Western knowledge systems. This has led to a form of digital colonialism where dominant cultural narratives overshadow others (Bates, 2015; Reimers, 2021).

In the African context, digital transformation is further complicated by disparities in technological access and infrastructure. Ojiambo (2019) highlights the challenges of implementing digital transformation in African higher education, emphasizing the need for contextually relevant solutions that address local realities. Omolewa (2018) adds that culturally responsive digital education in African contexts requires a nuanced understanding of regional educational practices and technological capabilities.

2.2 Indigenous Knowledge Systems and Education

Indigenous knowledge systems are profoundly ingrained in the cultural, social, and spiritual practices of communities. They provide a comprehensive perspective of the world, emphasizing the interdependence of humans, nature, and the universe (Cajete, 1994; McGregor, 2018). Integrating Indigenous knowledge into formal education has been found to improve curriculum relevance and instill a feeling of pride and identity in Indigenous students (Battiste, 2013; Smith, 2012). This integration promotes students' mental health and academic success by matching instructional content to their cultural backgrounds and personal experiences.

In Nigeria, integrating Indigenous knowledge into education is essential for preserving cultural heritage and improving educational relevance. Okeke (2021) emphasizes the importance of contextualizing educational practices to include Indigenous perspectives, arguing that such integration can enhance student engagement and success.

Mutswanga, Tom, and Tsvuura (2014) emphasize the importance of Indigenous Knowledge Systems (IKS) in counselling, particularly within the context of Zimbabwe Open University Master of Science students. Their study highlights how IKS offers culturally resonant frameworks, effectively addressing the unique cultural contexts of African societies, which are often overlooked by Western approaches. This is consistent with contemporary research that underscores the necessity of culturally grounded counselling practices (Mkhize, 2004; Nwoye, 2015). These studies demonstrate that IKS provides deeper relevance in counselling African clients, as it aligns with their values, norms, and social realities, compared to imported Western models, which often fail to capture essential cultural nuances.

As Sinha (2006) notes, developing behavioral sciences that resonate with the socio-cultural realities of a particular society is critical. Counsellors trained in IKS are better equipped to offer culturally appropriate and contextually informed counselling services to African clients. Mutswanga et al. (2014) argue similarly, demonstrating that IKS plays a crucial role in local decision-making, particularly in counselling where cultural understanding is a key factor in successful outcomes. This viewpoint is supported by Mpofu (2011), who highlights that counselling approaches integrating African cultural values lead to more effective client engagement and mental health outcomes.

Moreover, Kaya and Seleti (2013) discuss the broader application of IKS in addressing local challenges, emphasizing its role in enhancing problem-solving and empowering communities. By leveraging culturally relevant knowledge, IKS enables marginalized communities to take control of their knowledge resources, leading to sustainable solutions to their everyday problems. This empowerment aligns with Mutswanga et al.'s (2014) argument that IKS fosters self-reliance by providing individuals with the necessary tools to realize their potential and utilize their environment's resources for their own benefit.

Berry et al. (2002) caution against the application of Western psychological theories, such as Freudian psychoanalysis, in African contexts. They point out that such theories often lead to mismatches, leaving critical counselling issues unaddressed. Mutswanga et al. (2014) further support this claim, advocating for the use of IKS as a more effective framework for counselling African clients. By rooting counselling practices in indigenous knowledge systems, counsellors are better positioned to address the psychological, emotional, and social needs of their clients in a culturally sensitive and comprehensive manner.

2.3 Culturally Responsive Education and Counselling

Culturally responsive education recognizes and honors the cultural backgrounds of students as integral to their learning experience. It involves incorporating cultural references into all aspects of learning, including curriculum content, teaching methods, and assessments (Gay, 2010). From a counselling perspective, culturally responsive education is vital in supporting the mental health of students, particularly those from marginalized communities (Sue et al., 2012). Counsellors play a key role in advocating for and facilitating the inclusion of cultural elements in education, promoting a sense of belonging and identity among students.

2.4 Challenges and Opportunities in Integrating Indigenous Knowledge into Digital Learning

Integrating Indigenous knowledge into digital learning platforms presents both challenges and opportunities. Digital platforms offer a powerful tool for preserving and disseminating Indigenous knowledge to a broader audience. However, barriers include the lack of culturally relevant content, the digital divide, and the potential for misrepresentation (Green & Dewar, 2018; Martin & McDonald, 2020). To address these challenges, a collaborative approach involving Indigenous communities in the design and delivery of digital content is necessary, ensuring authenticity and respect for cultural values (Agbo, 2022; McLaughlin & Waugh, 2021).

3. Research Methodology

This study employed a mixed-methods approach to explore the integration of Indigenous knowledge into digital learning platforms, specifically targeting students in Nigerian higher education institutions. Quantitative data were gathered through structured questionnaires administered to approximately 300 students across various fields and academic levels, but only 273 responses were used, employing a stratified random sampling method. These questionnaires assessed students' perceptions and experiences related to Indigenous knowledge in digital education. Qualitative data were collected via semi-structured interviews with a smaller group of students to gain deeper insights into their views on the integration of Indigenous knowledge. Thematic analysis was utilized to analyze the interview data, while descriptive and inferential statistics were applied to the questionnaire responses. Ethical considerations, including informed consent and confidentiality, were strictly adhered to. Validity and reliability were ensured through piloting the instruments and standardizing data collection procedures.

4. Presentation of Results

This study explored the integration of Indigenous knowledge systems into digital learning platforms in Nigerian universities, focusing on its impact on student well-being, academic performance, and cultural preservation. The analysis is based on data collected from 272 students across multiple institutions. The findings are presented in response to the research questions, highlighting current practices, perceived effects, and the benefits and challenges of embedding Indigenous knowledge in digital education.

Table 1: Students' experience with digital learning platforms

S/N	Statement	Mean	Sd	Remark
1	Frequency of digital platform use for studies	3.95	0.94	Often
2	Perceived enhancement of learning through digital platforms	4.08	0.80	Agree

Interpretation: Table 1 indicates that students frequently utilize digital learning platforms for their studies (M = 3.95, SD = 0.94) and agree that these platforms enhance their learning experiences (M = 4.08, SD = 0.80). This suggests a widespread acceptance of digital learning tools among students.

Research Question 1: What is the current practice of integrating indigenous knowledge into digital learning platforms in Nigerian higher education institutions?

Table 2: Current practices and strategies for integrating Indigenous knowledge into digital learning platforms in Nigerian higher education institution

S/N	Statement	Mean	Sd	Remark
1	Familiarity with Indigenous knowledge content	3.2	0.96	Moderately familiar
2	Frequency of encountering Indigenous knowledge content	3.36	0.97	Sometimes
3	Importance of including Indigenous knowledge for student well-being	3.73	0.90	Important
4	Impact of Indigenous knowledge on identity and belonging	3.94	0.71	Positive
5	Impact on mental health and emotional well-being	3.81	0.79	Positive
6	Impact on motivation to engage with course materials	3.69	0.85	High
7	Contribution to preserving cultural identity	3.58	0.85	Very much

Interpretation: Table 2 summarizes students' perspectives on the integration of Indigenous knowledge. Participants reported moderate familiarity (M = 3.20, SD = 0.96) and noted that such content is encountered sometimes (M = 3.36, SD = 0.97). Importantly, students recognize the significance of integrating Indigenous knowledge for enhancing well-being and academic success (M = 3.73, SD = 0.90). Furthermore, they believe this integration positively impacts their identity (M = 3.94, SD = 0.71) and mental health (M = 3.81, SD = 0.79).

Research Question 2: What are the perceived effects of integrating indigenous knowledge into digital education on students' academic performance and well-being in Nigerian higher education institutions?

Table 3: Perceived Effects of Indigenous Knowledge Integration

S/N	Statement	Mean	Sd	Remark
1	To what extent do you believe that integrating IK into digital learning affect your academic performance	3.61	0.86	Positively
2	How often do you feel supported by the inclusion of culturally relevant content in your digital learning platforms in terms of your academic performance	3.49	0.96	Sometimes
3	How beneficial do you find the integration of IK for addressing personal and academic challenges within your digital learning environment	3.61	0.85	Very beneficial

Interpretation: Table 3 reveals that students perceive the integration of Indigenous knowledge positively affects their academic performance (M = 3.61, SD = 0.86). While they sometimes feel supported by culturally relevant content (M = 3.49, SD = 0.96), they acknowledge its benefits in addressing both personal and academic challenges (M = 3.61, SD = 0.85).

Research Question 3: What are the perceived benefits and challenges of integrating Indigenous knowledge among students and faculty?

Table 4: Perceived Benefits and Challenges

S/N	Statement	Mean	Sd	Remark
1	Opportunities for improving integration	3.08	1.03	Moderately
2	Opportunities for improving the integration of Indigenous knowledge to enhance counselling support and student well-being in digital platforms	3.44	0.96	Moderately
3	Likelihood of recommending inclusion of Indigenous knowledgein digital learning platforms as a way to improve student counselling and support services?	3.92	0.89	Likely

Interpretation: Table 4 indicates that students and faculty face moderate challenges (M = 3.08, SD = 1.03) in accessing Indigenous knowledge. Nonetheless, they see potential for improving its integration (M = 3.44, SD = 0.96) and are likely to advocate for its inclusion in digital learning platforms (M = 3.92, SD = 0.89).

Hypotheses

Hypothesis 1: Students who are familiar with digital learning platforms are equally likely to support and advocate for the inclusion of Indigenous knowledge in them as those who are not.

Table 5: Descriptive Statistics for Inclusion of Indigenous Knowledge

Level of familiarity	N	Mean	SD
Low	17	13.65	2.34
Moderate	67	14.43	2.30
High	189	15.24	2.53
Total	273	14.95	2.50

Interpretation: Table 5 shows that students' ratings for Indigenous knowledge inclusion increase with familiarity. ANOVA results, presented in Table 6, indicate a statistically significant difference between groups (F(2, 270) = 5.192, p = .006), leading to the rejection of the null hypothesis.

Table 6: Analysis of Variance of students' ratings for the inclusion of indigenous knowledge in digital learning platforms based on their level of familiarity with digital learning platforms

Table 6: ANOVA Results for Inclusion of Indigenous Knowledge

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	63.041	2	31.521	5.192	.006
Within Groups	1639.134	270	6.071		
Total	1702.176	272			

Table 6 presents the results of an ANOVA conducted to examine the differences in students' ratings for the inclusion of Indigenous knowledge in digital learning platforms based on their level of familiarity with Indigenous knowledge content. The analysis revealed a statistically significant difference between groups, F(2, 270) = 5.192, p = .006. The null hypothesis was rejected. This suggests that students' ratings for the inclusion of Indigenous knowledge significantly differ depending on their level of familiarity with the content. Further post-hoc analysis was conducted to identify which specific groups differ from one another. The result is presented in Table 7.

Table 7: Post-Hoc Analysis for Inclusion of Indigenous Knowledge

(I) Familiarity Level	(J) Familiarity Level	Mean Difference (I-J)	Sig.
Low	Moderate	-.786	.503
	High	-1.596*	.039
Moderate	Low	.786	.503
	High	-.811	.071
High	Low	1.596*	.039
	Moderate	.811	.071

Table 7 presents the results of a post-hoc analysis conducted to further examine the differences in students' ratings for the inclusion of Indigenous knowledge in digital learning platforms based on their level of familiarity with Indigenous knowledge content. The analysis revealed a statistically significant difference between students with low familiarity and those with high familiarity (Mean Difference = -1.596, p = .039), indicating that students with high familiarity rated the inclusion of indigenous knowledge significantly higher than those with low familiarity. No significant differences were found between the low and moderate familiarity groups (p = .503) or between the moderate and high familiarity groups (p = .071).

Hypothesis 2: There is no significant difference in the perceived effect of integrating indigenous knowledge on students' academic performance and well-being between students who are familiar with digital learning platforms and those who are not familiar.

Table 8: Descriptive statistics of students' ratings for the perceived effect of integrating indigenous knowledge on students' academic performance and well-being based on their level of familiarity with digital learning platforms

Level of familiarity	N	Mean	SD
Low	17	9.18	2.243
Moderate	67	9.84	1.989
High	189	11.05	2.181
Total	273	10.63	2.226

Table 8 presents the descriptive statistics of students' ratings for the perceived effect of integrating Indigenous knowledge on their academic performance and well-being, based on their level of familiarity with digital learning platforms. Students with high familiarity reported the highest perceived effect (M = 11.05, SD = 2.181), followed by those with moderate familiarity (M = 9.84, SD = 1.989). Students with low familiarity reported the lowest perceived effect (M = 9.18, SD = 2.243). The total mean score for all students was 10.63 (SD = 2.226), indicating a generally positive perception of the impact of Indigenous knowledge integration across all familiarity levels. One way Analysis of Variance was used to determine if there is a significant difference across the three groups. The result is presented in Table 9.

Table 9: ANOVA results for perceived effects of integrating indigenous knowledge on students' academic performance and well-being based on their level of familiarity with digital learning platforms

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	111.134	2	55.567	12.136	.000
Within Groups	1236.236	270	4.579		
Total	1347.370	272			

Table 9 presents the results of an ANOVA conducted to examine differences in students' ratings of the perceived effect of integrating Indigenous knowledge on their academic performance and well-being, based on their level of familiarity with digital learning platforms. The analysis revealed a statistically significant difference between groups, $F(2, 270) = 12.136$, $p < .005$. The null hypothesis was rejected. This indicates that the perceived effect of integrating indigenous knowledge varies significantly depending on students' level of familiarity with digital learning platforms. Further post-hoc analysis was conducted to identify which specific groups differ from one another. The result is presented in Table 10.

Table 10: Post-hoc analysis result of students' ratings for the perceived effect of integrating indigenous knowledge on students' academic performance and well-being based on their level of familiarity with digital learning platforms

(I) Frequent use	(J) Frequent use	Mean Difference (I-J)	Sig.
Low	Moderate	-.659	.526
	High	-1.871*	.003
Moderate	Low	.659	.526
	High	-1.212*	.000
High	Low	1.871*	.003
	Moderate	1.212*	.000

Table 10 presents the results of a post-hoc analysis examining the differences in students' ratings for the perceived effect of integrating Indigenous knowledge on academic performance and well-being, based on their level of familiarity with digital learning platforms. The results indicate a statistically significant difference between students with low familiarity and those with high familiarity (Mean Difference = -1.871, $p = .003$), as well as between students with moderate familiarity and those with high familiarity (Mean Difference = -1.212, $p < .001$). These findings suggest that students with higher familiarity perceive a significantly greater effect of indigenous knowledge integration compared to those with low and moderate familiarity. However, there is no statistically significant difference between students with low and moderate familiarity ($p = .526$).

5. Summary of the Findings

This study investigated the integration of Indigenous knowledge into digital learning platforms within Nigerian higher education institutions. Key findings indicate that students perceive significant benefits from incorporating Indigenous knowledge, including enhanced relevance and engagement with educational materials. However, challenges such as limited access to culturally relevant resources and the digital divide were also identified, underscoring the complexity of effectively integrating Indigenous perspectives into digital education.

6. Discussion of findings

This study aimed to investigate the integration of Indigenous knowledge into digital learning platforms in Nigerian higher education institutions, specifically addressing how students perceive the benefits and challenges associated with such integration. The results of the quantitative analysis revealed that students recognized the potential advantages of incorporating Indigenous knowledge, including enhanced relevance of educational materials and improved engagement. These findings align with the assertions of Cajete (1994) and McGregor (2018), who argue that Indigenous knowledge systems foster a holistic understanding of the world, which is crucial for meaningful learning experiences.

7. Interpretation of Results

The analysis of questionnaire responses indicates a positive correlation between students' familiarity with Indigenous knowledge and their perception of its benefits in digital education. This supports our hypothesis that familiarity enhances students' appreciation for culturally relevant content, thereby facilitating a more engaged learning experience. In contrast, the qualitative data from semi-structured interviews revealed challenges faced by students, including limited access to culturally relevant resources and a digital divide that disproportionately affects marginalized communities. This aligns with Ojiambo (2019), who highlights the disparities in technological access in African higher education, indicating that while digital platforms have the potential to broaden educational access, they often fail to do so equitably.

It becomes evident that the integration of Indigenous knowledge into formal education is crucial for preserving cultural heritage and enhancing educational relevance (Okeke, 2021). Similar to Mutswanga et al. (2014), who emphasize the importance of culturally grounded counseling practices, Adebiyi, Makinde, Olusakin, and Adebiyi (2019) highlight the significance of counseling in promoting mental health. Our study underscores that educational practices must also reflect local realities to be effective. While previous research has shown the efficacy of integrating Indigenous knowledge in various contexts (Battiste, 2013; Smith, 2012), our findings extend this discourse to digital learning environments, demonstrating the necessity of incorporating local knowledge systems into digital platforms to mitigate the effects of digital colonialism (Bates, 2015; Reimers, 2021).

8. Implications

The practical implications of this study are significant for policymakers and educators in Nigerian higher education institutions. By recognizing the importance of Indigenous knowledge systems, educational stakeholders can work towards creating digital learning platforms that are not only technologically advanced but also culturally relevant. This could involve collaborating with Indigenous communities to co-create content that reflects their cultural values and practices, ensuring authenticity and respect for cultural knowledge (Agbo, 2022; McLaughlin & Waugh, 2021). Furthermore, addressing the digital divide through targeted interventions can enhance access to technology and resources, empowering marginalized communities to benefit from digital education.

9. Conclusion and Recommendations

The findings of this study underscore the value of Indigenous knowledge integration in enhancing students' well-being, academic performance, and cultural identity. In other words, the findings stress the critical need for integrating Indigenous knowledge into digital learning platforms to foster inclusivity and improve educational outcomes in Nigerian higher education. However, the moderate levels of familiarity and access to such content suggest that current practices are insufficient. The study recommends a deliberate and systematic integration of Indigenous knowledge in digital learning platforms to foster a stronger sense of belonging, mental health support, and academic engagement. Future research should explore more specific strategies to overcome the challenges of access and engagement, as well as how best to support both students and faculty in this integration process. Implementing culturally relevant digital curricula aligns with the broader goals of counselling in educational settings, creating environments that are both academically enriching and culturally inclusive.

In conclusion, the successful integration of Indigenous knowledge into digital learning environments will not only enhance the educational experience but also preserve and celebrate cultural diversity, ensuring that digital advancements support rather than undermine cultural identities. Future research should explore the effectiveness of specific strategies for incorporating Indigenous knowledge into digital curricula, as well as the long-term impact of such integration on student engagement and success.

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