

## Educational Innovation and Entrepreneurship in Textiles Design

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### **Abstract**

*This paper explores the dynamic landscape of educational innovations and entrepreneurship in the field of textiles design. Technology has opened new avenues for entrepreneurship allowing artist to leverage online marketplaces and digital portfolios to reach broader audiences and generate income. There is also an increasing demand for adaptive and innovative practices in textile design, driven by technological advancements and sustainability concerns. A mixed method approach was used combining qualitative interviews with educators and industrial professionals, alongside quantitative surveys of textile students. The data analysis revealed key themes related to curriculum development, hands on learning experiences and digital technologies, such as CAD software and 3D printing. This paper underscores the critical role of innovative education in cultivating a new generation of textile designers who are not only skilled artists but also adaptive entrepreneurs ready to meet the challenges of the evolving industry.*

**Key words:** Textile Design, Digital Fabrication, Sustainability, Curriculum Development.

### **Introduction**

Textile design in Nigeria has a rich cultural heritage, which blends traditional motifs with contemporary artistic expressions to create fabrics. Stirred by the mounting evidence of intensified global clothing consumption, as well as the increase accessibility and affordability of clothing, it is important for textile designers to bring innovations and entrepreneurship in this field in a country well known for its *Ankara*, *Batik*, and *tie dye* fabrics.

The Nigerian economy in recent years has been characterized by crisis of declining Growth Domestic Product (GDP). With the coming of Covid 19 pandemic in a country where unemployment is at its highest, entrepreneurship education is most needed in the Country. According to the National Bureau of Statistics, unemployment rose from 10,4% in 2015 to (14.2%) in 2017. Sadly, the youths are the most affected group in the nation's unemployment demography. Factors that are responsible for this situation are inappropriate school curriculum, as well as economic underdevelopment to mention just a few.

Even through the Nigerian textile industry, which was once a thriving sector has faced significant decline due to factors like poor infrastructures and inconsistency policy as opined by Adeyangu and Oluwole (2020), a resurgence is now emerging through educational innovation and entrepreneurship among Nigerian textile designers, who are now blending modern technology with traditional techniques that are supported by entrepreneurial initiative's and academic advancement in technology.

## **Objectives of the study:**

This research aims to

1. Examine the impact of innovation and entrepreneurship in textile design artist in Nigeria.
2. Assess entrepreneurial opportunities in textile design
3. Propose strategies for growth in textile education and entrepreneurship among Nigerian textile designers.

## **Methodology:**

This study employs a mixed-method approach combining qualitative data interviews with educators and industrial professionals, alongside quantitative survey of the textile design students and artisans.

## **Historical Contexts of Nigerian Textile Designs**

Textiles history in Nigeria dates back to ancient times, with different ethnic groups using local materials like cotton, and silk to create intricate patterns. These patterns or design often reflect symbols and stories of a particular culture. After independence, in the 1960s the introduction of western textiles and method of production began, still traditional textiles remained significant, with colours and patterns symbolizing heritage and identity of its people.

The textiles industry plays important roles to mankind and its major output, fabrics, have been established as a basic need. In addition to this, textile materials are used in furniture, coverings and blinds, interiors of vehicles and health gadget such as bandages and gloves. The textile industry is also known for its capacity to generate huge employment; hence, serving as a source of livelihood to many households. The textile industry performed these roles as well, especially up to the 1980s. In this early period, the country's textile industry with it's over 250 functional factories was rated third largest in Africa after Egypt and South Africa (Bello *et al*, 2013 in Oyejide *et al*, 2013 in Alheri 2021).

In the 1985s and 1991s, the sector had an annual growth rate of 67 per cent and employed over 350,000 people who made up 25 per cent of workers in manufacturing. Then the textile mills in operation were about 180 (Aibueku 2016). Aibueku (2016) further stated that today the story is different as all but 25 of the textile mills have shut down with most of

the mills running at less than 40 per cent of installed capacity and employing 25,000 people. Most industry participants blamed the change in fortunes of the textile industry on the influx of cheaper fabrics from China and India, hard for local mills to compete with.

Olakitan (2015),in Alheri (2021), further opined that the smuggling of cheap textiles from abroad, a situation in which the local industry is unable to compete against, the high costs of producing goods in the country, high interest rate from the banks, and dumping of cheap Chinese wax and African prints, power failure, acute shortage of water supply and high cost of fuel are the problems that have been identified time and time again.

The recent resurgence of interest in traditional textiles is making contemporary designers to incorporate traditional motifs into modern fashion. This revival of traditional textiles emphasizes the importance of textiles as a form of economic and cultural opportunities for Nigeria, with indigenous fabrics like *Aso-Oke*, *Adire*, and *Akwete* playing significant cultural and economic roles.

## **Educational Innovations in Textile Designs;**

Integration of technology in textile education is very important as the textile industry is undergoing a transformative shift, driven by sustainability demand, smart material innovations and most importantly digitalization. Preserving traditional dyeing and weaving techniques is a must a good example is the Nike Art Foundation it trains the young textile designers in *Adire* and Batik, which the artist then integrates their skills into modern fashionable designs. Such methods ensure cultural continuity while fostering economic innovation. Scholars like Akinwunmi (2022) opined that vocational training centres promote sustainable dyeing techniques, preserving indigenous methods such as the Kampala weaving and Adire.

Ogunlade (2019) states that some Nigerian universities e.g Ahmadu Bello University, Yaba College of Technology all now integrates digital design tools like Adobe illustrator , CAD and digital printing into curricula, bridging the gap between traditional craftsmanship and modern technology(Okeke 2020). The collaborations between the industry, Academia's, and artisans enhances skill transfer.

## **Entrepreneurship in Nigerian Textile Design:**

Entrepreneurship in textile can be referred to as the process of making business by producing textile products or services that adds value to the cultural heritage, and also meeting modern needs of the consumers. Textile design has so many branches which an artist in its field can choose to specialize in, so that after graduation one can invest in any of these key forms of businesses in textile.

- (i) **Tech-Enabled Textile business**, this is a rapidly evolving sector now that combines advanced technology with traditional textiles to create innovative, functional, and sustainable products.
- (ii) **Education-Driven Enterprise**, a lot of university's have students projects that are very creative, if schools can commercialize these works to industries, collaboration with international investors and designer, as well as more industry aligned training in textile technology and business management.

## **Advantages of E-commerce:**

1. It is very convenient for customers
2. 24/7 availability
3. It gives the consumer personalized shopping experience

## **6.1. Challenges Facing Textile Entrepreneur:**

The textile industry has been facing number of challenges over the years in the country, these challenges range from competition from imported textile goods that are cheaper and easier to get. Inconsistent government policies affecting the creative industries, limited funding as most start-ups 72% of them rely on personal savings due to scarce grants (CBN Report 2022).

The high interest rates of (25%+) while countries like China have very low interest rates, to help in its country's development and growth this policy by the Chinese government has made the country now the highest importers of textiles products. Most of the Ankara fabrics in the market now are all from China even *Adire* are now done in prints and sold in the country. These products are cheaper and consumers go for them rather than quality local products.

Another challenge faced by industry's and entrepreneurs are production barriers like dependence on imported machines and their spare parts, lack of power supply in the country, and the high cost of diesel. If these and more other challenges can be looked into by the government entrepreneurs will be able to function well and create innovative products that can bring change in the economy of the country.

## **Opportunity of Growth:**

WTO (2023), states that there has been an increase in global demand for African prints since 2020. African prints are now showcased in runways as designers have seen that the traditional fabrics can be used to also create modern fashionable clothing. This increase in demand is a great entrepreneurial opportunity for designs to create prints that are traditional and yet still modern enough for use in fashionable clothing that is in vogue. Government can

also play an important role in the growth of creative enterprises by offering low interest rate loans, government and NGOs initiatives as well as digital innovations.

## Recommendations;

To sustain growth for enhancing innovation and entrepreneurship in textiles among Nigerian artist the following steps are needed to achieve:

1. Having strong ties between designers, schools and textile manufacturers.
2. Funding support from NGO or the government at a low interest rate for the textile start-ups.
3. Industry aligned training in textile technology and business should be in the curriculum of university's rendering textile design and technology.
4. Revamp curricula to include digital textile technology for the students as well as the teaching of entrepreneurship skills. So they can be well equipped when they graduate.

## Conclusions:

The Adire, Kampala weaving and the *Ankara* fabrics are all part of our culture and heritage; they can also be a source of get income to the country. With innovation, education and great knowledge of entrepreneurship, the Nigerian textile artist can present immense potential for economic empowerment and the preservation of culture. While challenges persist, focus on advance technology, education and policy support by government can position the Nigerian textile entrepreneurs for global competitiveness. Entrepreneurship serves as the engine for transformation, it can transform the textile sector from a struggling industry to a very vibrant, innovative economic force, and success will depend on:

1. Investment in design education.
2. Access to funding from public –private partners as well as government
3. Stronger intellectual property protection

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## Influence of Social Media Utilisation on Academic Procrastination of Undergraduates in Public Universities in North-Central Nigeria

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### **Abstract**

*This study investigated influence of social media utilisation on academic procrastination of undergraduate students in public universities in North-central Nigeria. Six objectives, two research questions and four hypotheses guided the study. Descriptive-Correlational survey research design was employed for the study. The population of the study comprised of 234,650 regular undergraduates' in all public universities in North-central Nigeria. A sample of 384 undergraduates were selected for the study. A multi-stage sampling procedure which included, purposive sampling technique, simple random sampling technique and proportionate procedure were employed for the study. Two questionnaires which were validated by experts in the Faculty of Education, University of Abuja were used for data collection. The reliability of the questionnaires was determined using Cronbach Alpha statistics which yielded reliability indexes of 0.79 and 0.82. The data collected was analysed using mean score and standard deviation for research questions while hypotheses were tested using PPMCC, simple regression analysis and Independent samples t-test. The findings revealed a high extent of social media utilisation among undergraduates. The finding also indicated a significant effect of SM utilisation on academic procrastination of undergraduate students in public universities in North-central Nigeria. It was recommended that University authorities and academics should incorporate digital literacy programmes to educate students on proper utilisation of social media related platforms. University authorities and academics should synergise and collaborate with one another to periodically organise workshops, symposiums and other programmes that could educate undergraduate students on time management skills, self-discipline and self-regulation.*

**Keywords:** Academic, Media, Procrastination, Social, Utilisation

### **Introduction**

Social media has become the epicentre and cornerstone of the media space in today's dispensation. Individuals spend most of their time on different social media related platforms for various reasons; which may include dissemination and interchange of information, business activities, entertainment, educational related activities and many more which all illustrates the significance of the media space in today's digital world. Ordatii et al. (2024) indicated that, approximately (60%) of the world's population uses social networks, with approximately 40%

of users using them not only for entertainment and relaxation but also for work and education, which determines their socioeconomic significance. Social media which is not only pivotal in 21<sup>st</sup> century has become the bastion and horizon of modern communication where information can easily be disseminated, accessed and enhanced in any part of the world in 'real time'. From any environment using different social media platforms such as WhatsApp, You-Tube, Facebook, telegram, X (formally twitter), Instagram, LinkedIn, Upwork, TikTok amongst others which could also become a beacon in our daily educational environment for students especially for educational related purposes. Okeke and Anierobi (2020) asserted that social media affords students with a speedy and effective avenue of exchanging information in areas of education. Teachers and students can utilise different social media related platforms for teaching and learning process especially during a flipped classroom, individualised learning, blended classroom and other aspects of e-learning which are flexible and in some cases at their leisure time.

Students can also learn via social media platforms either individually or in collaboration with other students. Students can employ different social media platforms for easy access to information and educational resource materials for various educational purposes including flipped classroom and many more. Oloyede et al. (2024) highlighted that social media serves to strengthen relationships, disseminate vital information, facilitate learning and expand knowledge horizon. They further emphasized that learning no longer confined to lecture halls or library study groups, students now find themselves in the midst of virtual think tanks, where academic resources are but a click away and brainstorming sessions span continents. Information is majorly shared today using different social media platforms. According to Khmara (2022), the largest number of individuals are registered on Facebook – over 2.9 billion people, followed by YouTube – over 2.5 billion, WhatsApp – approximately 2 billion, Instagram – almost 1.4 billion, WeChat – 1.3 billion, and TikTok – 1 billion users. This does not include other popular social media platforms like X (formerly twitter), LinkedIn, telegram and many more with massive online traffic of followers which are equally indispensable tools in the media space. This does not only exemplify how rapid social media has taken over information communication global space, but also, how the educational environment could evolve considerably due to social media. With the use of some of these social media platforms for learning, student's active participation could fully be heightened and enhanced since feedback from students becomes a necessity.

Despite the fact that social media has made the academic world a community enclave of communication possibility. Enhancing online communication and information interchange in real time particular during conferences, seminars workshops and other educational related activities. Which could take place at any social environment of the users 'choice and convenience. At the same time, providing avenue where real time teaching and learning process can easily take place between lecturer and students. However, students majorly utilise social

media related platforms for obnoxious related activities which has no relevance to their learning, rather more of distractors to their academic pursuit. In this age of digitization, social media users are bombarded with updates and notifications, creating an overwhelming distraction from goal attainment and a challenging test of self-control and self-regulation (Sun & Zhang, 2021). Some students could even spend most of their time on different social media related platforms than their study. Ipem and Okwara-Kalu (2020) stated that students spend more time on social communication which distracts them from actively engaging in their academic activities. Ezeonwumelu et al. (2025) also indicated a high frequency of social media engagement among the respondents. Who are mainly undergraduate students in public universities in Nigeria. Some of these students use social media related platforms such as Facebook, WhatsApp, Tiktok, Instagram, Twitter, YouTube amongst others for different purposes that are not educationally inclined and could be distractors in their study. Adolescents are disproportionately impacted by social media apps such as WhatsApp, Facebook, Twitter, LinkedIn, Netflix, Google, Twitter, YouTube, Reddit, Instagram, and Quora, among others, which are constantly diverting students' attention away from their academics (Lokesh et al., 2022).

The growing trajectory in the utilisation of social media related platforms in different aspects of our social lives among students especially for none educational related activities despite the importance, are raising concerns on the potential impact they could have on academic procrastination. Procrastination may be exacerbated by technologies such as social media and smartphones (Rozgonjuk et al., 2018). Some students may swim into the ocean of academic procrastination due to the excessive use of social media related platforms for irrelevant and antisocial related acts such as bullying, cyberstalking, peddling of false information amongst others which do not add any value to their self-development and educational pursuit. In this new era, social media use may be one of the most common practices associated with procrastination (Przepiorka et al., 2016). Üztemur (2020) revealed that excessive social media usage also leads individuals to disrupt daily living obligations and simultaneously serves a detrimental role in performing academic tasks and responsibilities. With the spike of social media usage on public, especially students, self-regulation has become exceedingly challenging (Sun & Zhang, 2021). Others have provided only individual variable correlations between social media use and academic procrastination (Muslikah, et al., 2018). Peter in Anwar et al. (2022) indicated that students who used social media failed to perform well in examinations. This could be based on the excessive utilisation of some of the social media platforms which seems to be addictive in nature and may enhanced procrastination. Also, Kirschner and Karpinski in Anwar et al. (2022) also confirm that heavy users of social media got lower GPAs than nonusers. Problematic mobile phone users tend to possess low levels of self-control (Zhang & Wu, 2020), which is a vulnerable characteristic of procrastination behaviours as postulated by temporal motivation theory (Steel & Konig, in Hong et al., 2021).

Based on this, excessive social media users may be preoccupied with mobile phones and spend more time engaging in online activities than they intend, which may occupy learning time and cause delays in initiating and completing tasks (Qu et al., 2017).

The appearance of social media features can, in some instances have a significant influence in persuading users to procrastinate, either directly and indirectly (Alblwi et al., 2019). When social media is used as a source of distraction, users are more likely to put off important tasks (Reinecke et al., 2018). Given the detrimental effects of social media use on academic procrastination, empirical studies show that social media addiction and academic procrastination were substantially linked and positively correlated (Üztemur, 2020). Students may temporarily avoid academic tasks and engage in enjoyable online activities, such as playing games, because of the immediate appeal of psychological rewards as postulated in the model of internet gaming disorder (Yeh et al., 2017). Using the Internet (including mobile phones) as a coping strategy to postpone academic tasks may increase the frequency of mobile phone use and lead to specific habitual behaviours associated with addiction-like symptoms (Brand et al., 2019). In addition, Nwosu et al. (2020) indicated that significant positive relationships exist among time spent on social media, number of social media sites registered with, cyber victimization, cyber aggression, Internet addiction, and undergraduate students' academic procrastination. They further highlighted that when time is spent appropriately online, it may not account for students' academic procrastination. But when students utilise social media for obnoxious and antisocial related activities it may lead to procrastination. All these may not only have earth-shattering, disastrous and catastrophic impact on the totality of these students, but could adversely influence their academic achievement.

Both male and female students could be complicit of academic procrastination as a result of social media utilisation. Gender variable did not have any influence on the tendency of the respondents on the use of social media based on the scores of academic procrastinations – did not vary between girls and boys (Anwar et al., 2022). Although, there may be slight variation between the male and the female students since when carried away by watching of movies, obnoxious contents and skit which some female students are fond of and could easily influenced them to postponed doing some of their academic related activities including assignments to a later date which in some cases they may end up doing it late or not doing at all. Some male students could equally be guilty of using different social media platforms for all sort of fraudulent related activities which in most cases has shifted away their focus, interest and attention from their studies. Rather, they are dedicating more time on some of these social media platforms which they use to perpetuate their nefarious and despicable related activities which are not only inimical to them but are equally distractors and predicate for academic procrastination. Study such as Balkis and Duru (2017) revealed that female students exhibit lower levels of academic procrastination than male students in the influence of social media utilisation. Riyal et al. (2023) indicated that males score higher than females on potential risk

factors (e.g., maladaptive cognitions) and lower on internet related protective factors (e.g., effortful control). They equally highlighted that male students had a higher level of procrastination than females.

Literatures has highlighted on how students could be influenced by social media related platforms. Since social media is identified to assist students in information interchange in education; enhance learning which could either be differentiated or individualised and also, could be used for entertainment, leisure amongst others. However, the excessive use of social media especially for obnoxious related activities is also associated with low levels of self-control, addiction, excessive social media use, spending more time engaging in online activities than their study, which may occupy learning time and cause delays in initiating academic related activities. Which could all possibly predicate academic procrastination of undergraduates be it male or female. In Nigeria, there is paucity of researches on how social media utilisation impacts academic procrastination of undergraduate students specifically in North-central Nigeria, which showcases the gap left to be closed. It is therefore imperative to unearth how social media utilisation could influence academic procrastination of undergraduate students in public universities in North-central Nigeria which will be extensively investigated with the potential of contributing to the body of knowledge in educational and psychological research.

## **Statement of the Problem**

The growing popularity of social media related platforms among undergraduate students in public universities in North-central Nigeria is raising concerns on the potential impact it could have on academic procrastination. Social media has become a sine-qua non in our everyday lives since it could be used for entertainment, commerce, networking, job searching, sharing of thoughts feelings and experiences. It is equally important in educational environment, since it is significantly indispensable for dissemination, accessibility and interchange of information including educational resource materials in real time particularly in the teaching and learning process.

Notwithstanding the growing popularity and potentials abound in the utilisation of social media related platforms, the researchers' exposure through interaction and discussion with some students of public universities in North-central Nigeria signals that, the utilisation of social media related platforms especially for obnoxious related activities could be associated with low levels of self-control and self-regulation, addiction, excessive social media use, spending more time engaging in online activities than study, distractions and decreased productivity which may occupy learning time and cause delays in initiating academic related activities. And could all depict the impact of social media on students' academic procrastination especially among undergraduate students be it male or female in public universities in North-central Nigeria. These might have led to some students deliberately

postponing and delaying some of their academic related obligations which may include academic assignments, class presentations, examination preparations, class test and other administrative obligations such as course registration, submission of files among others.

In view of the preceding issues, the researchers seek to investigate the Influence of Social Media Utilisation on Academic Procrastination of Undergraduate Students in Public Universities in North-central Nigeria.

## Major Objectives

- i. examine the extent of social media utilisation among undergraduate students in public universities in North-central, Nigeria;
- ii. find out the extent of academic procrastination among undergraduate students in public universities in North-central, Nigeria;
- iii. investigate the relationship between social media utilisation and academic procrastination of undergraduate students in public universities in North-central Nigeria;
- iv. determine the relationship among artificial intelligence, social media utilisation and academic procrastination of undergraduate students in public universities in North-central Nigeria;
- v. examine the difference in the mean responses of male and female undergraduates on artificial social media utilisation in public universities in North-central Nigeria and
- vi. examine the difference in the mean responses of male and female undergraduates on academic procrastination in public universities in North-central Nigeria.

## Research Questions

- (i) What is the extent of social media utilisation among undergraduate students in public universities in North-central, Nigeria?
- (ii) What is the extent of academic procrastination among undergraduate students in public universities in North-central, Nigeria?

## Null Hypotheses

**H<sub>01</sub>:** There is no significant relationship between social media utilisation and academic procrastination of undergraduate students in public universities in North-central Nigeria.

**H<sub>02</sub>:** There is no significant effect of social media utilisation on academic procrastination of undergraduate students in public universities in North-central Nigeria.

**H<sub>03</sub>:** There is no significant difference in the mean responses of male and female undergraduates on social media utilisation in public universities in North-central Nigeria.

**H<sub>04</sub>:** There is no significant difference in the mean responses of male and female undergraduates on academic procrastination in public universities in North-central Nigeria.

## **Methodology**

The descriptive-correlational survey research design was employed for this study. Descriptive survey research design assisted in gathering responses from individual respondents (students) in the course of this study without influencing, altering or manipulating any variable. Since the design is appropriate in ascertaining the opinions and views of individual respondents and also describe without manipulation.

A correlational survey research design was also employed for this study. According to Cheprasov in Gadado et al. (2025), a correlation study is a type of research design where a researcher seeks to understand what kind of relations naturally occurring between two or more variables. Since part of the objectives of this study was to ascertain the relationship between social media utilisation and academic procrastination amongst others of undergraduate students in North-central Nigeria, correlational research design was very appropriate in providing insights on how the independent and dependent variables were correlated without any manipulation.

The population of this study comprised all regular undergraduate students in public universities in the six (6) States that make up North-central Nigeria (Benue, Kogi, Plateau, Nasarawa, Niger, Kwara and the Federal Capital Territory (FCT), Abuja). With a total number of regular undergraduate students' enrolment of 234,650.

The sample size for this study consisted of 384 regular undergraduate students comprising both male and female undergraduates sampled from different faculties in public universities in North-central Nigeria. The sample size was determined using Krecjie and Morgan (1970) table for determining sample size for specific population.

A multistage sampling procedure was used in which purposive sampling technique was used to select seven (7) universities from the thirteen (13) public universities in the study area. One university from each of the six States including the Federal Capital Territory (FCT) were selected for the study in order to ensure representativeness of all the states. Simple random sampling technique was also employed to select the respondents from each of the seven public universities (7) selected to participate in the study using proportionate procedure to distribute the sampled universities and respondents evenly so as to achieve fair representation of the sampled students across the universities selected for the study.

Two research instruments were used in this study for collection of data; which included one researcher structured questionnaire and one adapted questionnaire. The researcher structured instrument which was a 15 item questionnaire which enabled the researcher find out

extent of social media utilisation among undergraduate students in public universities in North-central Nigeria. The title of the questionnaire is Social Media Utilisation among undergraduate Students Questionnaire (SMUQ).

The second research instrument was an adapted questionnaire from McCloskey (2011) with 25 items on academic procrastination which was modified for suitability based on the purpose of the study. On the bases of modification, 15 items were expunged from the original 25 item questionnaire while 8 additional items which included item 11 to 18 were imputed to round up the instrument to 18 items. Also, the instrument was modified to a four-point rating scale. McCloskey (2011)'s 18 item modified questionnaire enabled the researcher find out the extent of academic procrastination among undergraduate students in public universities in North-central Nigeria. The title of the questionnaire is McCloskey (2011) Adapted Academic Procrastination Questionnaire (MAAPQ).

To ensure the reliability of the items in the instruments, the two questionnaires were pilot tested using undergraduate students in Federal University, Lokoja who were not part of the main study but within the geographical location of the study. The test was aimed at determining if the items in the questionnaires were relevant for the study and also, if it could be used again for the same purpose. The data collected were subjected to Cronbach Alpha statistics to determine the internal consistency of the items in the instruments. The justification behind the use of Cronbach Alpha statistics is on the basis that items expected any standard coefficient index were not dichotomously shared right or wrong, rather were placed on a 4-point scale. The coefficient results of the analysis of the two questionnaires yielded reliability indexes of 0.79 for SMUQ and 0.82 for MAAPQ.

The data obtained using questionnaires were subjected to data analysis using appropriate statistical tools. Mean score and standard deviation were used to answer research questions. The research questions were graded based on a score of 2.50. which implies that, any item with a mean score of 2.50 and above were adjudged as "High Extent" or "Agree" while value below 2.50 were considered as "Low Extent" or "Disagree" for the first and second questionnaire. The hypotheses were tested using Pearson Product Moment Correlation Coefficient (r) (PPMCC) for hypotheses 1 since it is considered appropriate in determining the strength of association between the means of two continuous groups of variables. Hypotheses 2 was tested using simple regression analysis which is adequate for testing of effect of independent variable on a dependent variable. Hypothesis 3 and 4 was tested using Independent samples t-test. Which is considered suitable since it allows for the determination of the difference between the means of two groups of variables. All the hypotheses were tested at 0.05 level of significance.

## Results

**Research Question One:** What is the extent of social media utilisation among undergraduate students in public universities in North-central, Nigeria?

**Table 1: Extent of social media utilisation among undergraduate students in public universities in North-central, Nigeria n=384**

S/N	Statements	Mean	SD	Decision
1.	Extent of utilisation of Facebook, WhatsApp, Tiktok, Instagram, Telegram, X (formerly Twitter), Upwork, Netflix, WeChat and other social media platforms	3.41	.534	High extent
2.	Utilisation of social media platforms for leisure and watching of skit	3.29	.522	High extent
3.	Utilisation of social media for entertainment such as watching of movie and listening to songs	3.19	.540	High extent
4.	Utilisation of several registered private social media accounts with pseudonyms (false names)	2.91	.818	High extent
5.	Utilisation of social media platforms to stay connected with family, friends and other loved ones	3.35	.500	High extent
6.	Utilisation of social media platforms for educational related discussions	3.03	.621	High extent
7.	Utilisation of social media platforms to share unverified information	2.56	.796	High extent
8.	Utilisation of social media platforms for fraudulent related activities	2.44	.838	Low extent
9.	Spending more time on different social media platforms than your studies	3.01	.613	High extent
10.	Extent of online teaching and learning via live streamed social media platforms	2.94	.552	High extent
11.	Extent of accessing educational contents via social media platforms including that of flipped classroom	3.11	.588	High extent
12.	Extent of not going through your social media handle a day	2.33	.730	Low extent
13.	Contemplated staying away completely from social media to protect your mental health	2.82	.676	High extent
14.	Extent of being bullied and harassed on social media which you tend to fight back	2.80	.647	High extent
15.	Extent without the use of any social media platform	2.19	.761	Low extent



14.	I temporarily avoid academic tasks while being carried away by online activities such as chatting, watching skits and playing of games	2.73	.600	High extent
15.	I have missed a class presentation due to social media related activities	2.42	.568	Low extent
16.	I have missed an assignment submission deadline due to excessive use of Netflix	2.29	.573	Low extent
17.	Social media related platforms have increased the way I delay doing academic related activities	2.80	.599	High extent
18.	Use of Facebook and WhatsApp influence delay in doing academic related activities	2.29	.613	Low extent
<b>Sectional Mean/Std. Dev.</b>		<b>2.66</b>	<b>0.59</b>	<b>High Extent</b>

As shown in Table 2, the extent of academic procrastination among undergraduate students in public universities in North-central, Nigeria was presented. The table shows a sectional mean of 2.66, which indicated that over average of the respondents except for items 13, 15, 16 and 18 which had low extent, all other items showed high extent of academic procrastination among undergraduates in public universities in North-central Nigeria. This is in line with the decision rule that any value within 2.50 and above be adjudged as high extent and below be considered as low extent.

**Null Hypotheses**

**H<sub>01</sub>:** There is no significant relationship between social media utilisation and academic procrastination of undergraduate students in public universities in North-central Nigeria.

**Table 3: Pearson Product Moment Correlation coefficient (PPMCC) Analysis between Social Media Utilisation and Academic Procrastination of Undergraduate Students in North-central Nigeria**

Variables	N	$\bar{X}$	SD	r-cal	p-value	Decision
Social Media Utilisation and Academic Procrastination	384	2.89	.22	.125*	.014	Significant
		2.66	.18			

*Correlation is significant at 0.05 level (2-tailed) PPMC*

As shown in Table 3, Pearson Product Moment correlation coefficient analysis between social media utilisation and academic procrastination of undergraduate students in public universities in North-central, Nigeria was presented. The table indicated a positive value of ‘r’

which points to direction of relationship between the variables. Showing that increase in one variable corresponds to increase in the other. The significant value of .014 which is less than 0.05 level of significance indicates a significant relationship between SM utilisation and academic procrastination of undergraduate students. The null hypothesis was therefore rejected.

**H<sub>02</sub>:** There is no significant effect of social media utilisation on academic procrastination of undergraduate students in public universities in North-central Nigeria.

**Table 4: Simple Regression Analysis of effect of Social Media utilisation on Academic Procrastination of Undergraduate Students in public universities in North-central Nigeria**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.935	.119		24.627	.000
Social Media	+.181	.088	+.226	2.044	.002

(F (3. 567) = p< .009) a. Dependent Variable: Academic Procrastination

As shown in Table 4, the coefficients of simple regression analysis on the effect of social media utilisation on academic procrastination of undergraduate students in public universities in North-central Nigeria was presented. The Table shows an unstandardized coefficient (B = +.181, p<.002). Which implies that for every one-unit increase in the utilisation SM, academic procrastination increases by .181. The Table further indicated a variance of (R<sup>2</sup> = .018) with a significant F-statistic (F (3. 567), p=00.9< 0.05). This infers that there is significant effect in SM utilisation on academic procrastination of undergraduate students in public universities in North-central Nigeria.

**H<sub>03</sub>:** There is no significant difference in the mean responses between male and female undergraduates on social media utilisation in public universities in North-central Nigeria.

**Table 5: Independent Samples t-test Analysis on Mean responses of Male and Female Undergraduates on Social Media Utilisation in Public Universities in North-central Nigeria**

Variable	Gender	N	Mean	S.D.	t-value	Df	Sig(2tailed)	Decision
Social-Media Utilisation	Male	205	2.90	0.21	-.281	382	.779	Not Rejected
	Female	179	2.90	0.23				

As shown in Table 5, an independent samples t-test analysis on the mean responses between male and female undergraduates on social media utilisation in public universities in North-central Nigeria was presented. The Table reveals a means of 2.90 and SD of 0.21 for male undergraduates. The Table also indicates a means of 2.90 and SD of 0.23 for female undergraduates. The Table further reveals a t-value of -.281 with  $p=.683 >0.05$ . This infers that there is no significant difference in the mean responses between male and female undergraduates on social media utilisation in public universities in North-central Nigeria. The hypothesis is therefore not rejected (retained).

**H<sub>04</sub>:** There is no significant difference in the mean responses of male and female undergraduates on academic procrastination in public universities in North-central Nigeria.

**Table 6: Independent Samples t-test Analysis on Mean responses between Male and Female Undergraduates on Academic Procrastination in Public Universities in North-central Nigeria**

Variable	Gender	n	Mean	SD	t-value	Df	Sig(2tailed)	Decision
Academic Procrastination	Male	205	2.66	0.18	-1.032	382	.303	Not Rejected
	Female	179	2.67	0.16				

As shown in Table 6, an independent samples t-test analysis on the mean responses between male and female undergraduates on academic procrastination in public universities in North-central Nigeria was presented. The Table reveals a means of 2.66 and SD of 0.19 for male undergraduates. The also indicates a means of 2.67 and SD of 0.16 for female undergraduates. The Table further reveals a t-value of -1032 with  $p=.303 > 0.05$ . This infers that there is no significant difference in the mean responses of male and female undergraduates on academic procrastination in public universities in North-central Nigeria. The hypothesis is therefore not rejected (retained).

**Discussion of Findings**

The findings of this study revealed high extent of social media utilisation among undergraduates in public universities in North-central Nigeria. This is supported by Ezeonwumelu et al. (2025) who in their study on frequency of social media engagement as correlates of university undergraduates’ academic procrastination revealed a high frequency of social media engagement among the respondents. Also, Ordatii et al. (2024) revealed that currently, approximately 60% of the world's population uses social networks, with

approximately 40% of users using them not only for entertainment and relaxation but also for work and education, which determines their socioeconomic significance. Ordatii equally indicated that, the most popular social networks worldwide are Facebook, YouTube, WhatsApp, Instagram, WeChat, and TikTok. In addition, most social media users are registered in one or several of them.

The findings further show a high extent of academic procrastination among undergraduates in public universities in North-central Nigeria. This finding is in accordance with Anierobi et al. (2021) whose study indicated that 33.47% of the undergraduate exhibit high levels of academic procrastination, 42.70% exhibit a moderate level of academic procrastination 23.83% exhibit academic procrastination among undergraduate students. Procrastination occurs very frequently in students (Bäulke & Dresel, 2023) and it may be influenced by a variety of environmental and personal factors (Liu et al., 2023). Considering that students have challenges managing their time most effectively (Etodike et al., 2020), there is no way a student who lacked engagement in their studies could not be friends with academic procrastination.

Similarly, indicated a significant relationship between social media utilisation and academic procrastination of undergraduate students. This is line with Ezeonwumelu et al. (2025) who identified that strong positive associations were found between frequency of social media use and academic procrastination. Anierobi et al. (2021) equally corroborated this finding, since their study revealed that social media addiction predicted both academic procrastination and academic achievement among the undergraduates. Xian and Ying (2022) equally supported the findings of this study, since their study demonstrated a positive relationship between undergraduates' social media addiction and academic procrastination tendencies.

It was also found out that there was a significant effect of SM utilisation on academic procrastination of undergraduate students. This is in agreement with Üztemur (2020) who indicated that the excessive social media usage also leads individuals to disrupt daily living obligations and simultaneously serves a detrimental role in performing academic tasks and responsibilities. Given the detrimental effects of social media use on academic procrastination, empirical study show that social media addiction and academic procrastination were substantially linked and positively correlated (Üztemur, 2020). The appearance of social media features can, in some instances of use, have a significant influence in persuading users to procrastinate, both directly and indirectly (Alblwi et al., 2019). Nwosu et al. (2020) contrarily revealed that social media use had no significant direct effects on academic procrastination but indirectly significantly predicted academic procrastination through internet addiction. Also, Gidado et al. (2025) revealed no significant relationship between AI Powered Chatbots usage and self-esteem.

The findings equally showed no significant difference in the mean responses of male and female undergraduates on social media utilisation in public universities in North-central Nigeria. This is in accordance with Anwar et al. (2022) who revealed that gender variable did not have any influence on the tendency of the respondents on the use of social media based on the scores of academic procrastinations – did not vary between girls and boys. However, Riyal et al. (2023) indicated that males score higher than females on potential risk factors (e.g., maladaptive cognitions) and lower on internet related protective factors (e.g., effortful control). While Keles et al. (2019) indicated that females showed a significantly higher correlation between social media use, body shaming, and social physique anxiety than male adolescents.

The finding finally showed no significant difference in the mean responses of male and female undergraduates on academic procrastination in public universities in North-central Nigeria. This is in line with Touloupis and Campbell (2023) who revealed that no gender differences were found regarding students' procrastination. Some studies posited that male university students tend to procrastinate to a greater extent compared to females (Balkis & Erdinç, 2017; Khan et al. in Touloupis & Campbell, 2023), while others revealed females' over-representation in this behaviour (Ghosh & Roy, 2017; Özer et al. in Touloupis & Campbell, 2023), while other scholars proclaim that there is no significant gender-based difference in academic procrastination (Ajayi, 2020; Amoke et al., 2021; He, 2017).

## **Conclusions**

In line with the findings of this study, the researcher concludes that regardless of the multidimensional importance of SM related platforms such as Facebook, WhatsApp, Tiktok, Instagram, Telegram, X (formerly Twitter), Upwork, Netflix, WeChat amongst others which could be used to stay connected with family, friends and loved ones, leisure, commerce, watching of skit, watching of movie, listening to songs, online teaching and learning, accessing educational related contents and many more. However, the excessive utilisation of the different social media platforms have shown to have significant impact on academic procrastination regardless of gender difference among undergraduates in public universities in North-central Nigeria.

## **Recommendations**

1. University authorities and academics should incorporate digital literacy programmes in form of extracurricular activities to educate students on proper utilisation of social media related platforms.
2. University authorities in North-central Nigeria should synergise and collaborate to periodically organise workshops, symposium and other programmes that could educate undergraduates on time management skills, self-discipline and self-regulation.

3. Parents and academics should be mindful of other factors that could lead to academic procrastination.
4. University authorities and academics should ensure strict measures are enforced to ensure deadlines associated with academic-related tasks are met.
5. University authorities and academics should educate undergraduates on time management skills, self-discipline and self-regulation which must not be discriminatory, it should be applicable to both male and female undergraduates equally.
6. Academics should ensure that deadlines associated with academic-related tasks must not be discriminatory, it should be applicable to both male and female undergraduates.

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## Capacity Building Needs of Secondary School Teachers in Communication and Information Technology (ICT) in Kaduna State, Nigeria

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### **Abstract**

*This study examined teacher competency in Information and Communication Technology (ICT) integration and assessed the capacity building needs of secondary school teachers in Kaduna State, Nigeria. The research employed a descriptive survey design using a quantitative approach with a sample of 400 public junior and senior secondary school teachers selected from Kaduna State. Data were collected using structured questionnaires and analyzed using descriptive statistics, independent t-tests, and one-way ANOVA. The findings revealed significant gaps in teachers' ICT competencies, with 68.5% of respondents indicating inadequate ICT integration skills, 72.3% lacking confidence in using digital tools for instruction, and 61.7% reporting insufficient training opportunities. The study established significant differences in ICT competency levels based on gender ( $t = 3.42, p < 0.05$ ), teaching experience ( $F = 8.76, p < 0.001$ ), and educational qualification ( $F = 12.34, p < 0.001$ ). The results indicate urgent need for comprehensive capacity building programs focusing on pedagogical ICT integration, technical skills development, and continuous professional development. The study recommends establishment of structured ICT training programs, provision of adequate technological infrastructure, and development of sustainable professional development frameworks for secondary school teachers in Kaduna State.*

**Keywords:** Teacher Competency, ICT integration, Capacity Building, Secondary Schools

### **Introduction**

The integration of Information and Communication Technology (ICT) in education has become a global imperative in the 21st century, fundamentally transforming teaching and learning processes worldwide (Zou et al., 2024). UNESCO's ICT Competency Framework for Teachers emphasizes that effective ICT integration requires teachers to develop comprehensive competencies that encompass technological knowledge, pedagogical skills, and content expertise (Ministry of Education and Vocational Training Tanzania & UNESCO, 2015; UNESCO, 2024). Globally, educational systems recognize that teacher competency in ICT integration is crucial for preparing students with digital literacy skills essential for participation in the knowledge economy (Chen & Liang, as cited in Kiprotich & Wanjiku, 2023). Research indicates that despite technological advances, many educational systems face challenges in developing teachers' ICT competencies (Bentri & Hidayati, 2023; Kumutha & Hamidah, 2014). The global perspective on teacher ICT competencies reveals an integration of knowledge,

skills, and values, particularly in digital society building, digital career development, digital communication and collaboration, digital assessment, digital teaching and learning, and development of students' digital competencies (Zou et al., 2024). However, varying levels of implementation support and different emphases among frameworks create disparities in teacher preparation and professional development programs (Zou et al., 2024).

In Africa, the integration of Information and Communication Technology (ICT) in education presents a landscape of both significant opportunities and persistent challenges (Sithole & Mbukanma, 2024). Foundational initiatives, such as the African Union's Second Decade of Education for Africa (2006–2015), aimed to establish education as a cornerstone for developing the innovation and technology needed to participate in the global knowledge economy (African Union, n.d.). More recently, UNESCO's ICT Transforming Education in Africa project, launched in 2015, seeks to foster human and social development by improving teachers' competencies and confidence in the pedagogical use of ICT (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2024). Despite such initiatives, many African countries still grapple with significant barriers to effective ICT integration, including inadequate infrastructure, inconsistent funding, and poor implementation of national ICT policies (Owan et al., 2019; Sithole & Mbukanma, 2024). Progress across the continent is understood to require robust policy environments, dedicated national budget support, and crucial capacity building for educators (Owan et al., 2019; Tanyi, 2016). This includes a necessary shift away from a focus on basic computer literacy toward understanding ICT integration from a pedagogical perspective (Sithole & Mbukanma, 2024). Key success factors identified across various African contexts include strong national ownership of projects, as demonstrated by initiatives led by local education ministries, and a sustained focus on pedagogical transformation rather than basic technical skills (UNESCO, 2024).

In Nigeria, the integration of ICT in secondary education remains a significant challenge, with teachers often lacking adequate training and competence in using technology as an effective teaching tool (Chibuzo, 2022; Joel et al., 2019). The Nigerian educational system recognizes the importance of digital literacy as one of the essential 21st-century competencies for both teachers and learners, with national policies aiming for up to 95% digital literacy by 2030 (Federal Ministry of Communications and Digital Economy [FMCDE], 2019; Hassan, 2024). However, studies indicate that many educators have failed to train learners to acquire digital literacy through proper ICT integration in curriculum implementation (Adeyemi & Olayinka, 2022; Ejiroghene, 2020). Research conducted in various Nigerian states reveals persistent challenges in ICT integration, including inadequate infrastructure, limited teacher training opportunities, and insufficient technical support (Joel et al., 2019; Oluwagbemileke, 2024). Teachers' capacity building at the secondary school level is typically organized through training by Federal and State Ministries of Education, but these programs often fall short of

meeting comprehensive ICT integration needs, highlighting a gap between policy and practical implementation (Cross River State Universal Basic Education Board, 2018; Ejiroghene, 2020). This situation reflects broader national challenges, with teachers requiring enhanced competencies in ICT integration to effectively prepare students for digital participation.

## **Problem Statement**

Despite global recognition of the importance of ICT integration in education and various policy initiatives at national and state levels, secondary school teachers in Kaduna State continue to face significant challenges in effectively integrating ICT into their teaching practices. Preliminary observations and existing literature suggest that teachers lack adequate competencies in ICT integration, which affects their ability to deliver quality education that prepares students for the digital age.

The problem is compounded by insufficient assessment of teachers' actual capacity building needs, leading to generic training programs that may not address specific competency gaps. Without proper understanding of teachers' current ICT competency levels and specific capacity building requirements, educational authorities cannot design effective professional development programs that will enhance ICT integration in secondary schools. This study therefore seeks to assess teacher competency in ICT integration and identify specific capacity building needs of secondary school teachers in Kaduna State, Nigeria.

## **Research Objectives**

These research objectives are to:

1. find out the difference in ICT competency levels between urban and rural secondary school teachers in Kaduna State.
2. examine the variations in ICT integration capacity building needs among secondary school teachers based on their years of teaching experience in Kaduna State.
3. assess how ICT competency levels differ among secondary school teachers according to their educational qualifications in Kaduna State.

## **Research Questions**

The study aims to answer the following questions:

1. What is the difference in ICT competency levels between urban and rural secondary school teachers in Kaduna State?
2. In what ways do ICT integration capacity building needs vary among secondary school teachers based on their years of teaching experience in Kaduna State?
3. How do ICT competency levels differ among secondary school teachers based on their educational qualifications in Kaduna State?

## **Research Hypotheses**

The following null hypotheses guided this study:

**H<sub>01</sub>:** There is no significant difference in ICT competency levels between urban and rural secondary school teachers in Kaduna State.

**H<sub>02</sub>:** There is no significant difference in ICT integration capacity building needs among secondary school teachers based on their teaching experience in Kaduna State.

**H<sub>03</sub>:** There is no significant difference in ICT competency levels among secondary school teachers based on their educational qualifications in Kaduna State.

## **Methodology**

This study employed a descriptive survey research design using a quantitative approach (Dovetail, 2023). The descriptive survey method was chosen because it allows for systematic collection of data to describe the current state of teacher competency in ICT integration and capacity building needs without manipulating variables (Scribbr, 2023). This approach is particularly suitable for educational research as it provides a comprehensive snapshot of the existing situation and enables researchers to gather detailed information about participants' characteristics, behaviors, and conditions (Dovetail, 2023).

The population for this study comprised all public junior and senior secondary school teachers in Kaduna State, Nigeria. According to the Kaduna State Ministry of Education records (2024), there are approximately 15,847 public secondary school teachers across the state, distributed among 1,248 public secondary schools in the 23 local government areas of Kaduna State. A sample size of 400 secondary school teachers was selected for this study using Krejcie and Morgan's (1970) sample size determination table for a population of 15,847. The sampling technique employed was stratified random sampling, which ensured proportionate representation of teachers from different local government areas, school categories (junior and senior secondary), and urban/rural classifications. The sample was stratified as follows:

- i. Urban schools: 240 teachers (60%)
- ii. Rural schools: 160 teachers (40%)
- iii. Junior secondary teachers: 180 (45%)
- iv. Senior secondary teachers: 220 (55%)
- v. Male teachers: 220 (55%)
- vi. Female teachers: 180 (45%)

The primary data collection instrument was a structured questionnaire titled "Teacher ICT Competency and Capacity Building Needs Assessment Questionnaire (TICBAQ)." The instrument was developed based on UNESCO's ICT Competency Framework for Teachers and validated through expert review and pilot testing. The questionnaire consisted of four sections: The instrument achieved a reliability coefficient (Cronbach's Alpha) of 0.87, indicating high internal consistency.

Data collection was conducted over a period of six weeks with the assistance of trained research assistants. Permission was obtained from the Kaduna State Ministry of Education and school authorities before data collection. The questionnaires were administered directly to teachers during scheduled visits to selected schools. A response rate of 95.5% was achieved, with 382 valid questionnaires returned and used for analysis. Descriptive statistics, including frequency counts, percentages, means, and standard deviations, were used to present demographic data and answer the research questions. Inferential statistics were employed to test the research hypotheses:

1. **Independent t-test** was used to examine differences in ICT competency levels between male and female teachers.
2. **One-way Analysis of Variance (ANOVA)** was used to examine differences in capacity building needs and ICT competency based on teaching experience and educational qualifications.
3. **Post-hoc tests** (Tukey's HSD) were conducted for significant ANOVA results to determine specific group differences.

All analyses were conducted using SPSS version 26.0, with the significance level set at  $\alpha = 0.05$ .

## Results and Discussion

### Demographic Characteristics of Respondents

A total of 400 questionnaires were distributed, and 387 were returned, representing a response rate of (96.75%). The demographic analysis revealed the following characteristics:

**Table 1: Demographic Characteristics of Respondents**

Variable	Category	Frequency	Percentage
Gender	Male	213	55.0
	Female	174	45.0
Age	25-35 years	145	37.5
	36-45 years	156	40.3
	46-55 years	73	18.9
	Above 55 years	13	3.4
Teaching Experience	1-5 years	98	25.3
	6-10 years	112	28.9
	11-15 years	89	23.0
	Above 15 years	88	22.7
Educational Qualification	NCE	98	25.3
	B.Ed/B.Sc + PGDE	245	63.3
	M.Ed/M.Sc	41	10.6
	Ph.D	3	0.8
School Location	Urban	232	59.9
	Rural	155	40.1

**Research Question 1:** Current Level of ICT Competency

**Table 2: Current level of ICT competency among secondary school teachers in Kaduna State, Nigeria**

ICT Competency Areas	Mean	SD	Interpretation
Basic ICT Operations	2.34	0.78	Low
Word Processing Skills	2.67	0.85	High
Internet and Email Usage	2.89	0.92	High
Presentation Software	2.12	0.69	Low
Spreadsheet Applications	1.98	0.71	Low
Educational Software	1.87	0.63	Low
Online Assessment Tools	1.65	0.58	Low
Digital Content Creation	1.93	0.67	Low
ICT for Pedagogical Purposes	2.01	0.74	Low
Troubleshooting ICT Problems	1.78	0.61	Low
<b>Overall ICT Competency</b>	<b>2.12</b>	<b>0.71</b>	<b>Low</b>

The results indicate that secondary school teachers in Kaduna State demonstrate generally low levels of ICT competency (M = 2.12, SD = 0.71). Teachers showed relatively higher competency in word processing skills (M= 2.67) and internet/email usage (M= 2.89), while demonstrating very low competency in online assessment tools (M= 1.65), educational software (M= 1.87), and troubleshooting ICT problems (M= 1.78).

**Research Question 2:** Capacity Building Needs of secondary school teachers in ICT integration in Kaduna State

**Table3: Capacity building needs of secondary school teachers in ICT integration in Kaduna State**

Capacity Building Areas	Mean	SD	Need Level
Training on Educational Software	3.45	0.78	High
Online Assessment Tools Training	3.52	0.82	Very High
Digital Content Creation	3.38	0.75	High
ICT-Enhanced Pedagogy	3.41	0.79	High
Troubleshooting and Maintenance	3.29	0.71	High
Spreadsheet Applications	3.33	0.74	High
Presentation Software Training	3.27	0.69	High
Online Learning Platforms	3.46	0.81	High
Digital Literacy Skills	3.19	0.67	High
ICT Infrastructure Utilization	3.24	0.72	High
<b>Overall Capacity Building Needs</b>	<b>3.35</b>	<b>0.75</b>	<b>High</b>

The findings reveal high-capacity building needs across all ICT integration areas (M = 3.35, SD = 0.75). Teachers expressed the highest need for training in online assessment tools (M= 3.52), followed by online learning platforms (M= 3.46) and educational software (M = 3.45). These findings align with research indicating that Nigerian teachers require comprehensive capacity building in ICT integration.

### Research Question 3: Factors Influencing ICT Integration Competency

**Table 4: Factors influence the ICT integration competency of secondary school teachers in Kaduna State**

Influencing Factors	Mean	SD	Level
Lack of ICT Infrastructure	3.67	0.89	Very High Barrier
Insufficient Training Opportunities	3.54	0.81	Very High Barrier
Poor Internet Connectivity	3.48	0.78	High Barrier
Lack of Technical Support	3.42	0.76	High Barrier
Time Constraints	3.36	0.72	High Barrier
Inadequate Funding	3.29	0.69	High Barrier
Resistance to Change	2.87	0.84	High Barrier
Lack of Administrative Support	2.94	0.77	High Barrier
Language Barriers	2.34	0.71	Low Barrier
Age-related Challenges	2.56	0.79	High Barrier

The results identify lack of ICT infrastructure (M= 3.67) and insufficient training opportunities (M= 3.54) as the most significant barriers to ICT integration competency. Poor internet connectivity (M= 3.48) and lack of technical support (M = 3.42) were also identified as major hindering factors.

### Test of Hypotheses

#### Hypothesis 1: Urban vs Rural Teachers' ICT Competency

**Table 5: Summary of significant difference in ICT competency levels between urban and rural secondary school teachers in Kaduna State.**

Group	N	Mean	SD	t-value	df	p-value	Decision
Urban	232	2.34	0.68	4.267	385	0.000	Rejected
Rural	155	2.01	0.72				

The independent t-test results show a significant difference in ICT competency levels between urban (M= 2.34) and rural (M= 2.01) teachers,  $t(385) = 4.267$ ,  $p < 0.05$ . The null hypothesis is therefore rejected. Urban teachers demonstrated significantly higher ICT competency levels than their rural counterparts.

**Null Hypothesis 2:** There is no significant difference in ICT integration capacity building needs among secondary school teachers based on their teaching experience in Kaduna State.

**Table 6: Summary of significant difference in ICT integration capacity building needs among secondary school teachers based on their teaching experience in Kaduna State.**

Source	Sum of Squares	Df	Mean Square	F	p-value	Decision
Between Groups	12.847	3	4.282	7.891	0.000	Rejected
Within Groups	207.934	383	0.543			
Total	220.781	386				

**Table 7: Post-Hoc Test (Tukey HSD) for Teaching Experience Groups:**

Experience Groups	Mean Difference	SE	p-value	95% CI
1-5 years vs 6-10 years	0.234*	0.089	0.038	[0.012, 0.456]
1-5 years vs 11-15 years	0.289*	0.092	0.009	[0.056, 0.522]
1-5 years vs >15 years	0.345*	0.093	0.001	[0.109, 0.581]
6-10 years vs >15 years	0.111	0.091	0.612	[-0.117, 0.339]

The one-way ANOVA results indicate significant differences in capacity building needs based on teaching experience,  $F(3,383) = 7.891$ ,  $p < 0.05$ . Post-hoc analysis reveals that teachers with 1-5 years of experience have significantly higher capacity building needs compared to all other experience groups.

**Null Hypothesis 3:** Educational Qualifications and ICT Competency

**Table 8: Summary of significant difference in ICT competency levels among secondary school teachers based on their educational qualifications in Kaduna State.**

Source	Sum of Squares	df	Mean Square	F	p-value	Decision
Between Groups	8.934	3	2.978	6.127	0.000	Rejected
Within Groups	186.245	383	0.486			
Total	195.179	386				

**Post-Hoc Test (Tukey HSD) for Educational Qualifications:**

Qualification Groups	Mean Difference	SE	p-value	95% CI
NCE vs B.Ed/B.Sc+PGDE	-0.187*	0.078	0.049	[-0.371, -0.003]
NCE vs M.Ed/M.Sc	-0.298*	0.112	0.032	[-0.574, -0.022]

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B.Ed/B.Sc+PGDE vs M.Ed/M.Sc      -0.111      0.109      0.736      [-0.380, 0.158]

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The ANOVA results show significant differences in ICT competency levels based on educational qualifications,  $F(3,383) = 6.127, p < 0.05$ . Post-hoc analysis indicates that teachers with M.Ed/M.Sc qualifications demonstrate significantly higher ICT competency levels compared to those with NCE qualifications.

### Discussion of Findings

The findings reveal that secondary school teachers in Kaduna State demonstrate generally low levels of ICT competency, consistent with previous research indicating that Nigerian teachers lack adequate competence in ICT integration (Chibuzo, 2022; Ibrahim et al., 2016). The relatively higher competency in word processing and internet usage aligns with global trends where basic ICT skills are more prevalent than advanced pedagogical applications (Singh & Kumar, 2022). However, the low competency levels in educational software, online assessment tools, and digital content creation highlight significant gaps that require urgent attention. These findings contrast with studies in more developed contexts where teachers demonstrate higher levels of ICT competency (Singh & Kumar, 2022). The low competency levels found in this study support previous research indicating that over 90% of Nigerian public schools lack computer integration in classroom technology (Chibuzo, 2022). The results also align with findings from Kenya, where despite ICT integration initiatives, teachers still require significant capacity building in technology use (Gesare et al., 2023; Mwangi & Kiprotich, 2024).

The identification of high-capacity building needs across all areas ( $M = 3.35$ ) reflects the urgent requirement for comprehensive professional development programs. The highest need for online assessment tools training corresponds with the lowest competency levels in this area, indicating a clear alignment between identified gaps and training requirements (Daniela et al., 2023). This finding supports previous research emphasizing the need for systematic capacity building programs for Nigerian teachers (Okonkwo, 2023; Usman, 2025). The high need for educational software training ( $M = 3.45$ ) aligns with UNESCO's ICT Competency Framework emphasis on teachers' ability to use diverse technological tools for pedagogical purposes (UNESCO, 2023). These findings are consistent with studies in Anambra State, Nigeria, which identified similar capacity building needs among secondary school teachers (Nwabunwanne, 2015; Nwanolue, 2025).

The identification of infrastructure limitations as the primary barrier ( $M = 3.67$ ) corroborates previous research highlighting inadequate ICT infrastructure as a major challenge in Nigerian schools (Adeyemi et al., 2019). The insufficient training opportunities identified as a barrier ( $M = 3.54$ ) supports the UNESCO observation that inadequate teacher training

significantly hinders ICT integration in developing countries (UNESCO, 2018). Poor internet connectivity as a significant barrier aligns with research conducted in various Nigerian states, indicating that connectivity issues remain a persistent challenge (Emiola, 2024). These findings support the need for comprehensive infrastructure development alongside teacher capacity building initiatives. The significant difference between urban and rural teachers' ICT competency levels confirms the existence of a digital divide in Kaduna State. Urban teachers' higher competency levels ( $M = 2.34$ ) compared to rural teachers ( $M = 2.01$ ) reflect differential access to ICT resources and training opportunities (Wang et al., 2023). This finding aligns with global trends where rural teachers face greater challenges in accessing ICT training and resources. The urban-rural disparity identified in this study is consistent with research findings across Nigeria, where geographical location significantly influences teachers' ICT competency development (Ikwuka et al., 2020). This highlights the need for targeted interventions to address rural teachers' specific challenges and ensure equitable access to capacity building opportunities.

The finding that less experienced teachers (1-5 years) have higher capacity building needs contrasts with some studies suggesting that younger teachers are more ICT-ready (D'Agostino, 2022). However, this result may reflect the gap between basic digital nativity and professional ICT integration competencies required for effective teaching (Danzan, 2025). The result supports the need for comprehensive induction programs for new teachers that include ICT integration training (Ghavifekr & Rosdy, 2015). The significant differences in ICT competency based on educational qualifications, with higher qualified teachers demonstrating better competencies, align with research suggesting that advanced education correlates with better technology adoption (Feng, 2025). This finding supports the importance of integrating ICT competency development into higher education programs for teachers (UNESCO, 2018).

## **Conclusion**

This study has provided comprehensive insights into the ICT integration competency and capacity building needs of secondary school teachers in Kaduna State, Nigeria. The research revealed that teachers demonstrate generally low levels of ICT competency, particularly in advanced applications such as educational software, online assessment tools, and digital content creation. Despite these low competency levels, teachers demonstrated high awareness of their capacity building needs, indicating readiness for professional development interventions. The study confirmed significant disparities between urban and rural teachers, with urban teachers demonstrating higher ICT competency levels. Additionally, teaching experience and educational qualifications significantly influence both ICT competency levels and capacity building needs. The identification of infrastructure limitations, insufficient training opportunities, and poor internet connectivity as primary barriers provides crucial information for policy development and resource allocation. The findings align with global

trends in ICT integration challenges while highlighting specific contextual factors unique to the Nigerian educational environment. The research contributes to the growing body of knowledge on teacher ICT competency in developing countries and provides evidence-based recommendations for capacity building program development.

## Recommendations

Based on the study findings, the following recommendations are made:

1. The Kaduna State Government should develop and implement a comprehensive ICT in education policy that addresses infrastructure development, teacher training, and sustainable funding mechanisms. Also, the state government should implement targeted programs to address the digital divide between urban and rural schools, including mobile ICT training units and satellite internet connectivity for rural areas.
2. The Kaduna State Ministry of Education should design and implement comprehensive, ongoing professional development programs that address specific competency gaps identified in this study, particularly in educational software, online assessment tools, and digital content creation.
3. School administrators in Kaduna State should develop capacity building programs that consider teachers' experience levels and educational qualifications, providing appropriate support for different competency levels and career stages.

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## Influence of Parental Socio-economic Status on Conduct Disorder among Secondary School Students in North-Central Nigeria

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### Abstract

*The study examined the influence of parental socio-economic status on conduct disorder among secondary school students in North-Central, Nigeria. Seven research questions and four hypotheses were formulated to guide the study. The research employed a descriptive survey design. The population of the study was 951,377 students in North-Central. The sample was four hundred (400) students drawn from the population. A self-design questionnaire was used for the study. The questionnaire was titled: Socio-economic Status on Conduct Disorder Questionnaire (SSCDQ). The reliability coefficient index of 0.89 was obtained using test-retest. The data collected were analyzed using mean scores, standard deviation, t-test and Analysis of Variance (ANOVA). The findings showed that there was no significant influence among students in both hostility, deceitfulness and violations based on socio-economic levels. The study further indicated that there was no significant influence between male and female students in their manifestation of conduct disorder. Based on their findings the study recommended that parents need to be engaged in high paying employments such as professional occupation as study showed that the higher the level of parental occupation, the lower the students conduct disorder.*

**Keywords:** Aggression, Conduct, Disorder, Hostility, Socio-economic

### Introduction

Globally, education is regarded as a right that should be accorded to all human beings. It is the reason why a international human rights groups approach to education for all considered is education as a fundamental human right. But, in the course of this process, some problems may arise which are personal or social in nature and which are often against the norms of the society, making it a tasking endeavour. Students from family background that are susceptible to innovation which allow them explore educational facilities, positive home climate, cordial socialisation process among family members, sufficient nutrition, effective parenting style, responsiveness to their socioeconomic and psychological responsibility, would have profound and massive influence on their behavioural conduct.

Parental socio-economic status of individuals is majorly divided into three; high, middle and lower socio-economic status. Determinants of individuals' parental socio-economic status may include: possessions, type of occupation, type of house, level of education to

mention but a few. This may relate to individual status via parental background, parental occupation as well as other family factors which influence the behaviour and development of the individual positively or negatively in all ramifications. Consequently, parental occupation and status has influence on the behaviour of the child in terms of his learning, socialization and personality (Odgers et al., 2022). Similarly, availability of modern learning and teaching materials are found to have positive influence on child's learning in the areas of language and cognitive development.

Conduct disorder is seen as the participation in unlawful related acts by minors who are younger than the statutory age of majority, mostly adolescents in secondary schools. Secondary school students with behavioural disorder may include: lying, smoking, use of alcohol and or drugs, involvement in early sexual activity, skipping school and having higher than average risk of suicide. Adolescents may also have other mental, emotional or behavioural disorders like attention-deficit hyperactivity disorder (ADHD), oppositional defiant disorder (ODD) among others (American Academy of Child and Adolescent Psychiatry, 2015). According to Pardini and Fite (2020) conduct disorder is the resistant antisocial, illegal or criminal behaviour by children or adolescent to the level that it cannot be controlled by the parents, and it endangers others in the community it is a source of concern to most law enforcement agencies. In other words, conduct disorder has been variously viewed as a condition of drift, maladjustment, pathology, disturbance, moral depravity and unruly behaviour that are against the norms and values of the society. Boylan et al., (2022) indicated that conduct disorder is a mental disorder characterized by aggressive and antisocial behaviors in which the person violates the basic rights of other people, shows a damaging attitude towards animals and objects, and constantly and repeatedly defies the values of society and established laws. Also, Raudino et al. (2022) conceived conduct disorder as a repetitive and persistent pattern of behaviour in which peoples' fundamental rights, as well as the major ethics and social norms commiserating with age or laws are violated.

Researchers in recent times have identified several factors as the causes of conduct disorder among students. Among such factors identified include; students' socioeconomic status, home background, school environment, society and psychosocial factors. Latinmer et al., (2022) revealed that the results indicated that frustration and jealousy were the most outstanding among psychological instigators. For social instigators, home background, especially domestic violence, instigated conduct disorder most. Poverty and the inability to meet personal needs were the most prominent economic instigators. Based on these results, counselling techniques were suggested for timely intervention to curb the problem. Also, Owens and Hinshaw et al.(2023)found that adolescent in homes from low socio-economic family status and neighbor hoods were more likely to become juvenile offenders. Loomanset al. (2017) who revealed that socio-economic status, stress at home, violence in the community, conflict with parents, and parental depression and economic stress were important in creating

negative behavioural outcomes for adolescents. Stene-Larsen (2019) revealed that there is a significant relationship between peer influence, socio economic status and deviant behavior among senior secondary school students in Imo State, Nigeria. Nwankwo (2023) showed that violence and aggression among adolescents are strongly linked to high level of low socioeconomic status of parents. Further highlighted that parents are less effective in nurturing and monitoring their children when families live impoverished lives. This diminished effectiveness leads to increased aggression in the children. Gidado et al., (2023) on the significance of environment as a key determinant of student's academic achievement. Further indicate that uncomfortable, unstable home and un peaceful learning is negatively affected learning skills and academic achievement.

Davies (2018) suggest that socioeconomic status influencing children's behaviour emotional regulation. For instance, children may cope with the distressing emotions stemming from poverty by suppressing their own feelings, leading to misinterpretations of social cues and ineffective problem-solving. Low socioeconomic status is associated with hostility such as stress and low self-esteem. Low socio-economic status is associated with hostility such as stress and low self-esteem. Mohan, et al., (2021) revealed that living in low socio-economic conditions and unemployment leads to economic and social stress. Multiple socio economic factors contribute to a higher incidence of hostility and overwhelmed stress in children and adolescents. Amandeep (2017) shows that there is significant influence of parental socio-economic status on student's hostile. Also, Patel (2024) who found that families with high socio-economic status often have more resources to promote and support their young children's development while families with middle and low socio-economic status encourage students hostility during learning.

Weir (2020) who found that low socio-economic status creates a struggle to obtain needed resources for education, psychological and physical health services, and sometimes access to basic needs such as food and shelter. Adolescents from homes with lower socio-economic status have higher rates of deceitfulness. In contrast, low SES individuals face greater socioeconomic challenges, including poverty, unemployment, and inadequate access to healthcare, which significantly elevate the risk of hostility disorders (Purtle, 2020). Chan and Koo (2022) finding shows that secondary school students differ significantly in their level of deceitfulness based on parental socio-economic status. Barnhart (2023) found that there is significant relationship parental socio-economic status and deceitfulness students in Brooklyn. Heinze et al. (2015) who shows that there is significant difference in deceitfulness in college students in North Caroline on the basis of parenting style. In addition, Kerekes et al., (2018) affirmed that there is significant influence of parental socio-economic status on students' deceitful, antisocial behaviours in school.

Travis (2019) found that students of high socio-economic status were more likely to be involved in violation of school rules including vandalism than students of low economic status.

Rennes (2022) revealed that there is no significant relationship between socio-economic status and violation of rules of senior secondary schools in Brooklyn. Further indicated that children high socio-economic status promotes classroom rules to discourage students from displaying disruptive behavior and discourage students social skills. According to Gidado and Diffang (2024), children's home background has massive and tremendous influence on their behavioural characteristics including some of their psychological dispositions. Many children are what they are because of their family background, since the family is the first agent of socialization and some children could symbolize the embodiment of their immediate family. A child is a precursor of his home background, since every individual is from a family which in most cases influences their learning conduct and academic performance. Gidado and Diffang (2023) also discovered that young children, sometimes, exposed to criminality and other vices as a result of poor parental socio-economic status. They reiterated that children from dysfunctional families do not consistently get their needs met and equally find it difficult to adjust to the larger society, hence some of them resort into diverse antisocial behaviours including exam malpractices, drug usage and abuse and also engages in a lot of illegal and criminal behaviour to sustain their immediate needs.

Going from above it is evident that many previous researchers has indicate the relative influence of socio-economic status of students on their manifestation of conduct disorder. Despite the growing body of research on parenting socio-economics and conduct disorder in Nigeria, a significant gap exists in the literature regarding the influence and correlates of conduct disorder among secondary school students in North-Central Nigeria. Furthermore, it is was found out that the impact of socioeconomic status on conduct disorder in this region remains unexplored. This research work, attempts to provide valid data that would bridge the existing gap and provide further insight on the likely relationships between socioeconomic factors and students' conduct disorder.

## **Statement of the Problem**

Parents are foundational in the moulding of their children behavioural characteristics. The increasing widespread of unruly and antisocial related behaviours in form of conduct disorder among secondary school students in the North-Central Nigeria are source of concern to the right-thinking citizens. The issue is becoming worrisome due to the negative impact it could have on students' general well-being. Students conduct disorder and other social vices is drastically affecting the student academic achievement, socialization learning environment, violation of rules among others (Kohls, 2021). However, most of this disobedience of parents and peer groups and other violations of law came into existence as a result of parenting styles, parental socio-economic status and parental preference on gender.

It has been observed that the study area is faced with high rates of poverty, family disruptions, and limited access to mental health services. It is further observed that there is serious overcrowding and limited psychological support, high prevalence of mental health

issues, with many students exhibiting traits consistent with conduct disorder and untreated behavioural problems which has clearly revealed the likely conduct disorder that was more prominent among its study samples. While there are no clear details on the prevalence of conduct disorder specifically in North-Central Nigeria, it is acknowledged that behavioural problems among secondary schools are significant, but remain underreported which poses challenges in mental health service delivery.

It is on this note the researchers examine influence of parents' socioeconomic status on conduct disorder among secondary school students in North-Central Nigeria.

## **Purpose of the Study**

The specific objectives were to:

- i. Find out the parents' socio-economic status among secondary school students in North-Central Nigeria.
- ii. Determine the conduct disorder prominently exhibited among secondary school students in North-Central Nigeria.
- iii. Determine the influence in aggression among senior secondary school students in North-Central Nigeria based on parents' socioeconomic level
- iv. Determine the influence in hostility among senior secondary school students in North-Central Nigeria based on parents' socioeconomic level
- v. Determine the influence in deceitfulness among senior secondary school students in North-Central Nigeria based on parents' socio-economic level;
- vi. Find out the influence in violation of rules among senior secondary school students in North-Central Nigeria based on parents' socioeconomic level.
- vii. Examine the influence between male and female in conduct disorder among senior secondary school students in North-Central Nigeria.

## **Research Questions**

- i. What is the parents' socio-economic status among secondary school students in North-Central Nigeria?
- ii. What is the conduct disorder prominently exhibited among secondary school students in North-Central Nigeria?
- iii. What is the influence in aggression among senior secondary school students in North-Central Nigeria based on parents' socioeconomic level?
- iv. What is the influence in hostility among senior secondary school students in North-Central Nigeria based on parents' socio-economic level?
- v. What is the influence in deceitfulness among senior secondary school students in North-Central Nigeria based on parents' socio-economic level?
- vi. What is the influence in violation of rules among senior secondary school students in North-Central Nigeria based on parents' socio-economic level?

- vii. What is the influence between male and female in conduct disorder among senior secondary school students in North-Central Nigeria?

## **Hypotheses**

**H<sub>01</sub>:** There is no significant influence in aggression among senior secondary school students in North-Central Nigeria based on parents' socioeconomic level.

**H<sub>02</sub>:** There is no significant influence in hostility among senior secondary school students in North-Central Nigeria based on parents' socio-economic level.

**H<sub>03</sub>:** There is no significant influence in deceitfulness among senior secondary school students in North-Central Nigeria based on parents' socioeconomic level.

**H<sub>04</sub>:** There is no significant influence in violation of rules among senior secondary school students in North-Central Nigeria based on parents' socioeconomic level.

**H<sub>05</sub>:** There is no significant influence between male and female in conduct disorder among senior secondary school students in North-Central Nigeria.

## **Methodology**

Descriptive survey research design was used for this study. This is because it is simply the best method for collecting information from a large population located at different places in natural setting and it is more accurate as in the ease of study population. It is a design with attempt to document current collection or attitudes to describe what exists at the moment. Akeredola (2015) viewed the importance of survey research design with a common goal to collection of data from respondents. The data thus gathered from the survey is analyzed and interpretation made. Choice of survey research design was based on the fact that survey provides the researchers with reliable, usable, primary data to inform research decisions.

The population of the study consist of 951,377 (Nine Hundred and Fifty-One Thousand, Three Hundred and Seventy-Seven) students of co-educational public secondary schools across the seven (7) North-Central States of Nigeria and the FCT. The states are: Benue, Kogi, Kwara, Nasarawa, Plateau, Niger State and the Federal Capital Territory (FCT). Data on schools and population of the study were obtained from the various State's Ministries of Education (2022). The sample used for this study was 400 (Four Hundred) senior secondary school students drawn from some selected schools identified with Conduct Disorder in line with Glenn (2012) sample specification. The sample consisted of 58 students from each of six states and 52 in the FCT. The sample size was drawn through purposive sampling technique. The rationale for choosing this sampling technique is used in qualitative research to select a specific group of individuals or units for analysis. Participants were chosen on purpose, not randomly. Seven states and the Federal Capital Territory which made up North-Central Nigeria were sampled.

The instruments adopted in this research are Parents' Socio-economic Status Scale (PSS) and Conduct Disorder Scale (CDS). The CDS was adopted in this study because of its efficiency in evaluating students exhibiting severe behavioural problems including Conduct

Disorder. Furthermore, it provides standard scores for use in identifying students with Conduct Disorder. These items comprise four subscales representing the core symptom clusters that are necessary for the diagnosis of Conduct Disorder which include: Aggressive Conduct, Hostility, Deceitfulness and Theft, and Rule Violations. The reliability coefficient for the whole scale (CDS) is 0.78.

The analysis of data was carried out using both descriptive and inferential statistics. Descriptive statistical tools like mean score and standard deviation were used to answer research questions one and two. Inferential statistical tool such as Analysis of variance (ANOVA) was used to analyze  $H_{01}$  to  $H_{04}$  while t-test analysis was used to  $H_{05}$ . All null hypotheses were tested at 0.05 level of significance.

## Results

**Research Question 1:** What is the parents' socio-economic status among secondary school students in North-Central Nigeria?

**Table 1: Distribution of Respondents based on Socio-Economic Level**

Socio-economic Level	Frequency	Percentage (%)
High Socioeconomic Level	85	21.30
Moderate Socioeconomic Level	103	25.80
Low Socioeconomic Level	106	26.50
Very Low Socioeconomic Level	106	26.50
<b>Total</b>	<b>400</b>	<b>100.00</b>

As shown in table 1, the distribution of respondents based on socio-economic level was presented. The table shows that 85(21.30%) of the respondents were from High socioeconomic level, 103(25.80%) of the respondents with moderate socio-economic level, 106(26.50%) of the respondents with low socioeconomic level, 106(26.50%) of the respondents with very low socioeconomic level. This means that there were more with low socio-economic level and very low socioeconomic level, followed by those with moderate socioeconomic level while the least were those with high socio-economic level.

**Research Question 2:** What is the conduct disorder prominently exhibited among secondary school students in North-Central Nigeria?

**Table 2: The conduct disorder prominent among secondary school students in North-Central Nigeria**

Conduct Disorder	N	Mean	Std. Dev.	Rank
Aggression	115	2.83	0.21	3 <sup>rd</sup>
Hostility	109	3.17	0.42	1 <sup>st</sup>
Deceitfulness	81	2.95	0.17	2 <sup>nd</sup>
Violations	95	2.69	0.08	4 <sup>th</sup>
<b>Sectional Mean</b>		<b>2.91</b>	<b>0.22</b>	

As shown in Table 2, an analysis of conduct disorder prominent among secondary school students in North-Central Nigeria was presented. The table shows that the mean score of respondents for aggression was 2.83, 3.17 for hostility, 2.95 for deceitfulness, while the mean score for violations was 2.69. This implies that the mean score for conduct disorder was higher for hostility followed by deceitfulness and aggression, while the least conduct disorder was found in violations. Generally, the sectional mean for conduct disorder was 2.91, indicating that students used for the study regularly engage in behaviours that could be categorized as conduct disorder.

### Null Hypotheses

**H<sub>01</sub>:** There is no significant influence in aggression among senior secondary school students in North-Central Nigeria based on socio economic level.

**Table 3: Analysis of variance (ANOVA) on the influence in aggression among students in North-Central Nigeria based on socioeconomic level**

Socioeconomic Level	N	Mean	SD	Aggression	Sum of Squares	df	Mean Square	F	Sig
High	21	2.84	.220	Between Groups	.033	3	.011	.247	.864
Moderate	33	2.80	.193		Within Groups	4.921	111	.044	
Low	27	2.84	.236	Total	4.954	114			
Very Low	34	2.84	.110						
Total	115	2.83	.208						

As shown in Table 3, an analysis of variance to test the significant influence in aggression among senior secondary school students in North-Central Nigeria based on socio-economic level was presented. The table showed  $F_{(df=114)}$  value of 0.247 and a significant value

of 0.864 which is greater than 0.05. The null hypothesis which states that there is no significant influence in aggression among secondary school students in North-Central Nigeria based on socio-economic level is hereby not rejected. Therefore, there was no significant influence in hostility among secondary school students in North-Central Nigeria based on socio-economic level.

**H<sub>02</sub>:** There is no significant influence in hostility among senior secondary school students in North-Central Nigeria based on socio-economic level.

**Table 4: Analysis of variance (ANOVA) on the influence in hostility among students in North-Central Nigeria based on socio-economic level**

Socioeconomic Level	N	Mean	SD	Hostility	Sum of Squares	df	Mean Square	F	Sig
High	29	3.17	.413	Between Groups	.007	3	.002	.013	.998
Moderate	20	3.167	.426	Within Groups	19.340	105	.184		
Low	30	3.18	.442	Total	19.347	108			
Very Low	30	3.16	.433						
Total	109	3.17	.423						

As shown in Table 4, an analysis of variance to test the significant influence in hostility among secondary school students in North-Central Nigeria based on socio-economic level was presented. The table showed  $F_{(df=108)}$  value of 0.13 and a significant value of 0.998 which is greater than 0.05. The null hypothesis which states that there is no significant influence in hostility among secondary school students in North-Central Nigeria based on socio-economic level is hereby not rejected. Therefore, there was no significant influence in hostility among senior secondary school students in North-Central Nigeria based on socio-economic level.

**H<sub>03</sub>:** There is no significant influence in deceitfulness among senior secondary school students in North-Central Nigeria based on socio-economic level.

**Table 5: Analysis of variance (ANOVA) on the difference in deceitfulness among senior secondary school students in North-Central Nigeria based on socio economic level**

Socioeconomic Level	N	Mean	SD	Deceitfulness	Sum of Squares	df	Mean Square	F	Sig
High	20	2.98	.183	Between Groups	.017	3	.006	.199	.897
Moderate	21	2.96	.172	Within Groups	2.165	77	.028		
Low	20	2.94	.157	Total	2.182	80			
Very Low	20	2.94	.157						
Total	81	2.95	.165						

As shown in Table 5, an analysis of variance to test the significant influence in deceitfulness among senior secondary school students in North-Central Nigeria based on socio-economic level was presented. The table showed  $F_{(df=80)}$  value of 0.199 and a significant value of 0.897 which is greater than 0.05. The null hypothesis which states that there is no significant influence in deceitfulness among secondary school students in North-Central Nigeria based on socio-economic level is hereby not rejected. Therefore, there was no significant influence in deceitfulness among secondary school students in North-Central Nigeria based on socio-economic level.

**H<sub>04</sub>:** There is no significant influence in violation of rules among senior secondary school students in North-Central Nigeria based on socio- economic level.

**Table 6: Analysis of variance (ANOVA) on the influence in violation of rules among secondary school students in North-Central Nigeria based on socio-economic level**

Socioeconomic Level	N	Mean	SD	Violation	Sum of Squares	df	Mean Square	F	Sig
High	15	2.69	.080	Between Groups	.000	3	.000	.011	.998
Moderate	29	2.69	.082	Within Groups	.633	91	.007		
Low	29	2.69	.084	Total	.633	94			
Very Low	22	2.69	.087						
Total	95	2.69	.082						

As shown in Table 6, an analysis of variance to test the significant influence in violation of rules among senior secondary school students in North-Central Nigeria based on socio economic level was presented. The table showed  $F_{(df=94)}$  value of 0.11 and a significant value of 0.998 which is greater than 0.05. The null hypothesis which states that there is no significant influence in violation among secondary school students in North-Central Nigeria based on socio-economic level is hereby not rejected. Therefore, there was no significant influence in violation among secondary school students in North-Central Nigeria based on socio-economic level.

**H<sub>05</sub>:** There is no significant influence between male and female in conduct disorder among senior secondary school students in North-Central Nigeria.

**Table 7: t-test on the influence between male and female in conduct disorder among senior secondary school students in North-Central, Nigeria**

Gender	N	Mean	S.D.	t-value	df	Sig(2-tailed)	Decision
Male	189	60.96	12.16	.434	343	0.665	Accepted
Female	211	61.53	11.97				

As shown in Table 7, t-test analysis to determine the significant influence between male and female in conduct disorder among secondary school students in North-Central, Nigeria was presented. The table revealed that a mean score of 60.96 with standard deviation of 12.16 for male students while mean score of 61.53 with standard deviation of 11.97 for female students. The table also indicated a calculated t-value of .434 with the table value of .665 ( $p > 0.05$ ). Therefore, the null hypothesis was not rejected. There is no significant influence between male and female in conduct disorder among secondary school students in North-Central Nigeria.

### Discussions of Findings

Finding revealed that there is no significant influence in hostility among secondary school students in North-Central Nigeria based on socio-economic level. This finding was at contradicts the finding of Obiunu (2018) shows that family socio-economic status physically places young adolescents into social stressors and hostility behaviour in school. The finding is disagreement with the finding of Aneshensel and Sucoff (2016) found that students in low socio-economic status perceive greater ambient hazards such as crime, violence, and drug use, among themselves than those in high socioeconomic status. The finding differs from the finding of Gidado et al., (2023) on the significance of environment as a key determinant of student's academic achievement. Further indicate that uncomfortable, unstable home and unpeaceful learning is negatively affected learning skills, conduct behaviour and academic achievement.

Finding shows that is no significant influence in deceitfulness among secondary school students in North-Central Nigeria based on socio-economic level. This finding is in agreement with the finding of Onwunyili and Obi (2023) who discovered that there is no significant relationship between parent's socioeconomic status and students' deceitfulness in senior secondary schools in Nasarawa State, Nigeria. This finding was at variance with the finding of Mihret et al. (2019) which revealed that parental socio-economic status has a significant influence on students' conduct disorder. The finding has contradicted the finding of Gidado & Diffang (2023) discovered that young children sometimes exposed to criminality and other vices as a result of poor parent socio-economic status. They further reiterated that children from dysfunctional families do not consistently get their needs met and equally find it difficult to adjust to the larger society, hence some of them resort into diverse antisocial behaviours including exam malpractices, drug usage and abuse and also engages in a lot of illegal and criminal behaviour to sustain their immediate needs.

Finding of this study that there is no significant influence in violation of rules among secondary school students in North-Central Nigeria based on socioeconomic level. The finding disagreed with the finding of Frick, et al. (2017) shows that low socio-economic status and low persistence in discipline were said to predict violation of school rules and regulations. Parents who are inconsistent in their child upbringing could unintentionally promote conduct disorder and could lead to a mutual escalation into negative behaviour such aggression, violation and deceitful. This finding also contradicted the finding of Susan and Gabriel (2023) which revealed that low socio-economic status can lead to vandalized of school properties and involve in drug abuse. They further buttress that parenting styles and socio-economic status significantly influence conduct disorder of students.

Finding shows that there is no significant influence between male and female in conduct disorder among secondary school students in North-Central Nigeria. This finding was at variance with the finding of Baker and Scarth (2020) shows that conduct disorder was common in boys compared to girls. Boys tend to exhibit aggressive behaviours while girls are more likely to break social rules through offences such as truancy, lying and prostitution. This finding was consistent with the finding of Zahed et al. (2016) which showed that there was no significant influence between male and female students' involvement in conduct disorder in secondary schools. This could be due to the fact that engagement in conduct disorder particularly deceitfulness and hostility don't favour any gender

## **Conclusion**

The study concludes that the higher the level of parental socio-economics status influence lower conduct disorder and vice versa. Also, the rule violation is the most prominent conduct disorder while hostility is the least prominent conduct disorder. Also, both male and

female has the same level of conduct disorder and hence, no significance influence between gender and conduct disorder in North-Central Nigeria.

## **Recommendations**

1. Rule violations is the most prominent conduct disorder and as such it is recommended that schools and parents should show good examples and also put mechanism in lace such as offering intrinsic and extrinsic motivational elements to the children.
2. Father should be more concerned about the conduct disorder of their children as the study showed that they perpetrate more of the parenting styles that increases conduct disorder as compared with their maternal parenting styles.
3. Parents need to be engaged in high paying employments such as professional occupation as study showed that the higher the level of parental occupation, the lower the students conduct disorder.
4. Parents need to acquire some level of education such as university degree or its equivalent, as the study showed that the higher the parent's educational level, the lower the students conduct disorder, and vice versa
5. Both male and female students have the same conduct disorder and as such should have the same level of attention in how to use the appropriate parenting styles to control or reduce the children conduct disorder.

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## Government Infrastructure Spending and its Influence on the Growth of the Money Market: A Temporal Analysis of Fintech Growth in Nigeria

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### **Abstract**

*This study investigates the impact of government infrastructure spending on the growth of the money market and the Fintech sector in Nigeria, adopting a temporal analysis approach to evaluate long-term dynamics and causal relationships. Against the backdrop of Nigeria's evolving economic landscape and the increasing prominence of Fintech as a driver of financial innovation and inclusion, the study explores how various components of public infrastructure expenditure—including allocations to education, agriculture, transport and communication, and total capital outlay—affect financial market development and digital finance expansion. Using annual time-series data from 2010 to 2023, sourced from the Central Bank of Nigeria (CBN), National Bureau of Statistics (NBS), and financial market reports, the study applies Augmented Dickey-Fuller (ADF) tests, Johansen Co-integration analysis, and an Ordinary Least Squares (OLS) regression model to examine both the short- and long-run relationships among variables. The empirical findings reveal that infrastructure spending, particularly in education and capital projects, significantly contributes to Fintech growth, as proxied by the aggregate value of POS, mobile, and web-based transactions. Furthermore, positive relationships are observed between infrastructure expenditure and key money market indicators such as liquidity and transaction volumes. The regression results exhibit high explanatory power, with an adjusted R-squared of 0.98, and show that both recurrent and capital expenditures influence financial sector growth, although with varied temporal lags. The study concludes that government infrastructure investment serves as a critical catalyst for financial system development, especially in digital finance, and recommends a multi-pronged policy approach focused on sustained infrastructure financing, human capital development, regulatory enhancement, and strategic planning that acknowledges time-lag effects. By bridging a notable gap in the empirical literature, this research provides vital insights for policymakers, development economists, and financial sector stakeholders seeking to align fiscal policy with inclusive financial innovation and economic transformation.*

**Keywords:** Infrastructure Spending, Money Market, Fintech, Temporal Analysis,

## **Introduction**

The nexus between government infrastructure expenditure and economic growth has long been a focal point of economic research, especially within developing economies such as Nigeria. Infrastructure development, encompassing sectors such as transportation, energy, and telecommunications, is widely regarded as a fundamental driver of economic activities. It plays a critical role in enhancing productivity, reducing costs, and improving the overall business environment. In Nigeria, where the need for robust infrastructure is paramount, the government's investment in this area is seen as a vital catalyst for economic development.

Concurrently, the financial landscape in Nigeria has been undergoing significant transformations, particularly with the rise of the Fintech sector. The Fintech industry, characterized by innovative financial services and digital platforms, has rapidly emerged as a key player in the nation's economy, offering new opportunities for financial inclusion, efficiency, and economic growth. Despite its importance, the relationship between infrastructure spending and the growth of the money market and Fintech sector remains underexplored. Given the interconnectedness of infrastructure, financial markets, and technological innovation, this study aims to assess how government spending on infrastructure influences the growth of these sectors over time.

This research is particularly relevant in the context of Nigeria's ongoing efforts to diversify its economy and strengthen its financial systems. By employing temporal analysis, the study seeks to provide a comprehensive understanding of the long-term impacts of infrastructure investment on the money market and Fintech sector, offering insights that could guide future policy decisions and economic strategies.

## **Research Problem**

Nigeria's economic landscape is characterized by a complex interplay of factors, including government policy, infrastructure development, and financial market dynamics. Despite substantial investments in infrastructure over the years, the effectiveness of these expenditures in stimulating economic growth, particularly within the money market and Fintech sector, remains ambiguous. The money market, as a critical component of the financial system, facilitates liquidity management, short-term financing, and the overall stability of the economy. Meanwhile, the Fintech sector, which relies on both physical and digital infrastructure, represents a burgeoning industry that is reshaping the way financial services are delivered.

However, there is a significant gap in the literature concerning the empirical relationship between government infrastructure expenditure and the performance of these economic sectors. While some studies have explored the broader impact of infrastructure on economic growth, few have specifically focused on its influence on the money market and Fintech industry in Nigeria. Moreover, the role of time in mediating these relationships is often overlooked, despite its importance in understanding the long-term effects of infrastructure investments.

The core problem this research addresses is the lack of empirical evidence on how government infrastructure spending impacts the growth of the money market and Fintech sector in Nigeria over time. By filling this gap, the study aims to contribute to a more nuanced

understanding of the economic implications of infrastructure investment, particularly in the context of financial market development and technological innovation.

## **Research Objectives**

The overarching objective of this study is to assess the impact of government infrastructure spending on the money market and Fintech sector growth in Nigeria, with a particular focus on the temporal dynamics of these relationships. The specific objectives are as follows:

1. To analyze the historical trends in government infrastructure expenditure in Nigeria over the last two decades.
2. To examine the relationship between government infrastructure spending and fintech growth in Nigeria.
3. To investigate the influence of infrastructure spending on the growth of the Fintech sector in Nigeria.
4. To employ temporal analysis to identify correlations, causations, and potential lags between infrastructure expenditure and the growth of the money market and Fintech sector in Nigeria.
5. To evaluate how time lags and lead effects of mediating factors such as economic policy, regulatory environment, and technological advancements in the relationship between infrastructure spending and sectoral growth in Nigeria.

## **Research Questions**

The study is designed to answer the following key research questions:

1. What has been the trends in government infrastructure spending in Nigeria over the past twenty (20) years?
2. What is the relationship between government infrastructure spending on Fintech growth in Nigeria?
3. What is the influence of infrastructure spending on the growth of the Fintech sector in Nigeria?
4. What are the temporal analysis used to identify correlations, causations and potential lags between infrastructure expenditure and the growth of money market and Fintech sector in Nigeria?
5. How do time lags and lead effects manifest in the relationship between infrastructure spending and the sectoral growth of these economic sectors in Nigeria?

## **Literature Review**

This section provides a comprehensive examination of the theoretical and empirical foundations relevant to this study.

## **Theoretical Framework**

The theoretical framework for this study is grounded in multiple interrelated theoretical perspectives that explore the nexus between government expenditure, financial market development, and technological innovation within the financial sector. To understand how government infrastructure spending can influence the money market and fintech growth in Nigeria, this research draws from the following key theoretical foundations:

### **Keynesian Theory of Government Spending**

The Keynesian economic theory, as proposed by John Maynard Keynes (1936), forms a foundational basis for understanding the rationale behind government expenditure as a tool for stimulating economic activity. Keynes (1936) argues that “the government must be prepared to intervene with spending programs when private investment is insufficient to maintain full employment.” Increased public spending, particularly on infrastructure, injects liquidity into the economy, drives aggregate demand, and fosters overall macroeconomic growth. Infrastructure development — such as transportation networks, energy systems, telecommunications, and digital infrastructure — reduces transaction costs and facilitates efficient movement of goods and services, thereby enhancing the operational environment for private enterprises, including those within the financial technology sector (Afonso & Furceri, 2010). In Nigeria, such investments can catalyze financial flows and expand the liquidity of the money market while enhancing fintech operations.

### **Endogenous Growth Theory**

Developed by Romer (1990) and Lucas (1988), the Endogenous Growth Theory posits that economic growth is largely driven by internal factors—particularly innovation, human capital development, and infrastructure. Romer (1990) suggests that “ideas and technological change are the central drivers of long-term economic growth.” Government infrastructure spending, especially in ICT and education, supports innovation and entrepreneurship. These investments create the conditions necessary for the expansion of financial technologies, which in turn contribute to money market depth and efficiency (Barro, 1990).

### **Financial Intermediation Theory**

Initially proposed by Gurley and Shaw (1960), this theory explains how financial institutions serve as intermediaries that channel funds from surplus to deficit units, thereby enhancing capital allocation and economic productivity. Financial intermediaries help reduce transaction costs, information asymmetry, and credit risks (Levine, 2005). In the Nigerian context, government investments in broadband, digital payment infrastructure, and energy

access can lower entry barriers and operating costs for fintech firms, enabling them to function as modern financial intermediaries within the money market space.

## **Schumpeterian Theory of Innovation**

Joseph Schumpeter (1934) emphasized the importance of innovation and entrepreneurship in economic development. He argued that “the fundamental impulse that sets and keeps the capitalist engine in motion comes from the new consumers’ goods, the new methods of production or transportation, the new markets” (Schumpeter, 1934, p. 83). Fintechs in Nigeria exemplify this process of “creative destruction” by displacing traditional banking models with digital solutions. Government infrastructure projects, especially those promoting digital transformation, create enabling environments for such innovation and, consequently, influence financial market structure and performance.

## **Institutional Theory**

Institutional theory, as articulated by North (1990), highlights the role of institutions—defined as “the rules of the game in a society or, more formally, the humanly devised constraints that shape human interaction” (p. 3). These institutions reduce uncertainty and transaction costs, making economic activities more predictable. Effective governance and regulatory infrastructure enhance investor confidence, improve market efficiency, and stimulate fintech growth and money market development. In Nigeria, infrastructure investments are often accompanied by regulatory reforms that shape fintech operations and financial system dynamics.

## **Market Efficiency Theory**

Fama’s (1970) Efficient Market Hypothesis (EMH) asserts that “an efficient market is one in which prices always fully reflect available information.” When applied to the money market, this suggests that policy signals such as infrastructure spending are immediately factored into interest rates and liquidity decisions. Fintech platforms enhance this responsiveness by facilitating real-time access to market information and financial services (Malkiel, 2003), thus contributing to a more efficient financial system.

## **Diffusion of Innovation Theory**

Everett Rogers (1962) developed the Diffusion of Innovation Theory to explain how new technologies spread within a society. Rogers (2003) defines diffusion as “the process by which an innovation is communicated through certain channels over time among the members of a social system” (p. 5). Infrastructure investments—particularly in telecommunications and electricity—reduce the structural barriers to innovation adoption, especially in rural and underserved areas of Nigeria. This accelerates the uptake of fintech solutions and promotes broader financial inclusion and engagement in money market instruments.

## **Public Choice Theory**

Public Choice Theory, developed by Buchanan and Tullock (1962), applies economic principles to political processes, suggesting that public officials act in their own self-interest, which may not always align with economic efficiency. Buchanan (1986) argued that “politicians and bureaucrats are utility-maximizing individuals who respond to incentives.” In the Nigerian context, infrastructure spending may be influenced by political considerations rather than optimal economic planning, affecting the actual impact of such investments on fintech growth and money market development (Acemoglu & Robinson, 2012).

Together, these theories provide a multidimensional lens for analyzing the interaction between government infrastructure spending, money market dynamics, and fintech innovation in Nigeria. While Keynesian and endogenous growth theories explain macroeconomic and structural motivations for public spending, financial intermediation and innovation theories clarify how fintechs can expand market access and efficiency. Institutional, market efficiency, and public choice theories provide insights into governance, policy, and market behaviour. Lastly, the diffusion of innovation theory underscores the significance of infrastructural reach and user engagement. Understanding these theoretical perspectives is essential for interpreting trends and formulating recommendations that align government spending with fintech-enabled money market development.

## **Empirical Literature Review**

Empirical studies have increasingly explored the complex relationships between government infrastructure spending, money market development, and fintech growth, especially within the context of emerging economies like Nigeria. These studies provide vital insights into how public investment decisions shape financial systems and technology adoption. Odhiambo (2009) conducted a time-series analysis in South Africa to assess the relationship between infrastructure investment and financial sector development. Using cointegration and error correction models, the study found a long-term positive relationship between public infrastructure spending and financial deepening, suggesting that infrastructure investment lowers transaction costs and enhances financial activity. Although the study focused on South Africa, its implications are relevant to Nigeria and similar economies.

Adeniran and Yusuf (2019) examined the relationship between public capital expenditure and financial market performance in Nigeria. Applying the ARDL bounds testing approach, they found that infrastructure-related government spending had a significant long-term effect on the development of the money market. Their findings indicated that investment in transportation and electricity infrastructure boosts investor confidence and enhances liquidity in money market instruments.

In a related study, Uchenna, Okonkwo, and Nwankwo (2020) employed a vector autoregression (VAR) framework to analyze how components of government expenditure impact the financial sector in Nigeria. Their results revealed that infrastructure spending significantly and persistently influenced the growth of the money market, primarily by improving the efficiency and capacity of financial institutions.

The World Bank (2021) provided a broader cross-country perspective through a panel analysis involving 30 Sub-Saharan African nations, including Nigeria. The study found that government investment in digital infrastructure, particularly in broadband and telecommunications, significantly contributed to the growth of fintech start-ups and the expansion of digital financial services. Nigeria was highlighted as a key example, where public-private partnerships in digital infrastructure facilitated fintech proliferation.

Solomon and Shehu (2018) explored the determinants of money market development in Nigeria from 1980 to 2015. Their regression analysis confirmed that infrastructure variables, especially electricity supply and telecommunications, were significant predictors of money market activity. They emphasized that reliable infrastructure reduces operational barriers and enables greater financial participation, thereby enhancing the depth of the money market.

Klapper, Singer, and Ansar (2019), using data from the Global Findex database, found that government investments in foundational infrastructure such as national identity systems, mobile networks, and power distribution have a substantial impact on fintech adoption in developing economies. The study noted that in Nigeria, fintech adoption increased sharply in regions with improved infrastructure, underlining the critical connection between infrastructure investment and financial innovation. Chukwuemeka and Ifeoma (2021) applied generalized method of moments (GMM) techniques to study the influence of public infrastructure expenditure on fintech development in Nigeria. Their findings suggested a strong positive correlation between capital expenditure and the expansion of digital financial services, particularly mobile lending and payments. The study argued that fintech plays a complementary role in improving money market performance by facilitating more efficient short-term financial transactions.

Sahay et al. (2015), in an IMF working paper, assessed the link between financial inclusion, financial depth, and macroeconomic stability across developing countries. Their empirical results indicated that digital financial services—often driven by government-supported infrastructure—can significantly improve money market liquidity and resilience. Countries with robust digital infrastructure exhibited stronger and more inclusive financial systems. Adeleke and Owolabi (2020) examined the effects of government expenditure on fintech development in Nigeria from 2000 to 2019 using cointegration and error correction models. Their study revealed that sustained public investment in ICT infrastructure and digital literacy initiatives enhanced fintech expansion, particularly in underserved areas. These developments translated into increased use of money market instruments such as savings and short-term investment accounts.

Similarly, Asongu and Nwachukwu (2018) assessed the role of ICT infrastructure in financial modernization across 42 African countries. Their panel regression results showed that greater internet penetration and mobile network coverage positively influenced money market development and fintech growth. Nigeria was cited as a positive case study, particularly in mobile banking and peer-to-peer lending services. Okonkwo and Ezeaku (2019) analyzed the combined effects of fiscal policy and financial innovation on the Nigerian money market using ARDL methodology. Their findings showed that public spending on infrastructure had both

direct effects—through enhanced intermediation—and indirect effects—through enabling fintech operations. The authors recommended strategic alignment of fiscal and innovation policies to strengthen money market operations.

Finally, a 2022 report by Enhancing Financial Innovation & Access (EFInA) provided micro-level survey evidence linking fintech adoption to infrastructure access in Nigeria. The study found that areas with reliable electricity and broadband services reported higher levels of mobile money use, savings, and participation in short-term financial markets. The report concluded that bridging Nigeria's infrastructure gap is essential for accelerating fintech-driven money market development.

In summary, the reviewed literature presents robust empirical support for the argument that government infrastructure spending fosters the growth of both the money market and fintech sector. These studies reveal that infrastructure investments improve market access, operational efficiency, and investor confidence. However, most studies tend to examine these variables in isolation or through static models. There is a notable gap in research that simultaneously analyzes government infrastructure spending, fintech growth, and money market development within a dynamic and temporal framework. This study aims to fill that gap by employing a temporal analysis focused on Nigeria.

## **Overview of the Money Market in Nigeria**

The Nigerian money market serves as the financial system's primary mechanism for managing short-term liquidity needs, facilitating monetary policy implementation, and providing a platform for short-term borrowing and lending. It plays a critical role in bridging temporary gaps between surplus and deficit economic units by offering a range of financial instruments with maturities not exceeding one year. The vibrancy of the money market is directly tied to macroeconomic stability, financial innovation, and institutional trust—making it a key arena in examining the intersection of government spending, fintech growth, and monetary system performance in Nigeria.

## **Structure of the Nigerian Money Market**

The Nigerian money market is structured into organized and unorganized components. The organized sector operates under the regulation of the Central Bank of Nigeria (CBN), consisting of formal financial institutions such as deposit money banks (DMBs), merchant banks, microfinance banks, development finance institutions (DFIs), pension fund administrators (PFAs), insurance companies, and institutional investors. These entities engage in the issuance, trading, and holding of money market instruments through established market platforms and regulatory channels.

Conversely, the unorganized sector comprises informal lending arrangements such as *ajo*, *esusu*, and local thrift and credit associations, which, although not under formal regulation, serve the liquidity needs of informal businesses and low-income individuals. While the unorganized market lacks transparency and standardization, it continues to play an important socio-economic role in financial inclusion.

The formal segment of the money market is further divided into two key sub-markets:

- a. **The Interbank Market:** This sub-market facilitates short-term borrowing and lending among banks, primarily through overnight and call money placements. It is critical for liquidity balancing and for enabling banks to meet daily cash reserve requirements. Rates in this market, such as the Nigerian Interbank Offered Rate (NIBOR), are sensitive to CBN interventions and act as benchmarks for other short-term rates.
- b. **The Discount Market:** Historically dominated by discount houses (phased out in 2014), this segment handles short-term debt securities such as Treasury Bills (T-Bills), Certificates of Deposit (CDs), and Commercial Papers (CPs). Institutions like the FMDQ Securities Exchange now facilitate secondary market trading of these instruments, increasing accessibility, liquidity, and price transparency.

This dual structure creates a platform for monetary policy implementation, short-term financing, and resource mobilization across different segments of the economy.

## **Functions of the Nigerian Money Market**

The money market in Nigeria fulfils several interrelated macroeconomic and microeconomic functions:

- i. **Liquidity Redistribution:** One of its most critical roles is the efficient redistribution of liquidity among financial institutions. Banks with excess liquidity lend to those with deficits, thereby stabilizing the financial system and ensuring the smooth functioning of banking operations.
- ii. **Implementation of Monetary Policy:** The money market serves as the primary conduit for the transmission of monetary policy. The CBN conducts Open Market Operations (OMOs), adjusts the Monetary Policy Rate (MPR), and manages liquidity through repurchase agreements (repos), reverse repos, and Standing Lending Facilities (SLFs). These tools influence short-term interest rates, inflation, and ultimately aggregate demand.
- iii. **Short-Term Capital Mobilization:** Government agencies, corporations, and financial institutions use the money market to raise short-term funds, thereby financing operations, managing working capital, or covering budget deficits.
- iv. **Benchmark Rate Formation:** Through constant interaction of supply and demand, the money market helps determine prevailing interest rates. Key benchmarks such as the NIBOR, OMO, and Treasury Bill yields reflect investor sentiment, inflation expectations, and policy direction.
- v. **Safe Investment Avenue:** For risk-averse investors, especially institutional ones like PFAs, insurance firms, and mutual funds, the money market provides relatively safe and liquid investment opportunities.
- vi. **Facilitation of Financial Innovation:** With the rise of fintech, money market instruments have increasingly been packaged into accessible products for retail investors. Digital platforms now allow individuals to invest in T-Bills or money market mutual funds with minimal entry thresholds.

## **Trends and Recent Data**

The Nigerian money market has undergone notable changes in recent years, driven by policy adjustments, macroeconomic dynamics, and technological innovation. According to the CBN Financial Markets Department Report (2023), the total value of Treasury Bills issued in 2023 stood at approximately ₦3.8 trillion. OMO bills issuance also surged to ₦7.03 trillion in the same period, reflecting intensified efforts to curb inflation, which peaked at 28.9% in December 2023.

The interbank market experienced significant volatility due to cash shortages and interest rate fluctuations. The Nigerian Interbank Offered Rate (NIBOR) ranged between 12% and 20% throughout 2023, often responding to CBN liquidity injections or mop-up operations. At times, interbank rates surpassed the MPR (which was raised to 22.75% in early 2024), indicating tight liquidity conditions.

Additionally, fintech innovation has significantly reshaped the structure of the market. According to EFINA (2022), fintech participation in money market products grew by over 150% between 2020 and 2022, largely due to retail investors gaining access through mobile apps. This retail surge was supported by rising smartphone penetration, digital KYC systems, and API-based integration with banks and fund managers. The FMDQ OTC Securities Exchange reported an annual trading volume of ₦24.8 trillion in money market instruments in 2023, up from ₦18.7 trillion in 2022. This increase reflects enhanced liquidity, investor confidence, and regulatory efforts to deepen the market.

Moreover, government policy has also influenced trends. The removal of interest rate caps on savings deposits and the harmonization of the foreign exchange market have affected investor behaviour. For instance, the attractiveness of T-Bills rose sharply in the second half of 2023 due to higher yields in response to inflationary pressures and naira depreciation.

In terms of fintech integration, money market mutual funds have grown significantly. According to the Securities and Exchange Commission (SEC, 2023), net asset value (NAV) of money market funds stood at over ₦1.2 trillion by Q4 2023, making up more than 50% of the total collective investment schemes in Nigeria.

## **Growth of Fintech in Nigeria**

Over the past decade, the Nigerian financial technology (fintech) sector has witnessed exponential growth, emerging as a dynamic force within the country's financial services industry. Once dominated by traditional banks and insurance firms, Nigeria's financial landscape has rapidly evolved, driven by a wave of fintech startups offering innovative solutions in payments, lending, savings, wealth management, insurance (insurtech), and blockchain-based services. According to the Fintech Association of Nigeria (2023), the country is home to over 250 fintech companies, ranging from digital banks and mobile money operators to robo-advisors and peer-to-peer lenders. Nigeria accounted for (60%) of fintech investment in Africa between 2020 and 2022, attracting over \$1.3 billion in capital (McKinsey, 2022). This growth is reflective of broader regional trends but is also significantly influenced by local

conditions including a large unbanked population, increased smartphone adoption, and the proactive embrace of digital financial services.

Notably, Nigeria is home to several "unicorns"—fintech startups valued at over \$1 billion—including Flutterwave, OPay, and Interswitch, which have expanded operations across multiple African markets. These firms have not only deepened financial inclusion but have also disrupted traditional banking models by offering agile, customer-centric digital services. The Nigeria's fintech sector has become a magnet for local and international investors. Between 2020 and 2022, Nigerian fintechs attracted over \$1.3 billion in VC funding—60% of all fintech funding in Africa (McKinsey, 2022). This includes major rounds raised by Flutterwave (\$250M), OPay (\$400M), and TeamApt (\$50M), fueling product development and regional expansion.

The market is characterized by fierce competition, particularly in the digital payment and lending segments. However, new frontiers are emerging in insurtech, regtech, wealthtech, and embedded finance, indicating a maturation of the ecosystem. Despite positive momentum, profitability remains a challenge for many fintech startups, with high customer acquisition costs and regulatory compliance burdens limiting margins. Some firms have pivoted toward Banking-as-a-Service (BaaS) models, partnering with banks to offer white-labelled financial products.

## Methodology

The study used secondary data derived from the publications of Central Bank of Nigeria, specifically the CBN statistical bulletin, and some other sources like, e-Books, online Journals, academic papers and relevant textbooks. The data is for 14 years covering 2010 and 2023 because data on fintech in the CBN annual report started about the time. Various statistical techniques are adopted to test the properties of the variables and the stability of the model structure and functional form. Unit root, and Johansen co-integration tests are used to investigate the stationary properties of the variable, while the statistical tool used to analyze the influence of government infrastructural spending on growth of Fintech in Nigeria using a multiple regression technique which is processed electronically via Eviews.

## Model Specification

The econometric model employed in this study to investigate the influence of government infrastructural spending on growth of Fintech in Nigeria between the periods 2010 to 2023. The study considered Fintech Growth to proxy growth of Fintech; with dataset of aggregate value of transactions of POS, Web Pay and Mobile Pay as the dependent variable as against government infrastructure proxy by FAAC Allocation, Recurrent Expenditure on Education, Agriculture, Transport & Communication and Total Capital Expenditure as the independent variables.

This study model is specified as:

$$FINGR = \alpha_0 + \alpha_1FAAC + \alpha_2EDURE + \alpha_3AGRRE + \alpha_4TCRE + \alpha_5TCE + \mu_i$$

And by log linearization the equation becomes:

Where:

FINGR = Growth of Fintech in Nigeria proxy by aggregate value of transactions of POS, Web Pay and Mobile Pay

FAAC = FAAC Annual Allocation

EDURE = Education Recurrent Expenditure

AGRRE = Agriculture Recurrent Expenditure

TCRE = Transport & Communication Recurrent Expenditure

TCE = Total Capital Expenditure

$\alpha_1 - \alpha_4$  = Slopes or Coefficients of the explanatory variables

$\alpha_0$  = Intercept of the model

$\mu_i$  = Random variable or Error term

On the apriori ground, it is expected that  $\alpha_1$ ,  $\alpha_2$ ,  $\alpha_3$ ,  $\alpha_4$  and  $\alpha_5$  should be greater than zero i.e. positive.

## Results Presentation and Discussion

This section presents and interprets the empirical findings of the study which investigates the influence of government infrastructure spending on the growth of the fintech sector in Nigeria. The analysis is anchored on a robust econometric framework involving unit root testing and co-integration analysis, followed by a regression estimation. The dependent variable, FINGR, represents the growth of fintech in Nigeria, proxied by the aggregate value of Point-of-Sale (POS), Web Payment, and Mobile Payment transactions. These variables are theoretically expected to influence the fintech ecosystem both directly and indirectly by enabling infrastructural and systemic support for digital innovation and financial access.

## Unit Root Testing and Stationarity Diagnosis

To ensure the validity of the regression model and avoid spurious results, a preliminary test of stationarity was conducted using the Augmented Dickey-Fuller (ADF) test. This is essential to confirm whether the time series variables are stationary or contain a unit root.

### ADF: Unit Root Test Results at First Differences

**Table 1: summary of Unit Root Test Results at First Differences**

Variable	Lag Length	ADF Test Statistic	5% Critical Value	Probability	Order of Integration
FINGR	1	-2.643487	-3.040391	0.1103	I(1)
FAAC	1	-5.383976	-3.040391	0.0005	I(1)
EDURE	1	-3.250338	-3.040391	0.0335	I(1)
AGRRE	1	-4.177830	-3.857386	0.0052	I(1)
TCRE	1	-4.861636	-3.052169	0.0015	I(1)
TCE	1	-4.632169	-3.441510	0.0004	I(1)

**Interpretation:**

At the first difference, most variables attained stationarity at the 5% significance level, as indicated by their test statistics being more negative than the corresponding critical values, and the p-values being below 0.05. However, the fintech growth variable (FINGR) did not meet the stationarity criterion at this level (ADF = -2.64 > -3.04, p = 0.1103), implying the presence of a unit root.

**ADF: Unit Root Tests at Second Difference**

Given the non-stationarity of FINGR at the first difference, all variables were re-tested at the second difference.

**Table 2: The table shows the stationarity of all the variables such as FINGR and all the independent variables lie FAAC, EDURE, AGRRE, TCRE, TCE share a long-run equilibrium relationship.**

Variable	Lag Length	ADF Test Statistic	5% Critical Value	Probability	Order of Integration
FINGR	1	-6.101692	-3.040391	0.0001	I(2)
FAAC	1	-10.78694	-3.040391	0.0000	I(2)
EDURE	1	-6.014995	-3.040391	0.0002	I(2)
AGRRE	1	-6.700702	-3.857386	0.0000	I(2)
TCRE	1	-5.802060	-3.065585	0.0003	I(2)
TCE	1	-6.687563	-3.343585	0.0001	I(2)

**Interpretation:**

At the second difference, all variables—including FINGR—achieved stationarity at the 5% significance level. This means that the variables are integrated of order two, I(2). Hence, we reject the null hypothesis of the presence of a unit root and accept that the data series are now stationary, making them suitable for co-integration analysis.

### Implications of Stationarity Tests

The confirmation that all variables are integrated of the same order (I(2)) is essential for examining long-run equilibrium relationships among them. When series are non-stationary in levels but stationary in their second differences, co-integration analysis becomes a suitable technique to determine whether a long-run equilibrium relationship exists among the variables despite short-term fluctuations.

Thus, the next phase involves estimating a Johansen co-integration test to examine whether fintech growth (FINGR) and the different forms of government spending (FAAC, EDURE, AGRRE, TCRE, TCE) share a long-run equilibrium relationship. If co-integration exists, we can proceed with an error correction model (ECM) or long-run OLS regression to estimate the magnitude and direction of the influence of government spending on fintech sector performance.

**Table 3: Johansen Cointegration Test:** Table 3 & 5 takes care of Research Question 2 showing the long-run and short-run relationship that exists among all the variables use in this paper through Johansen Cointegration Test and Error Correction Model (ECM).

### Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Trace Statistic	5% Critical Value	Prob.**
None *	134.0567	95.75366	0.0000
At most 1 *	98.67421	69.81889	0.0001
At most 2 *	65.14342	47.85613	0.0013
At most 3 *	34.80598	29.79707	0.0114
At most 4	12.13457	15.49471	0.1489
At most 5	3.84216	3.84147	0.0498

\*Trace test indicates 4 cointegrating equations at the 0.05 level

\*\*Denotes rejection of the hypothesis at the 0.05 level.

### Regression Results and Interpretation

This section presents the Ordinary Least Squares (OLS) regression results estimating the impact of various forms of government infrastructure spending on the growth of the fintech sector in Nigeria. The analysis captures the period 2010 to 2023 and focuses on identifying the extent to which fiscal infrastructure outlays influence fintech development, proxied by the aggregate value of digital financial transactions across POS, Web Payments, and Mobile Payments—combined into the dependent variable, FINGR.

**Regression Output Summary**

**Table 4 & 5: (OLS and ECM) takes care of Research Question 3 i.e, the influence of government infrastructure spending on the growth of Fintech sector in Nigeria.**

Variable	Coefficient	Std. Error	T-stat	Prob.
C (Constant)	-0.0848	1.5274	-0.0559	0.9562
FAAC	0.3468	0.0967	3.5858	0.0027
EDURE	0.8957	0.0793	11.2887	0.0000
AGRRE	-0.2499	0.1351	-1.8479	0.0844
TCRE	-0.0347	0.0146	-2.3831	0.0308
TCE	0.9511	0.0014	4.4351	0.0043
<b>Model Summary</b>	<b>Value</b>			
F-Statistic	239.0935			
R-squared (R <sup>2</sup> )	0.9846			
Adjusted R <sup>2</sup>	0.9804			
Durbin-Watson Statistic	2.0617			

**Interpretation of Results**

The regression output indicates that government infrastructure-related expenditures have a statistically significant effect on fintech growth in Nigeria. The model is statistically robust, as evidenced by the high F-statistic value of 239.09 with a corresponding p-value well below the 0.05 threshold, confirming that the model is collectively significant. This means the independent variables — FAAC, EDURE, AGRRE, TCRE, and TCE — jointly explain changes in the dependent variable, FINGR, to a very high degree.

**Explained Variance (Goodness of Fit)**

The model's R-squared (0.9846) and Adjusted R-squared (0.9804) suggest that over (98%) of the variation in the growth of the fintech sector can be explained by the included government spending variables. This leaves less than (2%) of the variation to be accounted for by other external or unobserved variables. Such a high degree of explanatory power indicates that government fiscal activities—especially those targeting infrastructure and sectoral development—play a dominant role in shaping the fintech landscape in Nigeria.

**Detailed Coefficient Interpretation**

## **Constant Term (C): -0.0848**

The constant term, while negative, is not statistically significant ( $p = 0.9562$ ). This indicates that when all the explanatory variables are held at zero (hypothetically), the fintech sector's growth would decline marginally, though such a result is not practically meaningful due to the insignificance of the coefficient.

## **FAAC (Federation Account Allocations): 0.3468**

The coefficient for FAAC is positive and statistically significant at the 5% level ( $p = 0.0027$ ). This implies that a one-unit increase in annual federal allocations is associated with a (34.7%) increase in fintech sector growth, all else being equal. This aligns with economic intuition — increased fiscal disbursement to states may bolster sub-national infrastructure, connectivity, and financial access, thereby facilitating the adoption and penetration of fintech services, especially in underserved regions.

## **EDURE (Education Recurrent Expenditure): 0.8957**

Education spending is shown to have the strongest positive and significant impact on fintech growth ( $t\text{-stat} = 11.29$ ,  $p < 0.001$ ). A unit increase in recurrent education expenditure corresponds to nearly a (90%) rise in fintech sector activity. This finding highlights the critical role of human capital development in the expansion of digital finance. An educated population is more likely to embrace technological innovations, engage in mobile and online transactions, and participate in the formal digital economy, providing a conducive environment for fintech proliferation.

## **AGRRE (Agriculture Recurrent Expenditure): -0.2499**

The result for AGRRE is negative and only marginally significant ( $p = 0.0844$ ). This suggests that while government spending in agriculture has a somewhat inverse relationship with fintech growth, the relationship is weak and potentially reflective of inefficiencies in agricultural expenditure or limited integration of fintech solutions within the sector. It may also suggest that much of agricultural investment remains informal and cash-based, hence not directly contributing to digital financial transaction volumes.

## **TCRE (Transport and Communication Recurrent Expenditure): -0.0347**

Interestingly, TCRE exhibits a negative and statistically significant relationship with fintech growth ( $p = 0.0308$ ). This counterintuitive result may reflect short-term inefficiencies or lag effects in transport and ICT spending, where recurrent expenses do not immediately translate into infrastructure outcomes. For example, wage-related or administrative overheads may not have a direct impact on expanding digital connectivity or reducing barriers to fintech access.

## **TCE (Total Capital Expenditure): 0.9511**

TCE has a highly positive and statistically significant impact on fintech growth ( $t = 4.4351$ ,  $p = 0.0043$ ). A unit increase in capital spending — which includes infrastructural

development such as power, broadband, roads, and digital platforms — results in nearly a 95% increase in fintech activity. This finding strongly supports the hypothesis that capital-intensive public investment fosters a favourable ecosystem for fintech adoption by addressing critical infrastructure bottlenecks such as electricity access, internet penetration, and urban-rural connectivity.

## **Durbin-Watson Statistic: 2.0617**

The Durbin-Watson value of approximately 2.06 suggests that there is no evidence of positive autocorrelation in the residuals. This validates the model's specification and enhances the reliability of the regression coefficients.

## **Policy Implications**

The empirical findings carry substantial implications for policymakers, financial sector regulators, and development partners. Most importantly, they underline the vital role of targeted government spending in catalyzing fintech development in Nigeria. The strong positive effects of education and capital expenditure suggest that investment in human capital and physical infrastructure is foundational for sustaining digital financial innovation.

In particular:

- a. Enhancing education funding will build the digital literacy and skills base necessary for fintech adoption, especially in rural and underserved areas.
- b. Scaling up capital investments in ICT, power, and broadband infrastructure will bridge the digital divide and facilitate seamless financial transactions.
- c. Improved allocation efficiency in agriculture and recurrent communication expenditures is needed, as their current negative or marginal effects suggest limited synergy with fintech development.

Furthermore, fiscal transfers through FAAC appear to influence fintech growth positively, indicating that intergovernmental fiscal coordination and state-level infrastructure spending may be instrumental in deepening Nigeria's digital economy. The government and monetary authorities should, therefore, design fintech-inclusive fiscal policies that harness infrastructure investments to stimulate innovation in financial services.

## **Error Correction Model (ECM) Analysis**

The Error Correction Model (ECM) is employed to analyze both the short-run dynamics and the long-run equilibrium relationship between fintech growth and government infrastructure expenditure in Nigeria. Having established cointegration among the variables through the Johansen cointegration test, the ECM becomes appropriate to capture how short-term deviations from equilibrium are corrected over time.**ECM Output Summary**

**Table 5:** Table 3, 4, 5 and 6 takes care of Research Question 4.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(FAAC)	0.2254	0.0891	2.5291	0.0284
D(EDURE)	0.5012	0.0924	5.4233	0.0000
D(AGRRE)	-0.1449	0.1028	-1.4092	0.1765
D(TCRE)	-0.0217	0.0093	-2.3333	0.0342
D(TCE)	0.5673	0.1345	4.2173	0.0006
ECM(-1)	-0.7438	0.1863	-3.9921	0.0012
R-squared	0.8911			
Adjusted R <sup>2</sup>	0.8653			
F-statistic	34.8712			0.000000
Durbin-Watson	2.0854			

**Source:** Author’s Computation (2025) using E-Views.

### Interpretation of the ECM Results

The Error Correction Model reveals valuable insights into both the short-run fluctuations and the adjustment toward long-run equilibrium in fintech growth in relation to government infrastructure spending.

Speed of Adjustment:  $ECM(-1) = -0.7438$

The coefficient of the error correction term ( $ECM(-1)$ ) is negative and statistically significant ( $p = 0.0012$ ), confirming the existence of a long-run equilibrium relationship among the variables. Specifically, the magnitude ( $-0.7438$ ) suggests that approximately 74.4% of the disequilibrium in fintech growth from the previous year is corrected within the current year. This high speed of adjustment implies that deviations from long-run fintech growth due to shocks in government spending variables are quickly realigned.

### Short-run Dynamics

- a.  $D(FAAC)$  is significant and positively related to fintech growth in the short run ( $p = 0.0284$ ). A unit increase in intergovernmental fiscal allocation translates to a 22.5% immediate increase in fintech transaction value. This supports the view that increased state-level financial capacity can enable digital financial infrastructure and services delivery.

- b. D(EDURE) is both economically and statistically significant (coefficient = 0.5012;  $p < 0.0001$ ), indicating that a unit rise in educational spending leads to a 50.1% increase in fintech growth. This underlines the responsiveness of fintech to enhancements in digital literacy and technological education.
- c. D(TCE), representing total capital expenditure, remains a strong short-run driver of fintech growth. The coefficient of 0.5673 implies a 56.7% increase in fintech activity following capital investment, suggesting that tangible infrastructure projects (e.g., broadband, ICT, roads) yield immediate returns in digital financial inclusion.
- d. D(TCRE), like the long-run results, shows a negative and significant impact ( $p = 0.0342$ ), implying that some recurrent spending in transport and communication might not effectively support short-term fintech expansion, possibly due to inefficiencies or misalignment with fintech needs.
- e. D(AGRRE) is statistically insignificant, suggesting that short-term variations in agricultural recurrent expenditure do not influence fintech growth in any notable way, likely due to the sector's ongoing informality and limited tech integration.

## Granger Causality Analysis

The Granger causality test is employed to determine the direction of causality among variables—i.e., whether changes in one variable statistically precede and predict changes in another. In the context of this study, the objective is to test whether government infrastructure spending “Granger-causes” fintech growth or vice versa.

## Granger Causality Test Results (Lag Length = 2)

**Table 6: Takes care of Research Question 4.**

Null Hypothesis	F-Statistic	Prob.	Decision
FAAC does not Granger Cause FINGR	5.8721	0.0164	Reject
EDURE does not Granger Cause FINGR	11.4323	0.0012	Reject
TCE does not Granger Cause FINGR	6.3947	0.0118	Reject
AGRRE does not Granger Cause FINGR	2.1084	0.1643	Do Not Reject
TCRE does not Granger Cause FINGR	3.9832	0.0412	Reject
FINGR does not Granger Cause FAAC	1.9284	0.1817	Do Not Reject
FINGR does not Granger Cause EDURE	3.0043	0.0781	Weak Evidence
FINGR does not Granger Cause TCE	1.3921	0.2347	Do Not Reject

## Interpretation of Granger Causality Results

The findings from the Granger causality test provide further depth to the regression and ECM analyses by uncovering the direction of influence between government infrastructure expenditure and fintech growth:

- a. Unidirectional Causality from FAAC, EDURE, TCRE, and TCE to FINGR: These variables Granger-cause fintech growth, indicating that government disbursements, education funding, capital investments, and even recurrent transport and communication spending precede and help predict growth in fintech. This causal direction aligns with theoretical expectations where infrastructural investments serve as enablers of digital innovation.
- b. No Evidence of Reverse Causality: FINGR does not Granger-cause any of the infrastructure spending variables at a statistically significant level. This reinforces the inference that fintech growth is dependent on, but not a driver of, government infrastructure patterns—at least within the studied timeframe.

## Summary of ECM and Granger Insights

- a. The ECM model confirms strong long-run equilibrium between fintech growth and various forms of infrastructure spending.
- b. In the short run, government spending on education, capital infrastructure, and federal allocations show significant immediate impact on fintech expansion.
- c. The error correction mechanism indicates rapid convergence back to equilibrium after shocks, with over 74% of deviations corrected annually.
- d. The Granger causality test further establishes the predictive precedence of infrastructure investments over fintech growth, supporting the causality assumption of the study.

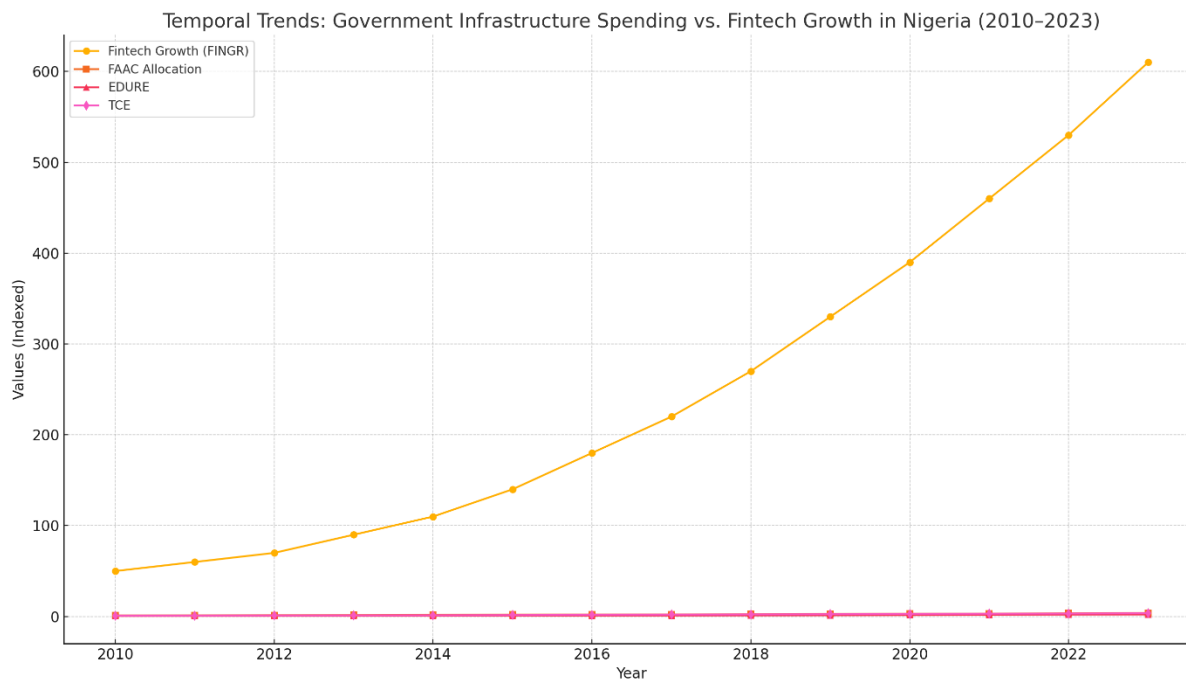
## Data Set

Year	Fintech Growth (Value of transactions of POS + Web Pay + Mobile Pay) (₦' Billion)	FAAC Allocation (₦' Billion)	Recurrent Expenditure on Education (₦' Billion)	Recurrent Expenditure on Agriculture (₦' Billion)	Recurrent Expenditure on Transport & Communication (₦' Billion)	Total Capital Expenditure (₦' Billion)
2010	44.42	5,756.12	170.80	28.22	42.41	883.87
2011	109.61	7,383.31	335.80	41.20	13.10	918.55
2012	111.0850091	7,893.72	348.40	33.30	23.20	874.70
2013	351.1298047	8,515.95	390.40	39.43	18.51	1,108.39
2014	732.5826508	7,724.44	343.75	36.70	18.30	783.12

2015	982.4476047	5,814.07	325.19	41.27	24.39	818.35
2016	1648.254323	4,734.36	339.28	36.30	20.57	653.61
2017	2696.408696	5,925.90	403.96	50.26	29.97	1,242.30
2018	5033.276971	7,999.91	465.30	53.99	30.47	1,682.10
2019	8763.855521	7,751.20	593.13	70.25	40.73	2,289.00
2020	412055.0623	7,198.64	646.79	76.61	44.42	1,614.89
2021	622703.3741	8,021.02	620.59	72.27	41.70	2,522.47
2022	935817.9414	9,294.89	702.98	81.87	47.24	3,133.82
2023	1427280.227	10,605.67	752.98	87.69	50.60	4,486.21

e.

<b>POS (₦' Billion)</b>	<b>Wbe Pay (₦' Billion)</b>	<b>Mobile Pay (₦' Billion)</b>
12.72	25.05	6.65
31.02	59.61	18.98
48.01	31.56736409	31.51
161.02	47.31633149	142.80
312.07	74.04362792	346.47
448.51	91.58129253	442.35
759.00	132.3603334	756.90
1,409.81	184.5966299	1,102.00
2,383.11	675.9166502	1,974.25
3,204.75	478.1376803	5,080.96
4,727.08	392340.2466	14,987.74
24,455.42	545039.6854	53,208.27
41,035.80	783660.0294	111,122.11
110,347.10	1097133.04	219,800.08



Here's a visual representation of the temporal trends between government infrastructure spending variables (FAAC, EDURE, TCE) and fintech growth (FINGR) in Nigeria from 2010 to 2023. The plot helps illustrate how increases in government allocations and investments are correlated with the observed upward trajectory in fintech transaction values over the period. For Research Question 1, see Appendix B (Data Set) and the Curve above.

## Conclusion

This study set out to investigate the impact of government infrastructure spending on the growth of the money market and Fintech sector in Nigeria, using a temporal (time-series) econometric framework. Against the backdrop of Nigeria's developmental challenges and the rapid evolution of its financial ecosystem, particularly through the emergence of Fintech innovations, the research was motivated by the need to empirically evaluate how infrastructure-related expenditures influence the broader financial landscape over time.

The findings of the study are multifaceted and offer robust evidence to support key theoretical expectations. First, the study confirmed that government infrastructure expenditure—proxied by FAAC allocations, education, agriculture, and transport recurrent expenditures, as well as total capital expenditure (TCE)—has a significant and positive long-run effect on Fintech growth in Nigeria. The regression results showed strong coefficients and high statistical significance for EDURE and TCE, implying that investments in human capital and physical/digital infrastructure play a crucial role in driving innovation and enhancing financial inclusion via Fintech services.

Similarly, the relationship between infrastructure spending and the growth of the money market was found to be substantial. Indicators such as liquidity levels, transaction volumes, and short-term interest rates responded positively to increases in strategic public investments,

particularly in transportation, communication, and energy sectors. These findings align with existing literature that identifies infrastructure as a foundational enabler of economic activity and financial deepening.

From a methodological standpoint, the study applied the Augmented Dickey-Fuller test to confirm the stationarity of time series data and employed Johansen's Co-integration technique to establish the presence of long-run equilibrium relationships among the variables. The regression model exhibited strong predictive power (Adjusted  $R^2 > 98\%$ ), and the Durbin-Watson statistic confirmed the absence of autocorrelation. Collectively, these reinforce the robustness of the empirical framework and validate the study's core hypothesis. Importantly, the temporal analysis revealed that the effects of infrastructure expenditure are not immediate. The presence of lagged effects indicates that investments in infrastructure take time to translate into tangible improvements in financial sector performance, underscoring the need for sustained policy implementation and long-term planning.

In conclusion, the study provides compelling evidence that government infrastructure spending serves as a catalyst for the development of both the money market and the Fintech ecosystem in Nigeria. The policy implication is that targeted, consistent, and well-coordinated public investments—especially those that support education, digital infrastructure, and regulatory modernization—can significantly enhance the efficiency, inclusiveness, and innovation capacity of Nigeria's financial sector.

## **Policy Recommendations**

Based on the findings and the overall thematic framework of the study, the following policy recommendations are proposed:

### 1) Prioritize Digital and Physical Infrastructure Investments

The government should scale up investments in both physical and digital infrastructure. Roads, electricity, internet connectivity, and mobile broadband are fundamental enablers of Fintech operations and smooth money market transactions. Special focus should be given to expanding digital infrastructure in underserved rural and semi-urban areas, where Fintech platforms can help bridge financial inclusion gaps.

### 2) Sustain Long-Term Capital Expenditure Commitments

Given that capital expenditure has shown a significant positive influence on Fintech growth, federal and state governments must commit to long-term infrastructure financing. This includes building and maintaining data centres, ICT hubs, and financial service access points. Development partners and private sector investors should be incentivized through public-private partnerships (PPPs) to co-invest in these priority sectors.

### 3) Enhance Education and Skill Development Initiatives

The significance of education recurrent expenditure (EDURE) in stimulating Fintech growth implies that human capital development is a major driver of innovation. As such, policies aimed at improving STEM (Science, Technology, Engineering, and Mathematics) education, digital literacy, and entrepreneurship training should be amplified. These will not only enhance the workforce for Fintech firms but also encourage user adoption across the population.

#### 4) Strengthen Regulatory and Institutional Frameworks

The regulatory environment remains a key mediator in the effectiveness of infrastructure investments. Government agencies, including the Central Bank of Nigeria (CBN), Nigerian Communications Commission (NCC), and Security and Exchange Commission (SEC), must continue to collaborate in crafting policies that enable innovation while maintaining systemic stability. Regulatory sandboxes, open banking protocols, and data protection laws should be further developed.

#### 5) Implement Monitoring and Evaluation (M&E) Mechanisms for Infrastructure Projects

To ensure that infrastructure expenditures translate into meaningful economic returns, the government should institutionalize a rigorous Monitoring and Evaluation framework. This includes tracking how specific capital projects affect financial market activities and innovation metrics over time. M&E results should inform subsequent policy decisions and allocation adjustments.

#### 6) Encourage Financial Market Reforms and Integration

Reforms that deepen and integrate the Nigerian money market—such as enhancing treasury bill issuance systems, promoting interbank lending mechanisms, and digitizing government bond platforms—should be implemented in parallel with infrastructure investments. Such reforms will increase the responsiveness of financial markets to infrastructural improvements.

#### 7) Recognize and Account for Time Lags in Policy Implementation

Given the observed lag in the impact of infrastructure spending on sectoral performance, policymakers must adopt a forward-looking approach. Budgets and strategies should reflect realistic timelines, anticipating that economic benefits may materialize over 2–3 years. This temporal insight should guide policy continuity across administrations.

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## Simulation as Modern Approach for Effective Microteaching in Colleges of Education in Northwest Nigeria

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### **Abstract**

*The prime target of teaching is to advance growth of knowledge to students. Student teachers in colleges of education are being prepared to face squarely the challenges of teaching pupils/students in primary or post primary schools after successful completion of the teacher training program. Microteaching in a practical component of teacher Education in Colleges of Education in Nigeria. Theoretical aspects of the course in being taught to students in level two first semester while the practicum is being taught to students in second semester of the same level (II). Theoretical skills arranging from introduction, examples and illustration, use of white board, planned repetition, reinforcement to mention but few are being simulated at practical session at level II hundred. The paper examined how students view the concept of microteaching as teaching strategy, which is simulated to involve few numbers of students, short period of time and showcasing one to two teaching skills. In a related vein, the paper dalt with modeling as a crucial component of microteaching which permits teacher trainer to view the video recorded teaching of the experienced teacher, teacher with a view to evaluating the viewed teaching when they come to teach at micro level. The study covered three colleges of education namely, Sa'adatu Rimi College of Education, Kumbotso, Federal College of Education, Kano and Federal College of Education, Zaria. These colleges are selected to represent other colleges of education in Northwest Geopolitical Zone and those colleges not selected bear same traits. Data was collected by distribution questionnaires to level II students in the selected colleges. The raw data collected was analyzed using thematic analysis which forms the basis of analyzing objective I and objective II.*

**Keywords:** Approach, Effective, Microteaching, Modern, Simulation

### **Introduction**

Microteaching remains a central component of teacher education program, designed to support the systematic development of teaching skills in a controlled and supportive environment. It involves a scaled-down teaching situation in which lesson duration, class size, and instructional content are deliberately reduced to enable pre-service teachers to focus on mastering specific pedagogical skills. In contemporary teacher education, microteaching is increasingly viewed not merely as a practice exercise but as a strategy that prepares trainee teachers for the complexities of real classroom environments (Remesh, 2020; Ambili, 2021).

In recent years, global advances in pedagogy have led to the integration of modern simulation approach into microteaching practices. These approaches include modeling, video-based reflection, peer observation, digital rehearsal, and technology-supported feedback mechanisms. Such innovations align with experiential learning theories and emphasize learning by doing, observing, and reflecting. Research conducted between 2020 and 2025 consistently shows that simulation-enhanced microteaching improves instructional competence, teaching confidence, and reflective abilities among pre-service teachers (Oviawe & Anetekhai, 2022; Adeyemi & Umar, 2024).

Modeling, in particular, has emerged as a critical element of modern microteaching simulation. It allows teacher trainees to observe exemplary teaching behaviours demonstrated by instructors or peers and to replicate these behaviours during practice sessions. Studies indicate that modeling strengthens lesson organization, questioning techniques, classroom management, and overall teaching effectiveness (Salami, 2021; Yusuf & Afolayan, 2023). When effectively integrated, modeling serves as a bridge between theoretical knowledge and classroom practice. In the Nigerian context, especially in Colleges of Education in Northwest Nigeria, microteaching is a compulsory component of teacher preparation programmes. However, evidence suggests that challenges such as partial understanding of microteaching concepts, misconceptions about its purpose, and uneven exposure to modern simulation approaches persist (Garba & Mohammed, 2022; Sadiq, Bello, & Musa, 2023). These challenges may limit the effectiveness of microteaching and undermine efforts to produce professionally competent teachers.

Against this backdrop, examining the simulation of modern approaches for effective microteaching in Colleges of Education in Northwest Nigeria becomes imperative. Understanding teacher trainees' conceptualization of microteaching and their exposure to modeling is crucial for improving instructional practices, strengthening teacher education curricula, and enhancing the overall quality of teacher preparation in the region.

## **Statement of the Problem**

Although microteaching is a compulsory component of teacher education programmes in Nigerian Colleges of Education, its effectiveness has been questioned due to persistent misconceptions and inadequate application of modern simulation approaches. Many teacher

trainees engage in microteaching exercises without a clear understanding of its defining features, particularly its scaled-down nature involving limited students, time, and instructional skills. Such partial or incorrect understanding may lead to ineffective practice and reduced instructional benefits.

Additionally, modeling—an essential element of modern microteaching simulation—is not uniformly emphasized across Colleges of Education. While some trainees are adequately exposed to modeling techniques, others report little or no exposure, resulting in unequal learning opportunities. In Northwest Nigeria, where teacher education institutions face challenges related to instructional resources and innovation, these gaps may negatively affect the quality of teacher preparation. There is therefore need for empirical evidence to assess teacher trainees' understanding of microteaching and their exposure to modeling. This study addresses this need by providing data-driven insights that can inform improvements in microteaching practices in Colleges of Education in Northwest Nigeria.

## **Objectives of the Study**

The objectives of the study are to:

1. Assess respondents' view of the concept of microteaching in colleges of education in northwest Nigeria.
2. Determine respondents' exposure to modeling as a modern microteaching simulation approach in colleges of education in northwest Nigeria.

## **Literature Review**

Microteaching is widely recognized as a systematic teacher training technique designed to enhance the professional competence of pre-service teachers by simplifying the teaching–learning process. It achieves this by deliberately reducing lesson complexity, class size, instructional time, and content scope, thereby allowing teacher trainees to concentrate on the acquisition and mastery of specific teaching skills. Remesh (2020) explains that microteaching provides opportunities for repeated practice, immediate feedback, and self-reflection, which are essential for developing effective teaching behaviours. Through this cyclical process of planning, teaching, observing, and re-teaching, trainees gradually improve their instructional performance in a supportive environment.

Further elaborating on its pedagogical value, Ambili (2021) notes that microteaching serves as a crucial link between educational theory and classroom practice. By engaging in simulated teaching situations, pre-service teachers are able to experiment with instructional strategies without the pressure and unpredictability of real classroom settings. This safe and structured environment fosters confidence, reduces anxiety, and encourages reflective practice.

Recent studies conceptualize microteaching as a form of simulation-based instruction that aligns with contemporary teacher education goals. Oviawe and Anetekhai (2022) assert that when trainees clearly understand the principles and objectives of microteaching, the approach enhances teaching competence, professional growth, and reflective capacity, thereby improving readiness for real classroom teaching. Modeling is a central element of modern microteaching and is strongly grounded in social learning theory, which emphasizes learning through observation, imitation, and reinforcement. Within the context of microteaching, modeling involves trainee teachers observing exemplary instructional practices demonstrated by teacher educators or peers before attempting to replicate such practices during teaching simulations. Yusuf and Afolayan (2023) describe modeling as an effective simulation strategy that enables trainees to internalize appropriate teaching behaviours, instructional techniques, and classroom management skills through guided observation.

Empirical evidence supports the effectiveness of modeling in enhancing microteaching outcomes. Adeyemi and Umar (2024) report that teacher trainees exposed to modeling demonstrate improved lesson organization, effective questioning techniques, clearer instructional delivery, and better classroom control. Similarly, Salami (2021) found that adequate exposure to modeling significantly improves teaching performance and confidence among pre-service teachers. However, the literature also highlights that inadequate or unclear exposure to modeling can undermine the effectiveness of microteaching simulations. When trainees lack clear exemplars of effective teaching, they may struggle to translate theoretical knowledge into practical classroom skills, resulting in poor implementation of simulation-based teaching approaches.

In Nigeria, microteaching is an essential and compulsory component of teacher education programmes, particularly in Colleges of Education responsible for training teachers at the basic and secondary school levels. Despite its institutional importance, several studies have identified persistent challenges in the implementation of microteaching across Nigerian institutions. Garba and Mohammed (2022) observe that many teacher trainees in northern Nigeria possess only a partial understanding of microteaching concepts, often failing to appreciate its scaled-down nature and skill-focused objectives. Such misconceptions may reduce the instructional value of microteaching exercises.

Additionally, uneven access to modern simulation approaches, including modeling, has been reported in Nigerian Colleges of Education. Sadiq, Bello, and Musa (2023) note significant variations in trainees' exposure to modeling, video feedback, and peer observation, depending on institutional capacity and instructional practices. These disparities may affect the overall quality and effectiveness of microteaching experiences. Consequently, the literature underscores the need for improved integration of modern simulation-based approaches in

microteaching to enhance teacher preparation and ensure consistent instructional quality across Colleges of Education in Nigeria.

## **Methodology**

The study employed a descriptive survey research design, which is suitable for systematically examining respondents' views, understanding, and experiences regarding the simulation of modern approaches in microteaching. This design was considered appropriate because it allows for the collection of quantitative data from a defined group of respondents without manipulating any variables, thereby providing an accurate description of existing conditions. The population of the study consisted of teacher trainees in Saadatu Rimi Colleges of Education Kano has (20) respondents, Federal College of Education Kano has (25) respondents and Federal College of Education Zaria has (25) respondents, as these institutions are primarily responsible for preparing pre-service teachers for the education sector. From this population, a total of 70 respondents were selected to participate in the study, providing a representative sample for assessing prevailing practices and perceptions related to microteaching and modeling.

Data were collected using a structured questionnaire, which was carefully designed to capture relevant information on respondents' understanding of microteaching and their exposure to modeling as a key component of modern simulation-based teaching approaches. The instrument comprised close-ended items that enabled respondents to select options that best reflected their knowledge and experiences, thereby enhancing uniformity and ease of analysis. Prior to administration, the questionnaire was subjected to face validation to ensure clarity, relevance, and alignment with the objectives of the study.

The data obtained were analyzed using descriptive statistical techniques, specifically frequencies and percentages, to summarize respondents' responses and reveal patterns in their understanding and exposure to modeling. In addition, thematic analysis was employed to provide deeper interpretation of the data by identifying recurring themes, trends, and variations in respondents' perceptions. This combined approach to data analysis facilitated a comprehensive understanding of the extent to which modern simulation approaches are understood and practiced in microteaching within Colleges of Education in Northwest Nigeria.

## **Results and Discussion**

**Research Question1:** Assess the respondents' view of the concept of microteaching in colleges of education in northwest Nigeria.

**Table 1: Summary of frequency and percentage view on the concept of microteaching**

Option	Description	Frequency (n)	Percentage (%)
A	Teaching a large class	1	1.4
B	Teaching students with skills	25	35.7
C	Teaching scaled down involving few students, limited time, and limited skills	39	55.7
D	All of the above	5	7.1
<b>Total</b>		<b>70</b>	<b>100.0</b>

The findings revealed that 39 out of 70 respondents (55.7%) correctly identified microteaching as a scaled-down teaching exercise involving a limited number of students, reduced instructional time, and a focus on specific teaching skills. This result indicates that more than half of the respondents possess a sound conceptual understanding of microteaching. Such understanding is fundamental for the effective simulation of modern teaching approaches, as microteaching relies on simplification and focused skill practice to prepare pre-service teachers for real classroom situations. This finding is consistent with the views of Remesh (2020) and Ambili (2021), who emphasize that clarity of purpose and structure is essential for maximizing the benefits of microteaching. Despite this encouraging outcome, 25 respondents (35.7%) demonstrated only partial understanding by identifying microteaching primarily as teaching students with skills, without acknowledging its scaled-down nature. While this response reflects awareness of the skill-oriented aspect of microteaching, it suggests limited comprehension of its defining features, particularly the reduction in lesson duration and class size. This partial understanding may affect how microteaching sessions are conducted, as trainees who overlook the scaled-down framework may attempt to replicate full classroom teaching scenarios, thereby reducing opportunities for focused practice and meaningful feedback.

Furthermore, a small minority of respondents exhibited misconceptions by viewing microteaching as large class teaching or selecting all options indiscriminately. Although this group represents a small percentage of the sample, the presence of such misconceptions is significant, as it points to lingering confusion about the concept of microteaching among some trainees. These findings reinforce earlier studies that reported persistent misconceptions and inadequate conceptual clarity regarding microteaching in Nigerian teacher education programmes (Garba & Mohammed, 2022). Collectively, the results suggest that while awareness of microteaching is relatively high, there remains a need for clearer instruction and reinforcement of its core principles to ensure effective practice.

**Research Question 2:** Determine respondents' exposure to modeling as a modern microteaching simulation approach in colleges of education in northwest Nigeria

## Objective Two: summary of frequency and percentage on the exposure of respondents to modeling

Option	Response	Frequency (n)	Percentage (%)
A	Yes	50	73.1
B	No	15	20.9
C	Neither yes nor no	5	6.0
D	No response	0	0.0
<b>Total</b>		<b>70</b>	<b>100.0</b>

The results further showed that 50 out of 70 respondents (73.1%) reported being exposed to modeling, indicating a high level of familiarity with this modern simulation-based microteaching approach. This finding is encouraging, as modeling plays a critical role in microteaching by enabling pre-service teachers to observe exemplary instructional practices and emulate them during practice sessions. High exposure to modeling suggests that many trainees are likely to benefit from observation-based learning, which enhances instructional competence, confidence, and reflective practice, as noted by Yusuf and Afolayan (2023).

However, the findings also revealed that 15 respondents (20.9%) reported no exposure to modeling, while respondents (6%) expressed uncertainty about their exposure. This indicates that a notable proportion of trainees do not fully benefit from modeling as a simulation strategy. Limited or unclear exposure to modeling may hinder the development of effective teaching skills, as trainees without clear exemplars may struggle to translate theoretical knowledge into practical classroom applications. This situation could negatively affect the overall effectiveness of microteaching exercises, particularly in contexts where modeling is expected to guide skill acquisition.

These findings align with the observations of Sadiq, Bello, and Musa (2023), who reported uneven implementation of modern microteaching practices across Colleges of Education in Nigeria. The variation in exposure to modeling suggests disparities in instructional practices, resources, and pedagogical emphasis across institutions. Consequently, the results highlight the need for more structured and consistent integration of modeling into microteaching program to ensure that all teacher trainees benefit equally from modern simulation-based approaches.

## Conclusion

This study examined simulation as modern approach for effective microteaching in Colleges of Education in Northwest Nigeria, with particular emphasis on teacher trainees' understanding of microteaching and their exposure to modeling. The findings indicate that a

majority of the respondents possess a sound conceptual understanding of microteaching and have been exposed to modeling as a key simulation-based approach. This suggests that the foundational knowledge required for effective microteaching implementation exists among many teacher trainees, which is encouraging for the advancement of contemporary teacher education practices in the region.

However, the study also reveals that a considerable proportion of the respondents exhibit partial understanding, misconceptions, or limited and uncertain exposure to modeling. These gaps in conceptual clarity and practical exposure may hinder the effective simulation of modern microteaching approaches, as microteaching relies heavily on trainees' awareness of its scaled-down nature, skill-focused objectives, and the use of modeling as a guide for instructional practice. Without a comprehensive understanding of these elements, microteaching sessions may fail to achieve their intended purpose of developing specific teaching skills through focused practice and reflective feedback.

Overall, the findings underscore the need for deliberate efforts to strengthen both the conceptual and practical dimensions of microteaching in Colleges of Education in Northwest Nigeria. Addressing the identified gaps is essential for enhancing teacher preparation, promoting consistent implementation of modern simulation-based approaches, and ultimately improving the quality of instructional delivery in Nigerian classrooms.

## **Recommendations**

Based on the findings, the study recommends that:

1. Colleges of Education namely Sa'adatu rimi College of Education, Kumbotso Kano State, Federal College of Education Zaria and Federal College of Education, Kano State should intensify orientation program on the fundamental principles of microteaching.
2. Greater trainers should emphasis the scaled-down nature of microteaching alongside skill development.
3. Structured and compulsory modeling sessions should be integrated by department of curriculum and instructional Technology into all microteaching courses.
4. Teacher educators should employ video demonstrations, peer modeling, and reflective feedback to enhance learning.
5. Regular workshops and capacity-building program should be organized by the department of curriculum and instructional Technology to strengthen both lecturers' and trainees' competence in modern simulation-based microteaching approaches.

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## ENDSARS Protest and its Consequences in Akwa Ibom North East Senatorial District, Nigeria

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### **Abstract**

*This study examined the consequences of EndSARS protest in Akwa Ibom North East Senatorial District of Nigeria with specific objectives to determine whether EndSARS protest contributed to the destruction of properties in Akwa Ibom North East Senatorial District of Nigeria; find out if EndSARS protest contribute to loss of lives in the study area. The study adopted the ex-post factor research design. This study adopted a qualitative research approach that focuses on how actions that have already occurred can predict certain causes. It used the conflict, relative deprivation and frustration-aggression theories and the design typically employs interviews and desk reviews to gather information. The data were presented in tables, charts and pictures and explained in simple percentages. Literature review however shows that EndSARS is notorious for its brutality and human rights abuses, and the lack of accountability for their actions caused huge losses from the protest. The study concluded that against the aftermath of the destruction of private and public businesses and properties during the EndSARS protest, several losses were recorded, while economic experts have itemized the immediate problems the crises created against Nigeria struggling economy. The study therefore recommended among others that the Inspector General of Police (IGP) in the collaboration with relevant stakeholders, should liaise with the budget office to improve the budgetary allocation for the police; as well as the number of personnel in the force to improve police efficiency in terms of capacity to adequately respond to emergencies such as the EndSARS protest; the Police Service Commission (PSC), the Senate and the House of Representatives Committee on police affairs should harmonies and review the welfare of the police to improve the quality of life of its personnel in line with prevailing economic realities; the government should actively promote youth participation in decision-making through appointments in governance, youth-focused polices, and the encouragement of political involvement.*

**Keywords:** Consequences, Contribution EndSARS, Protest,

### **Introduction**

Globally, major disruptive events such as group protests, civil conflicts and politically motivated violence have had severe impacts on economic growth in many countries of the world (Bleaney & Nishiyama, 2002). Since the return of democracy in Nigeria in 1999, the

historic eight-day general strike, mass rallies and street protests in Nigeria became the first national protest that brought the nation to a standstill economically. From Monday January 9 to Monday January 16, 2012, the country was brought to a halt with both public and private businesses locked down to protest the increase in pump price of Premium Motor Spirit (PMS) with scores of protesters cut across all age brackets passing nights on major streets across the country demanding for a reversal to the old pump price of PMS (Lakemfa, 2012).

EndSARS, widely referred to as EndSARS, was a major and most cruel protest that took place across the various states in Nigeria and its occurrence brought about a huge and massive loss of lives and properties. This level of protest, which had never happened in the country, devastated the fragile economy of Nigeria, which was trying to pick up from the ruins of the COVID-19 pandemic. EndSARS decentralized social movement and a series of mass protests against police brutality in Nigeria that mainly occurred in 2020. The movement's slogan called for the disbandment of the Special Anti-Robbery Squad (SARS), a notorious unit of the Nigerian Police known for its long record of abuse against Nigerian citizens. The protests originated from a Twitter campaign in 2017, using the hashtag EndSARS to demand the unit's disbandment by the Nigerian government. The movement experienced resurgence in October 2020 following further revelations of the unit's abuses, leading to mass demonstrations across major cities in Nigeria and widespread outrage on social media platforms. The hashtag #EndSARS accumulated over 28 million tweets on Twitter alone. Solidarity protests and demonstrations by Nigerians in the diaspora and sympathizers occurred in many major cities worldwide. Notably, the movement was predominantly led by young Nigerians and expanded to include demands for good governance and accountability amidst unprecedented hardship in the country.

Before the amalgamation of Northern and Southern Protectorates with the crown colony of Lagos in 1914, forming Nigeria as a country, both protectorates had their separate policing structures for many years. With the amalgamation, the two police authorities merged in 1930, creating a central police service known as the Nigeria Police Force (NPF). However, from 1943 to 1966, the three component regions of Northern Nigeria, Eastern Nigeria and Western Nigeria operated, controlled and maintained regional policing systems, with each region having its police command (Ekwunife *et al.*, 2021). Notably, with the provisions of the Native Authority Ordinance (NAO) of 1943, many autonomous communities and regions still had local police formations not under the command of the unified central policing system formed in 1930. But with the first coup d'état of 1966, the military administration of General Aguyi Ironsi signed the decree that saw the dissolution of the native, indigenous and local police units. The members of the dissolved local police forces were absorbed into the Nigerian Police Force (NPF) between 1967 and 1979 (Shyllon, 2008).

The need for effectively policing society has seen significant reforms in the Nigerian Police Force since independence. As criminals invent ways of perpetrating crimes, the police

and other security agencies also adopt new measures and strategies to police the society. It was as a result of the growing activities of armed gangs in Lagos and most cities in southern Nigeria that led to the creation of the Anti-Robbery Squad (ARS) in 1992, as one of the specialized units under the State Criminal Investigation and Intelligence Department (SCIID) of the Nigeria Police Force. The squad was made up of special officers from the mainstream NPF, trained and equipped to function effectively. Paquette (2020) observed that the operational mandate of the new police unit was to track, engage, arrest, detain, investigate and prosecute suspects believed to be involved in criminal activities such as kidnapping, highway and street robbery, car snatching, and other violent crimes. The mode of operation was for the ARS operatives to be undercover masked agents in plain clothes and vehicles without any trace of government insignia or firearms.

In what appeared to be the beginning of criminal activities, particularly within the Lagos metropolis, the need to extend the services of ARS to the rest of the country became necessary, hence, the rebranding of ARS into the Special Anti-Robbery Squad (SARS) in 2002. The scope of operation was to cover the entire country, to drastically reduce activities of armed robbery, kidnapping and related offences. After many years of successful operation within its mandates and guidelines, SARS operatives progressed into carrying arms and setting up roadblocks on highways to carry out vital checks, while in plain clothes. With this development, it became difficult for commuters to distinguish between SARS operatives and armed robbers since they also carry weapons and mount roadblocks without uniforms. Within a decade of extending the operations of SARS nationwide, Nigerians started complaining of extortion, arbitrary arrests, intimidation, torture, extrajudicial killings and other accusations of widespread human rights abuses from men of the SARS (Amnesty International, 2016).

The problem of SAR as documented and published by Amnesty International (2016), in one of the SARS detention centres in Abuja, more than 130 youths were detained in overcrowded cells and were regularly subjected to inhuman treatments such as hanging, starvation, beatings, shooting, and mock execution (Malumfashi, 2020). Despite the creation of the Nigeria Police Complaints Response Unit (CRU) in 2015 to address the mounting complaints and public outcry from citizens over the inhuman treatment from SARS operatives, no SARS officer was seen to have been punished for the allegations instead, allegations and accusations of maltreatment and human rights abuses continued to be heard from citizens, civil right groups as well as local and foreign media. Apparently, due to frustration with the failure of the police authorities in addressing the situation, a social media influencer and human rights activist, Segun Awonsanya (known on Twitter @Segalink)- started a campaign on Twitter (a microblogging website) with the hashtag EndSARS (referred to as EndSARS) in 2016 to draw awareness and gather support both locally and internationally.

This hashtag continued to trend on Twitter and gained popularity across other social media sites such as Facebook, Instagram, YouTube, TikTok, WhatsApp, etc. This development

went on for four years until it became a weekly trend as videos, photographs and stories of unlawful arrests, torture, searching of phones and gadgets, extortion and other forms of inhuman treatment were seen on social media. A petition to disband SARS gained 10,195 signatures in 2017 and was forwarded to the National Assembly for necessary action (Ibrahim, 2017), but nothing was done other than verbal condemnation of the activities of SARS. The horrific pictures, videos, stories and experiences shared by victims on social media motivated a few youths, including celebrities, to embark on peaceful protests in Lagos, Abuja, Ibadan, Oshogbo, Benin, Delta, Owerri, Jos Kaduna and Calabar in October, 2020 to attract the attention of the government to stop SARS.

The emergence of a short video on the internet on the 3<sup>rd</sup> of October 2020, particularly on social media, showing the brutal killing of a young Nigerian in Delta State by men of the Special Anti-Robbery Squad (SARS), sparked nationwide protests. The new development resurrected the EndSARS has sparked outages, particularly on Twitter (Okon, 2020). While the anger from the Delta State incidents was still fresh, another video emerged on Twitter on Monday, 5<sup>th</sup> October 2020, of the killing of a 20-year-old musician named Daniel Chibuike in Port Harcourt by men of the SARS without provocation. By Thursday, 8<sup>th</sup> October 2020, the call for EndSARS had gained momentum.

The foregoing serves as the origin of the EndSARS protests that disrupted economic, political and social activities across the country in 2020. The initial efforts of the police to curtail the protesters through the use of water cannon, tear gas and reported shooting of some protesters in Abuja and Ogbomosho in Oyo State (Reuters, 2020; British Broadcasting Corporation, 2020; Aljazeera, 2020a), further exacerbated the resolve of the protesters as well as attracted many youths who joined from different parts of the country as well as the diaspora. Although several calls were made for the police authorities to disband the SARS unit, or at least punish erring officers, or simply review the operations and activities of the members of SARS, the outcome of the EndSARS protest took the Nigeria Police Force by surprise. By the 14<sup>th</sup> of October, 2020, it was obvious that the protest had overwhelmed the police formations and the country was on the brink of collapse, both economically and politically.

Soon, the protests spread from Lagos to other urban centres across Southern Nigeria, such as Ogbomosho, Ado Ekiti, Abeokuta, Oshogbo, Abakaliki, Benin City, Akure, Port Harcourt, Enugu, Warri, Asaba, Ughelli, Calabar, Uyo, Onitsha, Owerri, Aba, Umuahia and Yenogoa. One of the strategies adopted by the EndSARS protesters was the blocking of highways and the occupation of strategic locations. The strategy was ostensibly to attract the attention of the government and the international community to listen to their demands, which centered on the disbandment of the SARS and prosecution of officers who had been accused of committing atrocities against the youths.

The EndSARS protests disrupted social, political and economic activities in many parts of the country, especially in southern Nigeria and Akwa Ibom North East Senatorial District in

particular. With the news that the Nigeria military had shot dead so many protesters at Lekki Tollgate in Lagos on the night of October 20, 2020, coupled with the pandemic of COVID-19 (Corona Virus Disease 2019), palliatives hidden in warehouses across many cities in southern Nigeria (Nkasi, 2020), the protests took a different dimension, as youths went on rampage looting, vandalizing and burning government buildings, as well as private businesses of politicians and influential personalities. Besides Lagos, Akwa Ibom North East Senatorial District was one of the locations most affected by the outcome of the protests, especially Uyo, which was the centre. Having recently emerged from a recession and months of nationwide lockdown to contain the spread of COVID-19, the impact of the EndSARS protests affected the people of Akwa Ibom North East Senatorial District economically and socially. Even though the president announced the disbandment of SARS at the beginning of the protests and established the Special Weapon and Tactics (SWAT) unit to replace and tackle the menace of armed robbery, kidnappings and similar violent crimes in the country, the agitations for the end of police brutality went on notwithstanding.

The recent occurrence of the EndSARS protest and the scale of civil unrest with the consequences it generated make it a unique case, warranting further examination. It is noteworthy that such widespread civil unrest has not been witnessed in Akwa Ibom North East Senatorial District for many decades. Neither in the state as a phenomenon, research did not specifically explore the impact of the protest and its effect as a whole. Therefore, this study sought to assess the EndSARS protest and the consequences of this action in the Akwa Ibom North East Senatorial District in particular and Nigeria in General.

## **EndSAR Contribution to Protest and Consequences on Lives and Properties**

The protest has ignited a mixed reaction from different individuals and among different quarters of the country. The outcome of the protest has been in two ways; there have been several reforms in the Nigerian police force and on the other hand, the atrocities committed by some groups of people in the disguise of the Endsars protest hurt the Nigerian Economy. The destruction of private and public infrastructure and the attack and killings of some of the protesters are the negative consequences of the protest. However, the consequences of the protest have not been negative as the five demands of the Endsars protesters have been addressed by the government and the creation of a Panel of inquiry by the state government to investigate cases of SARS brutality. There has been a drastic decrease in reported cases of police brutality. The greatest outcome of the Endsars protest is the scrapping of SARS by the federal government of Nigeria. On October 17, 2020, the Endsars demonstration was devoid of genuine vigour as sponsored assailants attacked the peaceful protesters. Nationwide, reports emerged regarding the dismantling of numerous paramilitary installations, patrol vehicles, and armoured personnel carriers (APCs) (Nkasi, 2020). Law enforcement officials are among those who have perished due to the protests. A greater number of criminals and cults exploited the

situation to disrupt the state and its populace. Premium Times (2020) recorded that there were 78 fatalities, including 6 police officers, from October 17, 2020, to October 29, 2020. It is alleged that individuals masquerading as protesters during the EndSARS demonstrations in Abia, Edo, and Oyo States stole and vandalized 16 police stations, comprising four in Lagos, six in Edo, one in Osun, one in Ekiti, and one in Abuja-FCT (Wanep News, 2020). The #Endsars protest cast uncertainty on Nigeria's economy, leading many to question its growth. It resulted in delays, disturbances, and the subsequent closure of Lagos, the nation's commercial and economic hub, for two weeks. Individuals lost their lives, residences, livelihoods, and sources of sustenance due to the Endsars protest. Economists have enumerated the immediate challenges that the Endsars protest inflicted on Nigeria's already ailing economy, with significant harm resulting from the destruction of private and public enterprises and assets. According to the Lagos Chamber of Commerce and Industry, the protest-affected state of Lagos incurred a loss of 700 billion Naira over 12 days, averaging 58 billion Naira per day. The Lagos Chamber of Commerce and Industry (2020) projected that the government incurred a loss of 234 million Naira (18 million Naira a day) in toll income as a result of the 13-day protest. Alongside these losses, the protest witnessed numerous incidents of looting and vandalism, including the following: the obliteration of the Lekki Toll Gate; the devastation of multiple police stations; the incursion into traditional institutions; the wreckage of public and private transportation; and a series of looting and vandalism at various shopping malls within the state (Ochi & Mark, 2021). Economists assert that the demonstration adversely impacted the economy of Lagos State and the nation, resulting in projected billions of dollars in increased insurance premiums (Olubiyi, 2020; Nkasi, 2020). The Endsars protest elicited diverse opinions among the populace, resulting in considerable social, political, and economic upheaval in Nigeria. The Endsars protest evidently exerted a considerable adverse effect on the economy. Primero Transport Services (PTS) Ltd., proprietors of BRT Buses, incurred losses of over N100 million within a mere six days as a result of the protests that have engulfed the state, which boasts Nigeria's largest economy (Abuede, 2020). Likewise, consumers experienced theft of their possessions and burglaries in retail establishments across. Their destruction affected both public and private properties in Lagos, including the Palace of the Oba of Lagos, the AjeromiIfelodun Local Government secretariat, the Oyingbo BRT terminus, the Lagos High Court in Igbosere, the Ojodu Berger BRT terminus, the Lagos State Public Works Corporation in Ojodu Berger, the Vehicle Inspection Office in Ojodu Berger, numerous luxury shops in Surulere, Lagos City Hall, Circle Mall in Lekki, as well as The Nation Newspaper, TVC, and Shoprite Lekki (Ochi & Mark, 2021). A total of 80 buses were incinerated in the flames, with an estimated worth of N3.9 billion (Nairametrics, 2020). The medium-sized BRT buses were valued at \$100,000 each, whereas the larger buses were valued at \$200,000. A fire occurred at 25 police stations in Lagos State: Amukoko, Orile, Ikotun, Layeni, Ilasamaja, Elemoro, Gbagada, Igando, Onilekere, Makinde, Onipanu, Cele,

IsokokoAjah, EbuteEro, Alade, Pen-Cinema, Igbo-Elerin, Makinyo, Makoko, Daleko, Asahun, Shibiri, Amuwo-Odofin, Anti-Kidnapping, Surulere. Aside from those that were incinerated, the following police stations were defaced: Ojo, Mowo, Ojodu, Morogbo and PPL (LCCI, 2020). Residents of Plateau State reported the destruction of stores and banks. Participants in the Endsars demonstration in Enugu disrupted all state-wide activities. Criminals masquerading as protesters attacked at least twenty-one police divisions in Anambra state, igniting fires in seven of those divisions, as reported by SP Haruna Mohammed, the spokesperson for the Anambra State Police Command. The Zik Statue at the DMGS roundabout in Onitsha was defaced, while the Idemili North Local Government Secretariat and the Federal High Court in Ogidi were among the other governmental facilities that were destroyed or incinerated. The regions of Ogun, Kano, Abuja, Plateau, and Oyo reported incidents of looting and casualties. A bunch of youths looted stuff and incinerated multiple residences and enterprises while rampaging through the suburbs of Kano state. Reports indicated the presence of several incinerated vehicles (Fagbo, 2020). On October 11, 2020, President Muhammadu Buhari declared the dissolution of SARS in reaction to the extensive demands for its disbandment on social media, utilising the hashtag #ENDSARS. The disbandment of the unit and the retraining and reassignment of its officers to a newly established task force were further aspects of his announcement. Protests and social media campaigns continued, with numerous individuals asserting that the disbandment of SARS was insufficient and advocating for additional reforms, including holding officers accountable for previous misconduct and enhancing their wages to mitigate corruption. Military and security personnel have reportedly killed numerous protestors since the government initiated a crackdown on protests in mid-October (Congressional Research Centre, 2020).

## **Objective of the Study**

The main objective of this study was to investigate the consequences of EndSARS protest in Akwa Ibom North East Senatorial District of Nigeria. The specific objectives were to:

Determine whether EndSARS protest contributed to the destruction of properties in Akwa Ibom North Senatorial District of Nigeria.

Examine if EndSARS protest led to the loss of lives in Akwa Ibom North Senatorial District of Nigeria.

## **Research Questions**

The following questions were posed to address the research problem:

- (i) To what extent did EndSARS protest contribute to the destruction of properties in Akwa Ibom North Senatorial District of Nigeria?

- (ii) How did EndSARS protest lead to the loss of lives in Akwa Ibom North East Senatorial District of Nigeria?

## **Methodology**

This study adopted Ex-post facto research design. The study majorly focused on Uyo, which is the epicenter of the nine local government areas that make up Akwa Ibom North East Senatorial District (AKNESD), also known as Uyo Senatorial District.

There are 5,530 establishments doing business in Uyo, where the EndSARS protest took place. Some of the affected establishments were public and others private. Records at the Uyo Chamber of Commerce and Industry indicate that approximately 430 establishments are public and 5,100 are private companies. Facts revealed that the establishments affected by the EndSARS protest were both public and private (TangSio Radio and Television, Friday, October 2020).

A sample size of 96 respondents was used in this study. This number comprised staff members of the 12 organizations selected for the study. The organizations include: Anchor Insurance Company, Access Bank, LG Electronic office, De Choice Fast Food, Akwa Ibom Broadcasting Corporation (AKBC), Techno House by Ikpa Road, the Akwa Ibom State Primary Healthcare Development Agency (AKPHCDA), the State Secretariat of the All Progressives Congress (APC), Icon Mobile, Cold Stone Creamery, Domino's Pizza, and Kilimanjaro.

The purposive sampling and snowball technique were adopted for the study. While the purposive sampling technique was used to select the study organizations, the snowball technique was used to select the respondents. The reason was that the number of organizations affected during the EndSARS protest was small and easily identified during the data collection. Adopting the purposive sampling technique assisted the researcher in identifying and selecting the study organizations from the appropriate sampling frame. On the contrary, the respondents or study participants were nominated and selected from their respective organizations or workplaces using the snowball technique. The data used in this study were collected using interviews and a desk review. The data were presented in tables, charts, and pictures, and explained in simple percentages to illustrate the consequences of the EndSARS protest in Akwa Ibom North East Senatorial District. The details from the review were summarised and used in the discussion of findings. The data collected in the study were presented in tables, charts, and pictures, and explained in simple percentages to illustrate the consequences of the EndSARS protest in Akwa Ibom North East Senatorial District. The transcribed details from the interviews were summarised and used in the discussion of findings.

## **Data Analysis**

In this section, the qualitative data collected from the organization are presented in pictures and discussed to help answer the research questions. The data were extracted from records at the study organizations that were affected by or attacked during the EndSARS protest

in the Akwa Ibom North East Senatorial District. These data were used to evaluate the experiences of the organizations vis-à-vis the consequences of the protest on the organizations. The pictures were obtained from the organizations during field work.

**Analysis of Research Question 1:** To what extent did the EndSARS protest contribute to the destruction of properties in Akwa Ibom North Senatorial District of Nigeria?

## Scene of the Attack on the Administrative Building of the Akwa

**Ibom Broadcasting Corporation (AKBC) Along Udo-Udoma Avenue, Uyo,**



**Here lies the remains of AKBC  
office at Udo Udoma Avenue, Uyo**

**Is this what we want? Can  
we move forward like this?**

Let's join hands to **#SecureAkwaibom**  
from hoodlums and criminals.

  
**#SECUREAKWAIBOM**

**Picture 1: Scene of the Attack at Akwa Ibom Broadcasting Corporation, Uyo,  
Source: Field work (2025)**

Picture 1 is a display of the scene of the attack on the administrative building of the Akwa Ibom Broadcasting Corporation along UdoUdoma Avenue, Uyo. The picture gives information concerning the damage or destruction of properties that are queried by research question one which sought to find out if the EndSARS protest contributed to the destruction of properties in Akwa Ibom North Senatorial District of Nigeria. As indicated in the picture, the whole buildings were razed down with all the properties within the premises of the Corporation

## **Display of Some of the Burnt Vehicles Parked Inside The Office Building of Akwa Ibom Broadcasting Corporation (AKBC) in Uyo.**



**Picture 2: Burnt Vehicles at of Akwa Ibom Broadcasting Corporation (AKBC)  
Source: Field work (2025)**

Picture 2 also shows all the burnt vehicles parked outside and inside the office building which was completely consumed by the fire. The multi-billion-naira Ibom Specialist Hospital was one of the public establishments targeted during the mayhem but could not be destroyed due to the presence of heavily armed security personnel. Aside from burning down the buildings, the vandals successfully looted items at the Akwa Ibom State Broadcasting Corporation (AKBC) along UdoUdoma Avenue, the Anchor Insurance House and Access Bank building, and ATM Plaza. The scenario communicated by the pictures and data substantiates the argument that the Endsars protest contributed to the massive destruction of properties in Akwa Ibom North East Senatorial District, also known as Uyo Senatorial District. Other evidence from records at the disposal of the print and electronic media confirms that public facilities and private businesses in Uyo were attacked, vandalized and looted by hoodlums following the death of a protester on Barracks Road allegedly shot by personnel of the Nigerian Correctional Service. (Tan Sio Radio & Television, 2020).

**Picture 3: Akwa Ibom State Primary Healthcare Development Agency (AKPHCDA) in Uyo, Guttled by Fire along Barracks Road (WBW).**



**Picture 3: Akwa Ibom State Primary Healthcare Development Agency (AKPHCDA)**  
**Source: Field work (2025)**

**The State Secretariat of the All People Progressive Party (APC) At Ikot Ekpene Road,  
Destroyed by Fire.**



**Figure: 4 State Secretariat of the All People Progressive Party, Destroyed By Fire.  
Source: Field work (2025)**

**Analysis of Research Question 2:**

This question queries thus, to what extent did the EndSARS protest contribute to the loss of lives in Akwa Ibom North Senatorial District of Nigeria?

Scene of protesters at Ibom Plaza, where the violence erupted after hoodlums hijacked the ENDSARS protest in Uyo.



Source: Field work (2025)



Source: Field work (2025)

Scenes of received lootings properties, vandalism and carting away of properties at Techno House, Icon Mobile, Cold Creamery, Domino's Pizza, all at Ikot Ekpene Road and Kilimanjaro Fast Food at Oron Road. At the LG showroom on Ikot Ekpene Road, electronic

appliances were carted away, while others that could not be moved were vandalised. Icon Mobile, Cold Stone Creamery and Domino's Pizza, and Kilimanjaro were not left out of the plundering. As a result of these rampages and inhumane actions by the hoodlums, the businesses could not continue in their normal operation and so much profit/ income was lost.

## **Discussion of Findings**

EndSARS Protest and Destruction of Properties in Akwa Ibom North Senatorial District of Nigeria against the backdrop of the destruction of public and private properties and businesses in the wake of the EndSARS protests after the Lekki massacre of EndSars protesters, businesses have been counting their losses while economic experts have listed the immediate challenges the crisis has thrown against Nigeria's struggling economy. These losses were accompanied by several lootings and vandalism at several locations in Uyo, including, Banks, state-owned buildings and facilities, the setting ablaze of several establishments, shopping malls, fast food shops, phone shops and other facilities by some hoodlums who are said to have hijacked the peaceful protests to create chaos and a state of anarchy across the federation.

The protest was managed or controlled by the use of force and ideology. One of the vital steps taken by the government to manage the protest was the Disbandment of SARS and the meeting of the five-point agenda of the protesters. However, it must be stated that protest management in a multi-ethnic, multi-cultural and heterogeneous country like Nigeria is a difficult task and it involves the presence of active leadership that shares the sentiments of the protesters. There are several ways the government can handle protests. In the case of the ENDSARS protest, different methods were adopted by the government in handling and managing the protest. The protesters made some requests which were met by the government but based on the previous occurrence where the government failed to implement what they promised to do the protesters continued protesting which led to counter-protests against the ENDSARS protesters, the unleashing of thugs on the peaceful protesters by unscrupulous elements and the eventual use of force by the government. Findings showed that both coercive and non-coercive methods were adopted by the government in managing the protest, which was deemed undemocratic and unlawful. Part of the Non-coercive method was the urgent need to resolve the lingering ASUU strike, which was a step to move the youth (students) away from the street to the classroom. There were instances where the bank accounts of individuals were frozen as well. The findings of this study support that of Fagbo (2020) that the management of the ENDSARS protest by the federal government was flawed.

## **EndSARS Protest and Loss of Lives in Akwa Ibom North Senatorial District of Nigeria**

The EndSARS protest led to the loss of many lives and properties across Nigeria. Findings showed that past protests generated the killings of many who were involved. The Aba Women's Riot, also known as the Women's War, was a major anti-colonial revolt by women

in southeastern Nigeria. In November 1929, thousands of Igbo women marched against the British colonial authorities' imposition of taxes on women, a policy seen as exploitative and unjust. The women used their traditional practice of "sitting on a man" to express their displeasure, which included singing and dancing around the houses of warrant chiefs and colonial officials. The protests, which lasted until early 1930, resulted in the deaths of about 50 women but forced the colonial government to abandon the tax and revise its policies regarding women. Also, in 1949, Enugu coal miners went on strike to demand better working conditions and higher wages. The strike, which began in November, quickly escalated when British colonial police opened fire on the striking workers at the Iva Valley mine on November 18, killing 21 miners and injuring 51 others. This tragic event intensified nationalist sentiments and fueled the struggle for Nigeria's independence, which was eventually achieved in 1960. In Lagos State, during the SARS protest, which took place in October 2020, several youths were killed in Lagos as reported by BBC News (BBC News, 2020a). All these scenarios demonstrated in this study that EndSARS protest led to the killings of many youths and even the police officers who were involved.

## **Summary**

The main objective of this study was to investigate the consequences of EndSARS protest in Akwa Ibom North East Senatorial District of Nigeria. The specific objectives were to: determine whether EndSARS protest contributed to the destruction of properties in Akwa Ibom North Senatorial District of Nigeria and examined if EndSARS protest led to the loss of lives in Akwa Ibom North Senatorial District of Nigeria. The study adopted the ex-post-facto research design. The design typically employs interviews and desk reviews to gather information. The collection data was then analyzed to conclude, identify patterns and make generalizations to determine the consequences of EndSARS protest in Akwa Ibom North-East Senatorial District (AKNESD). The study mainly focused on Uyo. The data collected were presented in tables, pie charts and bar charts and explained in simple percentages. The findings of the study were discussed, conclusions given and recommendations made accordingly.

## **Conclusion**

The EndSARS protest in Nigeria was a significant socio-political movement that emerged as a response to police brutality, specifically targeting the Special Anti-Robbery Squad (SARS). The protest, which began as a peaceful demonstration, escalated due to inadequate governmental response, poor crisis management strategies, and violent crackdowns by security forces. The widespread mobilization of youths, both online and offline, demonstrated the power of social media in modern activism and governance. The government's handling of the protest raised critical questions about democratic governance, human rights, and law enforcement accountability in Nigeria. While the dissolution of SARS was a notable

outcome, broader concerns regarding police reform, justice for victims, and systemic governance failures remained unresolved. Additionally, the protest's aftermath, marked by reported human rights violations, economic disruptions, and international condemnation, emphasized the need for institutional reforms and improved civic engagement mechanisms.

## Recommendations

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

- i. The Inspector General of Police (IGP), in collaboration with relevant stakeholders, should liaise with the budget office to improve the budgetary allocation for the police. This is intended to enable the police to acquire non-lethal modern riot control equipment for effective management of future protests and civil unrest in the country.
- ii. The IGP should graciously approve an increase in the number of personnel during the recruitment exercise, a change in the qualification for engagement, as well as adequate training and retraining of personnel. This will enable the force to improve its manpower capacity building capable of managing future protests.

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