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Electronic Banking Services and Customer Pattern of Behaviour in Selected Banks in Ilorin Metropolis

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Abstract

The study examined electronic banking services and customer pattern of behaviour in selected banks in Ilorin metropolis. Multistage sampling method was used for the selection of 210 e-banking customers as respondents for the study and data were collected using a closed ended structured questionnaire. Multiple regression analysis using STATA version 11 was employed. Findings revealed a significant effect between e-banking service and customer switching behaviour in the selected commercial banks. It was concluded that e-banking customers of commercial banks were highly satisfied with electronic banking service with some little improvements. The paper recommends that the management and the board of banks should strive to maximize the benefits of electronic banking system to deliver improved service to their e-banking customers.

Key words: *Electronic Banking, Customer switching Behaviour, Customer Satisfaction, National Banks, International Banks.*

Introduction

The dynamics in information and communication technology (ICT) have great impact on personnel, policies, products and service delivery. The application of new technology improves efficiency in terms of quality service and satisfaction (Irefin, Abdul-Azeez & Tijani, 2012). The banking institutions in Nigeria have explored paradigm shift in technology from the non-

digital to digital era. The Automated Teller Machine (ATM), Debit and Credit Cards, Telephone Banking service, Mobile Banking service and Internet Banking service are sources of banking system that inclined and adopted to this paradigm shift (Central Bank of Nigeria, 2003). Al-Hajri (2008) opined that banks must make adjustment in the delivery of service to meet customers' satisfaction by providing qualitative service

by exploring electronic banking facilities. This will in no small measure assist in the realization of having an effective banking service especially within Ilorin and its environs.

Electronic banking service is aimed to improve transaction, delivery, and marketing through the internet. This technique of financial transaction gives room for current opportunities to banks and as well creates new innovations of information technology (IT) applications, opening of market boundaries and the breaching of industrial barriers. This gives room for the beginning of new business competitors and the development of new business models (Liao & Cheung, 2003). Going by the above assertions, Holland & Westwood (2001) submits that the speed at which this technology is embraced, the level of the postulated problem are increasing rapidly with the wider spread of internet services and the broadening of informational economy.

Though, e-banking has several challenges, but its globalised banking concept lead to a successful outcome (Southard & Siau, 2004). Without this understanding, attempts to migrate to e-banking may be doomed to failure. Banks that have quality concept of e-banking system should be able to take a better decision on how to change them into e-banks and to make the e-banking system to be operational in contemporary period (Southard & Siau, 2004).

The banks, through the web-enabled data base encourages customer self-service such as: access account, generate specific information and possibly carry out transactions from a local area like home and (or) the workplace. The traditional branch patterned of bank now gives place to an alternative delivery routes with different forms of e-banking. The branches of the banks are connected with one another with the use of unlimited satellite links (Ramya, Rajam, Usha Rani & Sivasubramanian, 2013).

The fast advancing global information infrastructure (including information technology) and computer networks such that the internet and telecommunication systems enable the beginning of electronic commerce at a global level (Mahmood & Steve, 2009). The universal connectivity which the internet embraces made it inestimable business tool. These advancements have created a new economy, which is call the-digital economy.

In the banking industry, customer satisfaction measures how products or services meet or surpass customer expectations. It constitutes various strategies intended at keeping, meeting or exceeding customers' expectations. Saha and Zhao (2005) defined customers' satisfaction as a collection of outcome of perception, evaluation and psychological reactions to the consumption experience with a product or service. In other words, it is a result of a cognitive and affective evaluation where some consumption standard is compared to the actually perceived performance. Thus, if

the performance perceived is less than expected, customers will be dissatisfied which would lead to negative behaviour and where the perceived performance exceeds expectations, customers are fulfilled and this would lead to positive behaviour or outcome (Saha & Zhao, 2005). This pattern of behaviour will lead to either a customer being satisfied or dissatisfied with the services offered. Because behaviour is inherent, people living in Ilorin are not classified distinct from this narrative. Therefore, in any banking operations, the customer is seen as key to its success or failure that every reasonable organisation (banking oriented) would like to achieve or overcome.

Various banking institutions are confronted with challenges technology. Customer satisfaction is an integral part of any organization success and it is pertinent to note the key success factors that influence customer satisfaction. Liao and Cheung (2002) found out that the major attributes underlying perceived usefulness of electronic banking are: accessibility, availability, accuracy, security, network speed, user-friendliness, user involvement and convenience. Banks initiation to deliver better services to customers has been witnessed. Customers are responding positively, but many bank customers are now wearing faces of discontent over the electronic services rendered by banks. Some complained of non-accessibility to their cash for so many hours due to network failure, poor customer services, poor internet banking, and not too good facilities. Many others are disappointed because of internet fraud. Others witness problem of account

debit without releasing the cash expected which all result to frustration and host of many others (Ojokuku & Mustapha, 2015).

The works of Ojokuku & Sajuyigbe (2012) investigated on the impact of electronic banking on human resources (HR) performance in Nigerian banking industry. The results indicated among others that bank customer relationship and customer satisfaction was found to have been greatly enhanced and that the introduction of electronic banking has a positive impact on the banks human resources performance. Agboola (2006) further investigated information and communication technology in baking operations in Nigeria. The result showed that between 1990 and 2005 there were fundamental changes in the content and quality of banking business in Nigeria. Fozia (2013) compared customer perception towards e-banking services from selected private and public sector bank in India. The study concluded that demographic factors impacted significantly on internet banking behaviour, specifically age and occupation.

Doddaraju (2013) also conducted another investigation on customer satisfaction towards public and private sector banking services in Anantapur district of AndraParadesh. The results revealed that income and occupation profile of customer do not impact on the level of satisfaction as the significance value between these two variable is 0.001, when P value is less than 0.05. In the study of Surabhi & Renu (2011) banking services and customer satisfaction in public, private, and foreign banks were compared. The study was conducted in Delhi using five zones (East, West, North,

South, and Central) with one branch of private, public, and foreign bank in any of the zone. The results showed that the customers of nationalized banks were not satisfied with the employee behaviour and infrastructure. In addition, the respondents of private and foreign banks were not satisfied with high charges, accessibility and communication.

The vacuum in the above works reveal non-stratification of banks operation into Regional, National and International banks. The National banks are statutory licensed to carry out banking business operations within the country. In addition, such National banks must have capital base of N25 billion, while International banks are authorized to execute its business projection within and outside the country with N100 billion capital base. The Regional banks' operations are confined to minimum of five to maximum of twelve contiguous states with a minimum of N15 billion capital base (Sanusi, 2010). In view of the apparent differences in the banks' performance, the objectives of research are to:

Research Objectives

The specific research objectives are to:

- i. Identify the effect of e-banking service on customers' switching behaviour
- ii. Determine the relationship between quality of e- banking service delivery and customer satisfaction of commercial banks in Nigeria

Research Hypotheses

The specific research hypotheses are as follows:

- i. E-banking services have no significant effect on the customers switching behaviour
- ii. There is no significant relationship between quality of e- banking service delivery and customer satisfaction of commercial banks in Nigeria

Literature Review

Concept of Electronic Banking

Electronic banking (e-banking) are conceptualized as utilization of cards and electronic accessory performance for banking transactions. Electronic banking includes online, virtual, web, internet, cyber, PC, interactive, Mobile and local area electronic banking services. E-banking provides various services to customers. These can be utilized to execute retail banking transactions with the use of computer, cell phone or television (Daniel, 1999). Electronic banking brings bank and customer into electronic platform where the duo can am put information on financial transactions. The transactions are carried out through internet or web banking service, debit card, ATM or mobile banking services (Burr, 1996).

Benefits of E-banking

The new horizon of modern banking services in Nigeria evolved electronic banking to facilitate efficiency, development of human resources and quality of service delivery. E-banking is responsibly utilized in resent time because of its limitation in error, its affordability in cost and reduction in paper work (Al-Sukkar & Hassan, 2005). Thornton & White (2001) elucidated the importance of electronic banking service:

There is percentage reduction in bank congestion due to opportunities available to customers to make a wide range of queues among contending banking services. It affords customers to make price comparisons across service provider as fast as possible and causes low price.

Electronic Banking Products

Ojokuku & Sajuyigbe (2012) identified the following e-banking products:

The Card System: The provisions of smart card, electronic wallet or electronic purse greatly enhance self-service banking. It is designed for card holder who is authorized to withdraw cash, pay bills and transfer funds on the ATM. The credit or debit card is a device, enable the card holder to make transaction and settlement of financial obligation in restaurants, petrol station, hotel, airline, supermarkets others.

Telephone/Mobile Banking: This device makes Provision for customer to obtain the necessary information relating to banking products and services. They can use this medium for bank payment system and request for example stock market transaction.

SMS Banking: The use of short text message passing information about account balance and after performing certain operations. Operations that can be performed on SMS banking are: get BVN, get statement and airtime payment.

Automated Teller Machine (ATM): a banking facility that enable a bank customer to withdraw and transfer cash from his account through cash dispenser machine,

and the account will be debited immediately and SMS alert will be sent instantly for notification of transaction. The self-service technology can found in different locations like stores, shopping malls, fuel stations, restaurants etc. It is convenient and saves time, in service delivery.

Home Banking: Customers' perform financial transaction at home or in the office. Home banking benefits includes: security, control, easy to use, openness of the system, wide communication potential, networking, and automated data diffusion and to define a combined signature specimen. A home banking is classified into bank computer software and software in the client's computer.

Point of Sale Terminals: POS is a form of e-banking that handles card activation, cheque verification, credit authorization, cash deposit and withdrawal, and cash payment. Electronic cash transfer is made at the POS terminal. EFT on POS assists a customer's account to be debited instantly with the cost of goods bought in an outlet such as a supermarket or petrol station. It deals with institutions for processing. The cost of goods is debited on the buyer's account and credited on the seller's account.

Internet Banking: web banking encourages customer to perform financial transaction at home, office and (or) internet café, although the latter is not recommended for security reasons. Customers will handle his account with the use of internet browser such as MS Explorer, fire fox, opera and so on. A maximum of services are provided with an internet banking service.

Electronic Cheque Presentment (ECP):

This is electronic transfer of cheque information to the client bank. This will enabled to fasting the cheque clearing process in which a digital image of the check will sent electronically instead of the active, which allows banks to minimize costs in cheque sending and storage.

Electronic Bill Payment Presentment (EBPP):

The process of billing and collecting from customers with the use of internet or means of electronic communication. The billing may be done directly by the firm through its website or through an online collection agency.

Customer Banking Behaviour and Electronic Banking

Afridi, Ammar, Wajid and Waseem (2024) conducted an investigation on embracing green banking as a mean of expressing green behaviour in a developing economy, exploring the mediating role of green culture. The study was purposely examined the green banking as a means of demonstrating ecological responsible conduct in a developing nations. Information were source from 280 respondents via human contact and internet through a survey questionnaire. Smart PLS was used to analyse the data. The study revealed that customers adoption of green banking practices is significantly influenced by their level of environmental consciousness and attitude and green culture exhibit mediating influence between the independent variables and green behaviour and has a positive significant effect on green behaviour. It was established that customers'

apparent control is negative and as well cognitive connection between behaviour and culture is weak and insufficient to forecast behaviour. The study will be useful for policy maker into are working of green education.

Mistrean (2023) investigated on the factors influencing customer loyalty in the retail banking sector. The purpose was to identify the nature of loyalty and factors that determine the customers of banking services in the Republic of Moldova. 365 customers of financial banking services was extracted in the country, counted and analyzed. The findings revealed that loyalty to a bank services is similar to interpersonal relationship it lasting partnership over time due to proper behaviour. It was recommended that the research could assist the bank mangers in making managerial decisions to prevent customer from migrating to competitors and establish long term relationship with them.

Rahi, Alghizzawi & Ngah (2023) Investigated on the understanding consumer behaviour toward adoption of e-wallet with the moderating role of pandemic risk: an integrative perspective. The researcher conceptualized task technology fit (TTF) model, diffusion of innovation (DOI) theory and protection motivation theory towards the adoption of e-wallet services. Pandemic risk is the moderating variable between the relationships of e-wallet and use of e-wallet banking among banking customers. The study used cross-sectional design and deductive level of theory to formulate hypotheses. Survey research design was

adopted with 280 responses from respondents. The data was analyzed with PLS-SEM. The finding revealed that compatibility is one of the most influential factors in determining individual behaviour to adopt e-wallet. Also, the predictive power to predict adoption of e-wallet services was substantially disclosed. Policy maker should pay attention to boost e-wallet adoption.

Dewi and Zulkifli (2024) conducted an investigation on the e-banking technology: A comprehensive study on customer satisfaction and bank services. The study focuses on the following variables: cloud services, bank system security, service quality and e-learning initiatives. A total of 125 students were study respondents using e-banking services. The study investigated the frequency and pattern of e-banking usage through comprehensive descriptive analysis offers insights on customer satisfaction in e-banking. The study aimed at enhancing comprehension of the factors influencing customer satisfaction of e-banking

Ozigagu (2024) conducted an investigation on the evaluation of electronic banking on customer service relations in Edo State. The purpose was to embrace recent technology innovations in delivery of their services in Sub-Sahara Africa countries. Information communication technology (ICT) has positive impact on processes in which commercial banks render their services to customer and competitive financial market and as well improve their profitability as they gain more customers' loyalty. This research examined electronic

banking and customer service relations. A total of 400 questionnaire and interview was distributed, collected and analysed to found that despite the fear of insecurity constantly being faced by customer. Majority insist that network is the only problem of electronic channel. The banking sector will continuously enjoy profit maximization and be able to retain their customer loyalty.

In an investigation of Fejza, Livoreka & Bajrami (2017) conducted on customer behaviour in banking sector of Kosovo. The aim was to study and analysed the customer behaviour models in the banking system of Kosovo. Both primary and secondary data were used. Survey research method was adopted with the use of online questionnaire through email and social network with a sample of 500 respondents. The study revealed that there is a weak negative correlation between the two variables which means the two selections are not necessarily related. Therefore, the correlation lies in the low significant value ($P < 0.005$). It was concluded that customers of selection banks may vary based on the manner in which they chose to evaluate different attributes.

Baicu, Gârdan, Gârdan and Epuran (2020) conducted an investigation on the impact of covid-19 on consumer behaviour in retail banking in Romania. Survey research design was used among the Romania consumers in retail banking. The study revealed that covid-19 pandemic effect on consumer's lifestyle has influence the attitude towards internet and mobile banking services. It was recommended that banks should increase their initiatives to

offer financial education and online tutorials to familiarize customers with the use of digital channels.

Pirzada, Nawaz, Javed and Asab (2014) investigated on the factors influence the customers switching behaviour. The aim was to determine the factors the influence customers switching behaviour. Primary data was used with the aid of questionnaire. The study revealed and exposes the number of bank branches, quality of service, profit or interest rate offered by banks, the attitude and a particular ways of customer behaviour. The study recommended that the banks should concentrate on improved service quality for better customer perception, satisfaction and loyalty.

Relationship between e-banking and customer satisfaction

Almansour, and Elkrghli (2023) Investigated on the factors Influencing Customer Satisfaction on e-banking services in Libyan Banks. The study focused on perceived usefulness, perceived ease of use, perceived credibility and customer attitude in banks. Quantitative research design was adopted through online questionnaire distributed to 215 e-banking users. The findings of the study revealed a significant positive impact of perceived usefulness, perceived ease of use, perceived credibility and customer satisfaction with e-banking services. Customer satisfaction was found to be most important factor among others.

Abdulrazaq, Yinusa and Ajadi (2024) investigated the effect of e-banking services on customer satisfaction in university of

Ilorin, Kwara State. The aim was to examine the influence of electronic banking on customer satisfaction using commercial banks in university of Ilorin. Survey research design was adopted. Multistage sampling technique was used to select bank in the study area. A total of 99 respondents were selected from the total population of 12005 customers of the bank. PPMC and linear regression was used to analyse the data obtained. The findings revealed a positive significant relationship between ATM service and customer satisfaction, also, POS has a positive effect on customer satisfaction. The study recommends that banking industry should improve the quality of service through effective monitoring of customer transaction to guarantee safety of funds.

Chilsedaobi, Akujor, and Mbah (2020) conducted an investigation on the impact of electronic banking on customer satisfaction in commercial banks in Imo State. The aim of the study was to determine the relationship between electronic banking and customer satisfaction. Primary data was used in the study. Pearson Product Moment Correlation technique was used to analysed the data. The study revealed that there is a positive relationship between automated teller machine (ATM) and mobile banking and customer satisfaction, while there is a negative relationship between point of sales and customer satisfaction in the sampled banks. It was recommended that automated teller machine should be improved and POS should be made available at minimum cost to all businesses.

Ekienabor, Akpoguma and Arilesere (2018) conducted an investigation on the effect of electronic banking on customer satisfaction in Nigeria. The aim was to examine the relationship between poor interconnectivity and customer patronage of e-banking services. The relationship between service outages and customer patronage of e-banking services and relationship between e-banking services and customer satisfaction were investigated. Primary data was used with the aid of questionnaire. The study revealed that there is a significant relationship between poor interconnectivity and customer's patronage of electronic banking services, there is a significant relationship between service outages and customer patronage of electronic banking service. While, there is a significant relationship between electronic banking and customer satisfaction. It was recommended that the government should provide adequate regulation framework to ensure customer protection and security of transaction.

Addai, Ameyaw, Ashalley and Quaye (2015) in their investigation on the impact of electronic banking service delivery on customer satisfaction in Ghana. A purposive sampling technique was used. SPSS statistical tool version 21 was used to analysed the primary data. Multiple regression analysis was performed. The study revealed a positive correlation between customer satisfaction and electronic banking availability, reliability and convenience was established. The study recommended that banks should provide customers with uninterrupted, reliable and

convenient e-banking services in order to satisfy and retain customers.

Concept of Customer Satisfaction

Customer satisfaction is the assessment of products performance in relation to customers' standard of satisfaction. Customer satisfaction is also strategies intended at keeping, meeting or exceeding customer expectations. Saha & Zhao (2005) explained customer's satisfaction as a collation of outcome of assessment and reactions to the consumption experience with a product or service. It is a result on a cognitive and affective assessment where some consumption standards are compared to the actually perceived performance. Also, if the performance perceived is less than expectation, customers are at disadvantage. This would result in negative behaviour and where the perceived performance is above expectations, customers are satisfied and this influence customer to positive behaviour (Saha & Zhao, 2005).

Alabar (2012) opined that customer satisfaction is fundamental to increasing an organization customer base, increase the use of potential customers and heighten the firm's image. Oliver (1981) opined that the expectancy disconfirmation model for customer satisfaction in the retail and service industry that customers form their satisfaction with a total product or service as a result of direct comparisons between their expectations and perceptions. Expectations and assessment as have been found to be a source of influence to customer satisfaction as well as subjective disconfirmation under various circumstances (Churchill & Surprenant, 1982). Customer satisfaction is

a person's views on pleasure or disappointment that result from comparing a product's perceived performance (or outcome) to their expectations (Oliver, 1980).

A satisfied customer tends to be loyal, takes less time, less sensitive to prices and pays less attention to competitors advertising (Stum & Thiry, 1991). Umorok (2009) in his study argued that satisfied customers would not only continue their patronage, but would keep on referring prospect and potential customer to the company and that such persistence patronage is likely to slow down the retention elasticity of the industry. Therefore, understanding the level of customer satisfaction is necessary to the bank because satisfaction in consumer contexts amounts to beliefs and thoughts about the outcomes of purchasing.

Methodology

This study focused on the commercial banks in Nigeria using the three categories of licensed deposit money banks namely National, International and Regional banks respectively. Three banks were selected based on world ranking and Capital base using multistage random technique. Ilorin is the focus of the study because; it is the commercial nerve centre of Kwara State and convenience.

Survey research design was used in this study. As a result of infinite population, seventy (70) e-banking customers from customer service, account opening and teller section respectively were randomly selected in the banking hall from the 3 chosen banks

making a total of two hundred and ten (210) e-banking customers. A total of 210 copies of questionnaire were administered, however, only 198 were completed and retrieved from the respondents, given a retrieval rate of 94%. The questionnaire entitled "Customer Satisfaction in Electronic Banking Service Questionnaire (CSEBSQ) contained 25 items. The rating scale used was five points Likert scale of strongly agree (5 points), agree (4 points), undecided (3 points), Disagree (2 points) and strongly disagree (1 point). The data were analysed using multinational logistic regression and multiple regression analytic tools with the aid of STATA version 11.

Results and Discussions

Multiple Regression Results

The multiple regression analysis techniques obtained in the examination of the effect of e-banking services and customers' switching behaviour indicate that the coefficient of determination R^2 is 0.9532. This implies that the explanatory variables account for 95% of the variation in the dimensions that influenced customer switching behaviour. The adjusted R^2 is 95% with P-value of 0.001** at 5% level of significance. The result indicates that the overall model is statistically significant ($F=1400.30$, $P=0.001**$). Furthermore, all predictor variables are statistically significant. The null hypothesis was therefore rejected and the alternative hypothesis which stated that E-banking services have significant effect on the customers switching behaviour was accepted. This is in line with previous studies of Pirzada, Nawaz, Javed and Asab (2014) and Afridi, Afridi, Ammar, Wajid and Waseem (2024).

Table 1: Multiple Regression Analysis Showing the Influence of E-Banking Services on Customers' Switching Behaviour

Model	R Square		Adjusted R Square		Root MSE	
1	0.9532		0.9529		0.12425	
Source	Sum of square	Df	Mean square	F	Sig	
Model	180.44148665	6	30.07358114	1400.30	0.001*	
Residual	3,896896846	191	0.0204026009			
Total	184.338383496	197	1.8857278365			
Variable		Coef.	Std. Error	T	p>/t/	B
Service quality delivery		.2851880	.0730286	3.71	0.000	.4292343
Bank reputation		.5624722	.0539014	9.91	0.000	.6687908
Network issues		.1036204	.0358095	2.74	0.003	.1742535
(Constant)		.2236293	.0462004	4.59	0.000	.3147578

Source: Researcher's Analysis (2024) using STATA.

Multiple Regression Analysis Result on Relationship between Quality of E-Banking Service Delivery of Commercial Banks and Customer Satisfaction

The regression analysis results on the determination of the relationship between the quality of e-banking service delivery of commercial banks and customer satisfaction indicates that the coefficient of determination R^2 is 0.9789. This implies that

the explanatory variables account for 98% of the variation in the dimensions that influenced customer satisfaction. The adjusted R^2 is 97% with P-value of 0.0000** at 5% level of significance. The result indicates that the overall model is statistically significant ($F=1474.01$, $P=0.0000^{**}$). Furthermore, all predictor variables are statistically significant except for ease of use (0.371). The null hypothesis

was therefore rejected and the alternative hypothesis which stated that there is significant relationship between quality of e-banking service delivery of commercial banks and customer satisfaction in the

selected banks, was accepted. This is in line with previous studies of Ibok and Itoro (2012), Maryam, Bahrus, Saeed and Zahra (2012), Doddaraju (2013) and Surabhi and Renu (2011).

Table 2: Multiple Regression Analysis Showing Relationship between Quality of E-Banking Service Delivery and Customer Satisfaction

Model	R Square		Adjusted R Square		Root MSE	
1	0.9789		0.9782		0.14655	
Source	Sum of square	Df	Mean square	F	Sig	
Model	189.938407	6	31.6564012	1474.01	0.0000*	
Residual	4.10199668	191	0.021476422			
Total	194.040404	197	1.98497667			
Variable		Coef.	Std. Error	T	p>/t/	B
Convenience		.3001979	.0768723	3.91	0.000	.4518256
Accessibility		.5920761	.0567384	10.44	0.000	.7039904
Interrelationship		.1090742	.0376943	2.89	0.004	.1834248
Security		.1660638	.0652411	2.55	0.012	.2947494
Network		.6062162	.0788818	7.69	0.000	.7618076
Ease of use		-.0482567	.0538613	-0.90	0.371	.0579827
(Constant)		.2353993	.048632	4.84	0.000	.3313241

Source: Researcher's Analysis (2024) using STATA.

Conclusion

The result of multiple regression analysis revealed that collectively, the entire coefficient is statistically significant which means electronic banking services have significant effect on the customer switching behaviour. This study revealed that indeed electronic banking services have a significant positive effect on the customer switching behaviour which lead to customer satisfaction and loyalty.

Recommendations

The study therefore recommends that management of the banks should be improve and well maintain greater service quality delivery to attract and retain potential customers. Similarly, relationship is vital to keeping a customer in a bank which can only be through satisfactory services. Therefore, satisfactory services should not in any way be compromised by the bank to continue to move on with the business of banking in Ilorin, Kwara State.

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Entrepreneurial Competencies and Performance of SMEs in the Pharmaceutical Industry in Delta State

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Abstract

The study investigated the effect of entrepreneurial competencies on the performance of SMEs in the pharmaceutical industry in Delta State, Nigeria. Specifically, the study focused on the interplays and interactions between marketing competency and pharmaceutical-based SMEs performance, time management competency and pharmaceutical-based SMEs performance, decision-making competency and pharmaceutical-based SMEs performance. The study adopted survey research design. A sample size of 1036 respondents drawn from the population of the study was used for the study and the survey data were analyzed with the statistical tool of ordinary least squares (OLS) multi regression at 0.05 level of significance. The results revealed significant positive relationship between marketing competency and SMEs performance, time management competency and SMEs performance, decision making competency and SMEs performance at coefficient values of 0.693, 0.754 and 0.688 with corresponding t-values of 4.526, 3.148 and 2.873 respectively. The findings revealed that emphasis should be on developing effective marketing skills that can enhance competitive advantages and customer focus, training and development of staff on optimization of time and enhancing pharmaceutical-based entrepreneurs' analytical skills and critical thinking for informed decision making in complex situations.

Keywords: Entrepreneurial Competencies, Marketing Competency, Time Management Competency, Decision-Making Competency, Performance, SMEs, Pharmaceutical Industry, Delta State

Introduction

Entrepreneurial activities in the 21st century have taken a new dimension due to intense changes in business environment and the forces of globalization. In the developed

and emerging market economies, the roles of entrepreneurs in different industries and sectors have become more challenging in the bit to create, manage, grow successful business ventures, create product and service

values and remain competitive. Entrepreneurs in the present age of entrepreneurship are required to have wide range of entrepreneurial competencies to be able to take proactive steps to develop and grow their business beyond basic requirements, identify unique ideas and innovative solutions to overcome challenges, tackle tasks and take decisions effectively, continuously work towards

Sustainable development of developing countries like Nigeria depends largely on the performance of their indigenous micro, small and medium scale enterprises (MSMEs). These enterprises are generally considered as the engine of economic growth as a result of their immense contribution towards employment generation, poverty reduction, export earnings and gross domestic product (Suleiman, Aliyu & Bello, 2021) and fostering the growth of successful SMEs could lead to creation of new jobs and expansion of trade and economic activities to boost the country's gross domestic product (GDP). Entrepreneurial competencies address the issue of what lead to success in entrepreneurial activities. Bird (2015) in his study of the theory of entrepreneurial competencies posits that entrepreneurial competencies are mechanisms to achieve business success. Entrepreneurial competencies are essential traits, skills and a range of characteristics that enable entrepreneurs to succeed. Lack of these factors, is one of the causes of failure in business. Small and medium-sized enterprises play important role in the Nigeria economy. It is estimated that about

goals and build relationship that can support business growth and development. Increasing the chances of success among entrepreneurs would have huge implications for the growth and socio-economic wellbeing of a country (Asian-Pacific Economic Cooperation, 2014). Thus, understanding predictors of success in small and medium-sized enterprises (SMEs) is critical.

a third of the GDP in Nigeria originates from this sector (National Bureau of Statistics, 2017). In spite of these benefits, SMEs are faced with the challenges of entrepreneurial competencies.

Statement of the Problem

More than 95% of businesses in Nigeria are small enterprises; they contribute about 35% of the country's gross domestic product. In Delta State, over a million entrepreneurs operate Small, Medium and Micro Enterprises (SMMEs), accounting for 40% of total employment. These enterprises are widespread across various industries and sectors, with a dominant presence in trade (54%) and services (34%). Micro and small enterprises are critical for supporting livelihoods, as well as overall prosperity and progress. They create employment at relatively low levels of investment per job; utilize and add value to local resources; foster equitable income distribution; and are better positioned to meet local needs in small markets. The technologies used by them are easier to acquire, transfer and adopt even for people with little education and training. They have the potential to compliment large

enterprises through partnership and subcontracting relationships. The operations of micro and small enterprises also serve as training ground for entrepreneurial managerial development (Olomi, 2016).

A host of problems make it difficult for SMEs to exploit the existing potentials for improved performance. One of the most serious impediments is limited capacity of people who start and operate the businesses, in terms of the attitudes, motivation, exposure, skills and experiences. This capacity limitation is exacerbated by the effects of other problems including cumbersome regulatory framework, limited access to finance and environmental factors (Olomi, 2016). The concept of entrepreneurial competencies and their application are not absolutely new. It started to gain popularity in the late 1980's following its wide acceptance Boyatzi (2012). Entrepreneurial competencies could offer a realistic view of the knowhow of running a business. However, SMEs face the challenges of lack of appropriate knowledge and skills, limited access to relevant information on technology and dependency on poor and obsolete technology. In the Nigeria setting, the capacity for many entrepreneurs in different industries to innovate in product and service offerings is often times constraint by inadequate knowledge, lack of skills, inadequate personnel with the required abilities, poor facilities and environmental induced influence. Against this background, this study is carried out to investigate the effect of entrepreneurial competencies on the

performance of pharmaceutical-based SMEs in Delta State.

Objectives of the Study

The main objective of this study is to examine the impact entrepreneurial competence on performance of SMEs in the pharmaceutical industry in Delta State. The specific objectives are to:

1. Determine the influence of marketing competency on performance of SMEs in the pharmaceutical industry in Delta State.
2. Investigate the effect of time management competency on performance of SMEs in the pharmaceutical industry in Delta State.
3. Examine the effect of decision-making competency on performance of SMEs in the pharmaceutical industry in Delta State.

Research Questions

1. What affect does marketing competency have on performance of SMEs in the pharmaceutical industry in Delta State?
2. How does time management competency impact on performance of SMEs in the pharmaceutical industry in Delta State?
3. What extent of impact does decision-making competency exert on performance of SMEs in the pharmaceutical industry in Delta State?

Hypotheses

The hypotheses for this research are as follows:

Ho₁: Marketing competency has no significant effect on performance of SMEs in the

Pharmaceutical industry in Delta State

Ho₂: Time management competency has no significant impact on performance of SMEs in the

Pharmaceutical industry in Delta State

Ho₃: Decision-making competency has no significant effect on performance of SMEs in the

Pharmaceutical industry in Delta State

Review of Related Literature

In this section, the review of literature is on conceptual review, theoretical framework, theoretical exposition and empirical review

Conceptual Review

The major concepts in this study are competence, entrepreneurial competencies, marketing competency, time management competency and decision making competence and they are discussed in turn.

Competence

There are several definitions of competence. Almajali, Alamro and Al-Soub (2016) refer to competence as an individual's underlying characteristics, such as a motive, trait, skill, or a domain of knowledge which he or she uses. Woodruffe (2013) posits that competencies are "behavioral repertoires that some people carry out better than others". The term competent is associated with individuals, who manifest efficiency and effectiveness in their work or persons with the ability to perform, to a stipulated performance standard (Kagire & Munene, 2017). Competence has been referred to as

the individual relative abilities of a person concerning a particular work, task or set of related tasks (Jacobs, 2017). All these definitions relate competence to individual performance. A competent manager or entrepreneur therefore, is one who is effective and efficient, having the capacity to perform to a given performance standard. Ogbu (2016) describes competency as the characteristics underlying superior performance of an individual. Boyatzis (2013) defines it as underlying characteristics of an individual, which are causally (change in one variable causing change in another) relating to effective performance in a given task. Also, competency has been defined as a set of skills, related to knowledge and attributes that allow an individual to successfully perform a task or an activity within a specific function or job (UNIDO, 2021). It is also theorized in terms of job knowledge, skills and attitudes or behaviours (Tao, Yeh & Sun, 2016). Furthermore, it refers to the underlying 'aspects of a person', such as capacity, skills, knowledge and attitudes that enables them to be competent (Han, 2016; Moore, 2021). In the opinions of Chiang, Slih and Hsu (2013), the concept cannot be better defined outside the context of individual's expertise, skills, attitudes and behaviours with particular reference to self-entrepreneurial.

Lucia and Lepsinger (2019) opine that competency is the capability of applying or using knowledge, skills, abilities, behaviours and personal characteristics to successfully perform critical work tasks, specific functions or operate in a given role or

position. As Chanran and Useani (2016) note that incompetence manifests in lack of entrepreneurial know-how, resulting in inability to apply appropriate managerial concepts and principles in running a business concern, is responsible for business failure. They added that, it often manifests in poor financial control, weak decision-making process, poor time-entrepreneurial, and failure to develop a strategic plan, uncontrolled growth and improper inventory control.

It is often believed that competence is a combination of knowledge, skills and attitudes, which are necessary for pharmaceutical firms to execute tasks or functions effectively. For instance, Stoof (2015) visualizes competency as the ability to perform certain tasks for which knowledge, skills, attitude and motivations are necessary. The individual competencies activate the tangible and intangible resources that take part in the value creation process (Cannavaciale, 2013). Competencies elicitation is critical as small firms and pharmaceutical behaviours are strictly related to the environment in which firms operate. Nwokolo (2019) is of the view that competency means that the individual has acquired the knowledge, skills, attitudes and behaviour required in order to perform impressively at a specified proficiency level in a given task. Kiggundy (2021) views competency as the capacity to perform a task or tasks skillfully and effectively. Competencies refer to the sum of the requisite attributes and abilities for successful and sustainable pharmaceutical (Aminu, 2018). Howell (2015) posits that a

good entrepreneur must possess the ability to plan manage and organize business effectively for profit maximization.

From all indications, competencies constitute a cluster of related knowledge, attitudes and skills which an individual acquires and uses together to produce outstanding performance in any given area of responsibility. In fact, in competency based training, all three factors – knowledge, attitude and skills, must effectively be addressed and taught in an integrated manner. This is the only way outstanding performance can be achieved (Inyang and Enuoh, 2018). These clusters of related knowledge, attitudes and skills can be acquired through managerial training and development. In rethinking about entrepreneurial competency, the need for a paradigm shift from attributing all pharmaceutical firms to lack of financial resource and harsh operating environment to lack of requisite skills and entrepreneurial competencies (Inyang, 2020). This author highlighted on the need for entrepreneurial competencies rethinking to achieve success in pharmaceutical sector through entrepreneurial intervention focuses on empowering manager and employees to acquire the skills that can enhance business performance.

Entrepreneurial Competencies

Entrepreneurial competencies describe the knowledge, skill, and/or abilities required to fulfill required job tasks, duties or responsibilities. Hill & Jones (2018) assert that entrepreneurial competency is unique strength that allows a company to achieve

superior efficiency, quality, innovation, or customer responsiveness, and thereby to create superior value and attain a competitive advantage. A firm with an entrepreneurial competency can differentiate its product or achieve substantially lower cost than its rivals. Consequently, it creates more value than its rivals and will earn a profit rate substantially above the industry average (Hill & Jones, 2018). Entrepreneurial competencies refer to “the set of professional skills, abilities, and technical knowledge which specifically deal with the technical aspects of the job, essential to carry out specific entrepreneurial or task-related activities” (Janjua, Naeem, & Kayani, 2021). Janjua et al. (2016) opine that entrepreneurial competencies include vocational and technical skills which are necessary for the accomplishment of task-related objectives of the job. Entrepreneurial competence covers the understanding of and proficiency in managing specific entrepreneurial tasks. It encompasses proficiency in technical tasks and areas appropriate to the specific job. Managers with entrepreneurial competencies possess work planning skills and the ability to make decisions.

Many authors focused their research on entrepreneurial areas and confirmed that entrepreneurial areas could become core competencies of an organization through the combination of skills and resources. Sukboonyasatit and Thanapaisarn (2015) point out that one of the critical entrepreneurial areas for firm to focus on is competency. They listed 55 different distinctive competence activities within

entrepreneurial areas. Competency is defined here as being the particular skills and resources a firm possesses and the superior way in which they are used. In the empirical studies of Akimova (2015), entrepreneurial areas had been seen as source of competitive advantage. Core competencies of entrepreneurial areas through the fusion of resources and capabilities, are main source of competitive advantage (Snezana, 2015). Hill and Jones (2018) aver that competencies at entrepreneurial-level can be sources of competitive advantage through assessing the four factors of competitive advantage efficiency, quality, innovation, and customer responsiveness. Entrepreneurial -level strategies are strategies directed at improving the effectiveness of basic operations within a company. They include primary functions (production, marketing, research and development) and support functions (e.g. information system, human resources, and infrastructure). Boyatzis (2013) views competencies as an underlying characteristic of a person that could be a motive, trait, skill, aspect of one’s self-image, social role, or a body of knowledge which he or she uses. These characteristics are revealed in observable and identifiable patterns of behavior, related to job performance and usually include knowledge, skill and abilities. In another definition, competencies are specified as a mean of ‘being able to perform a work role to a defined standard with reference to real working environments.

Marketing Competency

Marketing refers to the position that a company takes with regards to pricing, promotion, advertising, product design, and distribution. Marketing can improve efficiency by lowering customer defection rates, thus allows a company to achieve substantial cost economies. According to Rauch *et al.* (2019), there are several other ways in which marketing functions of a company can help create value. Through brand positioning and advertising, the marketing function can increase the value that consumers perceive to be contained in a company's product. Insofar as these activities help create a favourable impression of the company's product in the minds of consumers, they increase value.

Time management Competency

Time management has been an area of concern for individuals and corporate bodies in different industries and sectors (Ilesanmi, 2020). Adair (1998) views time as a scarce resource; it is irreplaceable and irreversible and as such, it has got to be spent wisely and judiciously to achieve optimum returns. To this author, ability to see time as a scarce resource, means choosing the best and wisest way to spend it. The principle applies to us all in most areas of our lives. It is truer in the world of work and business. For the potential demands and pressures on our time greatly outweigh what is available.

Decision-Making Competency

The art of decision-making is very important to the success of any pharmaceutical activity. Pharmaceutical firm that wants to succeed in today's globalized business

world must be equipped with the skill of prompt and accurate decision making process. In the opinion of Nwachukwu (2015) decision-making competence is at the heart of or core of pharmaceutical activities. Making a decision is one thing, and making the right decision given the circumstance is another. He reiterated that many businesses have crashed as a result of making wrong decisions. In his opinion, some critical decisions about a business concern are part of strategic entrepreneurial process of an enterprise. He noted further that many people have difficulty bringing their ideas to the market to create a new venture or be bold to take decisions competence that could lead to substantial business expansion. Decision making competency is defined as the total capability of the entrepreneur to perform a job role successfully based on the decision reached (Lau et al., 2018).

Theoretical Framework

This study hinges on competence theory propounded by Bain (1968). Competence theory is the most tangible and reasonable alternative to dominant strategic model of industrial organization. Introduced at a pioneering level by Bain (1968) and successively developed by Porter (1985). They argue that by concentrating excessive attention on product market strategies, the Porter framework neglects the cost of developing the basis of and implementing those very strategies. Resources must be acquired or built before a product market strategy may be implemented. Again, instead of an exclusive outward orientation toward market niches and advantageous cost-revenue combinations, the competence-

based perspective also puts emphasis on building up resources and organizational routines within the firm itself. Organization and production are emphasized, as well as the market.

Porter and Kramer (2016) posit that competence theory proposes to bring, to the strategic reflection, new answers to the “longitudinal problem”, which consists of the individualization of the conditions that permit a firm to reach and hold on to a favourable competitive position over time. This problem, however, cannot be separated from the “cross-sectional problem”, aimed at understanding the causes at the base of the firm’s superior performance at a precise instance in time.

Montgomery and Collis (2019) believe that the industry or business must remain the principal unit of analysis, as the possession of determinate resources or competencies should be, in any case, compared with those of the competitors. It follows that the firm profitability depends both on the attractiveness of the industry in which the firm competes and on its relative position in that industry. Then, if the essence of strategy is choosing to perform activities differently than rivals do the core competencies enable the choice of diversity to be followed, furthermore firms are able to carry out activities at a lower cost or in such a way as to create a greater value for the customer lies in that which Porter calls drivers (Porter 1996). According to the analogy made by Porter (2016), to be capability predators, means to move rapidly from one business to another, copying capacities, developing them so as to assume the role of leader and

this is possible with the aid of flexible human resources and transversal entrepreneurial of the firm.

Competence-based theory is related to this study because it has been applied in the area of entrepreneurial competence. The main cardinal theme of entrepreneurial competence is gaining a competitive advantage. There is recognition of learning-by-doing as a source of endogenous growth. This emphasis on learning and growth means that individuals themselves are in a process of development, in contrast to static and equilibrium-based approaches and recognition of the role of radical uncertainty and other chronic problems pertaining to information and knowledge in the firm which result to competitive advantage.

Theoretical Exposition of Performance of Small and Medium-Sized Enterprises (SMEs)

Typically, performance is ultimate outcome expected in every business activity (Muhammad et al., 2019; Ahmed et al., 2018; Galdeano et al., 2018; Ahmed, Mozammel & Ahmed, 2018; Roespinoedji et al., 2019). SME performance is the total performance of the firm and is showed by the aggregate of performance of finance, business, and human resource functions of the organization in a given time. Firms formulate goals and objectives to be achieved within a given time frame. Performance measures the organizations’ effectiveness against these set objectives. Thus, organizational performance refers to the ability of an organization to attain its goals such as high-profit margin, product quality, and larger market share, better

financial results at a stipulated time and by applying the relevant strategy. Organizational performance has many dimensions which may be difficult to quantify. Rowley (2011) opines that both financial and non-financial indicators have been used to measure performance. The financial indicators are compendium of financial-based measurement metrics. In the service industry, employee productivity has been used as a measure of performance (Mishra, 2018). Gavrea, Ilies and Stegorean (2011) SMEs performance shows the actual output or results of an organization is measured against its proposed outputs. Although the concept of SMEs performance is very common in academic literature, its definition is not yet a universally accepted concept. Richard et al, (2016) view SMEs performance as comprises three specific areas of firm outcomes: financial performance (profits, return on assets, return on investment and others product market performance (sales, market share, etc.); and shareholder return (total shareholder return, economic value added, others).

Waiganjo, Mukulu & Kahiri (2016) note that SMEs performance may be assessed in terms of its multiple objectives of profitability, employee satisfaction, productivity, growth among many other objectives. Proponents of the balanced score card performance entrepreneurial system have suggested a broader performance appraisal approach that recognizes both the financial and non-financial measures including sales, profitability, return on investments, market

share, customer base, product quality, innovation and company attractiveness. Richard et al, (2019) explains that SME performance includes the actual output or results of firms as measured against its intended outputs (goals and objectives).

Kunze (2013) defines SMEs performance as consisting of operational, profitability and overall growth dimensions of performance. To survive and succeed in a potentially austere environment, small and medium enterprises must effectively deploy and combine their physical, human and organizational assets. Thus, they will develop long-term competitive advantages and in turn, achieve superior performance (Lonial & Carter, 2015). However, due to their limited resources, small and medium enterprises need to identify and exploit other means to be able to enhance their competitiveness and performance. In general, various factors of the internal environment, which potentially influence the performance of Small and medium enterprises, are mentioned in the literature of these, particular attention is paid to age and size of firm (Arend, 2014; Nicolini, 2011), human resources and human resource practices (Katou, 2016; Sheehan, 2013), entrepreneurial networks (Bratkovic Kregar & Antoncic, 2016;) occupational health and safety measures (Gopang et al., 2017), product, process, organizational, marketing innovation (Leitner & Guldenberg, 2019), organizational orientations that consist of market, entrepreneurial, and learning orientations (Lomberg, Urbig, Stockmann, Marino, & Dickson, 2017), internationalization (Chiao, Yang, & Yu,

2016; Majocchi & Zucchella, 2013), export (Altuntas et al., 2018), market orientation, planning flexibility (Alpkan et al., 2017), ownership and family involvement (Lien & Li, 2017), intellectual capital (Gomezelj, Omerzel, Smolci & Jurdana, 2016).

Empirical Review

Nguyen (2018) studied entrepreneurial competencies and their effects on performance of pharmaceutical companies in Vietnam. The study adopted survey research design. Structured questionnaires and mail survey was used. A total of 725 questionnaires were sent by mail to pharmaceutical companies. Consequently 125 questionnaires were mailed back at gross response rate of 17.24%. The sample composed of 63.6 per cent limited or joint-stock companies, 27.3 per cent state-owned enterprises and 9.1 per cent foreign capital organizations. Various data analysis procedures were applied including factor analysis, descriptive analysis, single regression and multiple regression in order to accomplish the objectives of the study. The findings identified four set of items of entrepreneurial competencies namely pharmaceutical, marketing, research & development (R&D), and human resource and two set of items of organizational performances called profitability and market performance. It was discovered that seven hypotheses out of eight were supported by the empirical research and there were no unexpected results. The study confirmed that those pharmaceutical companies in Vietnam putting more emphasis on marketing, research & development and human resource competencies can expect to earn

higher profitability and market performance. The study also found the positive and significant relationship between pharmaceutical competency and profitability. These findings are consistent with some previous studies.

Chiyoge (2019) examined the role of core competencies on the relationship between co-alignment variables and organizational performance. Research has demonstrated that managerial core-competencies are crucial for success of any organization. The objectives of this study were to determine the relationship between environment, core competence, strategy, structure, and firm performance in profit-oriented parastatals in Kenya and to establish if the strength of the relationship between the co-alignment variables (environment, strategy, structure) and firm performance is dependent on the level of core competencies in profit-oriented parastatals in Kenya. The research design was based on the positivist philosophy of science. The method used to carry out the research a cross-sectional correlational survey. The results of the study showed that there was a positive relationship between co-alignment variables and organizational performance and that core-competence moderated the relationship between the co-alignment variables and firm performance. That is, the higher the core-competencies, the stronger the relationship between the co-alignment variables and performance and vice versa. The unique contribution of this study is the finding that the strength of the relationship between the co-alignment variable[^]and performance depends on the level of core competencies.

Subramanian, Kamalesh and Strandholm (2020) examined the role of organizational competences in the market-orientation-performance relationship: An empirical Analysis. The purpose of this paper is to examine the specific ways in which market orientation of an organization contributes to the creation of organizational competences that lead to superior performance. Survey data from 159 acute care hospitals were statistically analyzed to test 35 the research hypotheses. The findings show that the Market orientation makes a significant contribution to the creation of a number of organizational competences which, in turn, lead to superior performance in the areas of cost containment, growth in revenue, success in retaining patients, and success of new services.

Bani-Hani and AL-Hawary (2019) examined the impact of core competences on competitive advantage: strategic challenge. This study examines the impact of core competences on competitive advantage and it was applied on Jordanian insurance organization. The population for this study consisted of all the Jordanian insurance organizations heads. A simple random sampling technique was used to select the respondents surveyed for this study, a total of 61 questionnaires were administered to respondents chosen from 18 companies; statistical tools were used to test the hypothesis such as: spearman correlation, and multiple regression. The findings indicated that there is a significant positive relationship between core competences and competitive advantage from the sample point of view. The study also showed that

the core competences had a significant impact on competitive advantage.

Ljungquist (2018) studied specification of core competence and associated components: A proposed model and a case illustration”. This study aimed to outline a core competence model by exploring links between core competence and the associated concepts of competences, capabilities, and resources, and by proposing refinements to the characteristics of these concepts. A case study based primarily on personal interviews. The findings suggest that competences, capabilities, and resources are all linked to core-competences; the first two continuously, and the third intermittently; motivate refinement of the competence concept, by adding adaptation competence as governing customer loyalty, and transfer competence as managing transcendental integration; and motivate refinement of the capability concept, by adding capacity as a quality characteristic, and communication as a characteristic that can actively initiate organizational change.

Manar (2018) examined the impact of core competence on organizational performance. An applied study on Paint Industry in the United Arab Emirates, through exploring the impact of Core Competence variables on Performance directly and indirectly through Competitive advantage. This study was applied on Paint Industry in the UAE, and took the samples from the middle and top entrepreneurial s. In order to achieve the objectives of the study, the researcher designed a questionnaire consisting of (42) paragraphs to gather the primary information from the study sample. The

Statistical Package for Social Sciences (SPSS) program was used and Path analysis to analyze and examine the hypothesis. The study came to show high level of importance for the study variables for the companies, and showed significant indirect impact of core competence on performance through competitive advantage.

Ismail, and Abidin, (2018) studied the impact of workers' competence on their performance in the Malaysian private service sector". The study aimed to analyze the impact of workers competence towards their performance in the private service sector. The study sample consisted of 1136 workers who are either executive, manager or professional from three service subsectors, namely, education, health and information and communication technology (ICT) in Selangor, Federal Territory of Kuala Lumpur, Penang and Johor collected in 2017/2018. The study results showed that workers' competence has significant influence towards workers' performance. Besides that, human capital and workers' characteristics also determine workers' performance in the service sector. The study recommended that efforts should be made to enhance an efficient labor force must consist of a human capital package.

Gladson and Augustine (2018) conducted a study on "Managerial competencies and marketing effectiveness in corporate organizations in Nigeria". The aim of the study was to assess the impact of managerial competencies on organization marketing effectiveness. The study used twenty seven item survey questionnaire which was developed and distributed over 84 corporate

organizations in Nigeria that were selected from 2015 edition of the Nigerian stock exchange gazette as a sample of this study. One hundred questionnaires were distributed and collected from key informants in the organizations. The study concluded strong association between managerial competencies and marketing effectiveness of corporate Organizations in the Nigerian context. The study also found that managerial competencies lead to marketing effectiveness in corporate organizations in Nigeria. The study recommends that Nigerian government should ensure a stable economy and make economic policies that will enhance existing business development in the country. Entrepreneurial must consistently motivate its sales team so that it will analyze the customer's needs, seek to satisfy them, and try to adapt the products to these needs, react to competitors' actions and responses.

Methodology

The study adopted survey research design method. This design was adopted to enable the researchers conduct the study using a sample size that is a true representation of the population of interest for data collection, analysis and generalization. The population for this study consists of 5,394 SMEs in Delta State. The sample size of 1036 was determined through the application of a formula developed by Borg and Gall in 1973. A structured questionnaire designed to reflect the popular five (5) point Likert scale of strongly agree; agree; disagree; strongly disagree and undecided, was used by the researcher to elicit information from the respondent. The instrument was face and

content validated. Test re-test method was carried out to achieve reliability. The Cronbach Alpha was used to determine the reliability of the instrument by using Statistical Package for Social Sciences (SPSS). The data generated from the field were subjected to empirical test and the formulated hypotheses were tested with ordinary least squares (OLS) multiple regression statistical tool at 0.05 level of significance.

Data Presentation and Analysis

The data generated in this study were presented and analyzed. Ordinary Least Squares (OLS) multiple regression analysis was used to test and verify the various null hypotheses formulated to guide the objectives of the study and strengthen the analysis. The table shows that 1036 copies of the questionnaire were issued out, 1021

were completed and returned, thus showing a response rate of 97 percent while 15 copies of the questionnaire which represent 3% that were not returned were treated as invalid.

Test of Hypotheses

The tests were conducted to verify the claims of the null hypotheses so as to be properly guided in taking decisions concerning the results of the hypotheses. The hypotheses were set mainly to determine the effect of various competencies on competitive advantage of pharmaceutical companies. Answers to the research questions have already shown that the acquisition of the said competencies are quite necessary to successful organization but the hypothesis aspect is still very necessary to confirm whether the answers are statistically significant or whether they occurred by chance.

Table 1: Summary of the Analysis of Variance (ANOVA) for the Model

Source of Variation	Df	Sum of Squares	Mean Square	F-ratio	Sig.
Regression	4	279.281	69.820	18.624	.000 ^a
Residual	1017	543.569	3.749		
Total	1021	822.850			

a. Predictor: (constant), MMC, TMC, DMC ,

b. Dependent variable: performance of SMEs

Table 1 presents the summary of analysis of variance (ANOVA) for the regression model. The table shows that F-Statistic is 18.624 and the probability level is .000

which is less than $P \leq 0.05$. The implication is that overall; regression model is statistically significant, valid and fit for prediction.

Table 2: Summary of Regression Results

Model	R	R. Square	Adjusted R-Square	Standard Error of Estimate
	0.857	0.741	0.709	0.69527

a. Predictor: (constant), MMC, TMC, DMC,

As could be seen from Table 2, the regression coefficient represented by 'R' has the value of 0.857 and it means that 85.7 percent relationship exists between the dependent and the independent variables. Similarly, the coefficient of determination represented by R^2 has the value of 0.741 and it means that 74.1 percent of the variation in

the dependent variable can be explained by the independent variables in the model. The R^2 being the explanatory power of the model shows that the changes in competitive advantage can be accounted for by the marketing entrepreneurial competency, time entrepreneurial competency, decision-making competency

Table 3: Coefficients of the Predictor Variables, t-values and the Significant Level

Model	Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.
	B	Std. Error	Beta		
1(Constant)	-.187	.207	-	-.741	.454
Marketing competency (X_1)	.189	.047	.693	4.526	.000
Time management competency (X_2)	.178	.059	.754	3.148	.000
Decision-making competency (X_3)	.563	.078	.688	2.873	.000

a. Dependent Variable: performance of SMEs

Table 3 presents the coefficients of the respective variables as well as the t-values and the probability levels. As could be seen from the table also, many of the predictors have high coefficients. For instance, marketing entrepreneurial competency, time management competency and decision-making competency are quite high in

predicting the dependent variable, performance of SMEs. It is also worthy of note that all the expected signs the a priori, obeyed the theoretical expectations.

Re-Statement of the Hypotheses

The formulated hypotheses we re-stated in this section of the analysis to ensure that the objectives as well as the research questions

are well located in the hypotheses which we are testing to establish that the answers to the research questions did not occur by chance but with statistical significance. All tests were conducted at the 0.05 level of significance. That being the probability at which we were willing to risk type I error.

Ho₁: Marketing competency has no significant effect on SMEs growth in Delta State.

Ha₁: Marketing competency has significant effect on SMEs growth in Delta State.

Ho₂: Time management competency has no significant impact on SMEs growth in Delta State.

Ha₂: Time management competency has significant impact on SMEs growth in Delta State.

Ho₃: Decision-making competency has no significant effect on SMES growth in Delta State.

Ha₃: Decision-making competency has significant effect on SMES growth in Delta State.

Interpretation of Regression Results

In interpreting the regression results, we considered the value of the coefficients (X), t-statistic and the significance level. From Table 3 above, the values of the regression coefficients, shows that relative contributions in predicting the dependent variable which in this case is on performance of SMEs. The decision rule about the significance of the coefficient or otherwise is based on the values in the table. The coefficient of marketing competency represented by X₁ in the model has the value of 0.693. This means that when marketing

entrepreneurial competency is increased by one unit, competitive advantage will increase by 6.9 percent when other variables in the entrepreneurial equation (model) are held constant. The t-value of 4.526 and the probability level of 0.000 corresponding to the coefficient show that the coefficient is significant because 0.000 is less than 0.05 significance level set for the study. At 0.05 level of significance and t-value of 4.526, the coefficient is positive and significant. Given the weight of evidence against the null hypothesis, the null hypothesis is rejected while the alternate hypothesis that marketing competency has significant effect on performance of SMEs in the Delta State is upheld. Thus, the significant effect marketing competency exerts on SMEs is a positive one.

In a similar vein, the coefficient of time management competency represented by X₂ in the model is 0.754 and it means that when time management competency is increased by one unit, performance of SMEs will increase by 7.5 percent if other factors in the equation (model) are not allowed to vary. The t-value of 4.526 and the probability level of .000 corresponding to the coefficient show that the coefficient is positive and significant because .000 is less than the significance level 0.05 set for the study. At 0.05 level of significance and t-value of 3.148, the coefficient is significant and positive. Consequently, the null hypothesis is rejected while the alternate hypothesis that time management competency has significant impact on performance of SMEs in the Delta State is accepted.

For the decision-making competency, the coefficient is represented by X_3 in the model and it has the value of .654 which means that when decision-making competency is increased by one unit, firm performance will increase by 7.5 percent if other variables in the model are not allowed to vary. The t-value of 2.873 and the probability level .000 corresponding to the coefficient show that the coefficient is positive and significant because 0.000 is less than 0.05 significance level. At 0.05 level of significance and t-value of 3.148, the coefficient is significant and positive. Consequently, the null hypothesis is rejected while the alternate hypothesis that time management competency has significant positive effect on the performance of SMEs in Delta State is accepted.

Summary of Findings

The results of the regression analysis show that:

Marketing competency had a significant positive effect on performance of SMEs in Delta State (t-value of 4.526; $p=0.000$).

Time management competency had a significant positive effect on performance of SMEs in Delta State (t-value of 3.148; $p=0.001$).

Decision-making competency had a significant positive influence on performance of SMEs in Delta State (t-value 2.873; $p=.000$).

Conclusion

This study examined entrepreneurial competencies and performance of SMEs in the pharmaceutical industry in Delta State, Nigeria. Three distinct areas of

competencies viz marketing competency, time management competency and decision-making competency were examined. Their interactions and interplays with SMEs performance were evaluated. With the multiple regression analysis, the results of the study revealed significant positive relationship between the dependent variables of the study (marketing competency, time management competency and decision-making competency) and the independent variable (SMEs performance). The three metrics of entrepreneurial competencies showed positive correlation with SMEs performance. The results of the regression analysis depicted that the regression model was statistically significant. Based on the result of the analysis the study concluded that enhancing entrepreneurial competencies is crucial for improving SMEs performance in the pharmaceutical industry, particularly in a resource-constrained environment.

Recommendations

Based on the results of the analysis of data, the following recommendation/policy dialogue was made:

1. Marketing competency is one of the major skills for generating revenue for pharmaceutical-based entrepreneurs. Hence, SMEs in the industry should develop effective marketing skills that can enhance their competitive advantages and customer focus.

2. Time is a scarce resource and its judicious use depends on the ability of the pharmaceutical-based SMEs to effectively manage time. Pharmaceutical-based SMEs should train

their staff on how to optimize time toward the achievement competitive advantage.

3. Competency in decision making involves analytical skills, decisiveness, critical thinking, and

Informed decision that pharmaceutical-based entrepreneurs should be acquitted with to make

good decisions in complex situations.

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Financial Expertise's and Corporate Social Disclosure: Evidence from Financial Firms

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Abstract

Recently, there has been an increasing acknowledgment of the significance of incorporating sustainability considerations into corporate governance frameworks, notably in the financial sector, for its transparency, fiscal responsibility, and ethical business practices. As a result, this study investigates the influence of financial expertise on sustainability disclosure practices, and corporate governance mechanisms in financial firms in Nigeria. This study adopts an ex-post facto research design; population of this study covers the twenty-five (25) financial firms' in Nigeria. Data were obtained from annual report, on these banks for the period of five (5) years, 2019 to 2023, the result of this were subjected to regression analysis. The result of findings indicated the t-statistic and corresponding significance level Financial experts' shown that the relationship between the independent variables collectively show strong positive correlations with each of its individual components and dependent variable. On this note, this study recommends that the financial expertise, including sustainability and environmental knowledge. To enhance their understanding of sustainability disclosure practices, training and resources should be provided to financial experts on the board should have experience in sustainability reporting and environmental, social, and governance (ESG) matters. Finally, Nigerian deposit money banks should prioritize transparency and disclosure in their sustainability reporting, ensuring that stakeholders have access to accurate and reliable information about their environmental, social, and governance practices. This would help to promote transparency, accountability, and comparability across Nigerian financial firms.

Keyword: Financial Expertise's, Social Disclosure, GRI and Corporate Governance

1. Introduction

Corporate governance system is considered as one of the essential factors of growth and development (Bello, 2019), its effect of corporate governance on the organisation's performance has been a crucial issue since the last global financial distress (Mustapha et. al., 2020). Many accounting scandals and numerous cases of corporate governance malpractice brought about more attention to corporate governance and social disclosure has become a corporate issue across developed and developing countries. Thus, the alarming rate of stakeholders demanding for sustainability reporting particularly social disclosure are becoming concern to corporate governance. However, the previous studies such as (Wang and Sun 2022); (Ibrahim et al 2021) have demonstrated that inclusion of expertise in the corporate board will pursue for disclosure of this non-financial information. Again recent studies suggested a need for a more comprehensive reporting structure that considers both the economic performance and social and environmental implications of firms (Girón et al., 2020).

However, there is still a persistent trend of companies withholding information about the entire workforce by employment type, employment contract, and region, as well as the gender distribution of those details and other social-economic issues. Additionally, there is a lack of information about the rates of occupational diseases, injuries, missed work, absenteeism, and the total number of work-related fatalities by region and gender. Among other things, programs for risk-control, education, training, and counseling

are available to assist community members, workers, and their families with major illnesses. For example, in Nigeria, according to Alabere et al. (2024), 15% of industrial product companies such as Lafarge and Dangote Cement have published reports on their sustainability initiatives on average. It was previously mentioned that the reporting on sustainability by Nigerian oil and gas firms is deficient. Since social and environmental responsibility is essential to meeting the interests of stakeholders other than shareholders, it is necessary that we take it seriously.

Consequently, the failure of non-disclosure of this information will resulted into investor losing the confidence in the annual report companies (Alabere et al. 2024). Reporting on social disclosure is very crucial to the attainment of the ultimate objective of enhancing long term value to the shareholders (Ghazali, 2010). Specifically, This issue is very fundamental in Deposit money in Nigeria, despite the over loading of staffs in Nigeria banking, the research has shown that, these banks have not been disclosing their social information that are pertaining to the customers, workers and other socio issues (Ullah, et al 2019). Expectedly, non-financial information such as programs for risk-control, education, training, and counseling are available to assist community members and workers welfares are assessed to provide in their annual report without contradicting the future needs of their companies.

Corporate governance is a system set up by the shareholders to increase management

efficiency so as to deliver maximum value (Ghazali, 2010). Board size, board independence, CEO duality, board ownership, and audit committee have all been used in studies from various parts of the world, including Canada, the UK, Singapore, South Africa, and Nigeria, as stand-ins for corporate governance (Bakar et al., 2019; Bello, 2018); Mudiyansele and Swarnapali, 2018; Mahmood et al., 2018; Adeniyi and Fadipe, 2018; Alotaibi et al., 2019). Additionally, Sar (2018) stated that corporate governance aids in striking a balance between the demands of shareholders and those of other stakeholders, including suppliers, customers, communities, and shareholders. Moreover, Saltaji (2013) asserted that the significance of corporate governance stems from its correlation with economic sustainability and performance. Additionally, a well-crafted corporate governance policy's effective implementation is essential to the success of the organization (Buallay and Al-Ajmi, 2019). Thus, to resolved some of these salient gaps. *This study investigates the influence of financial experts on the social disclosure of listed financial firms' in Nigeria.*

2.0 Literature Review

2.1 Conceptual Review

Deloitte (2022) defined social disclosure as the disclosure of an organizations efforts and achievements in addressing sustainability challenges, including metrics on social issues, social responsibility, and ethical governance practices. This definition emphasized on the role play by corporate governance to ensure non-financial

information like social is disclosed. Tsang et al, (2022) argued that sustainability disclosure encompasses the disclosures of climate-related risks, opportunities, and resilience of organizations' strategies, governance, and financial planning to assist investors and stakeholders in assessing their impact. Importantly and for the purpose achieving the objective of this study, this study therefore conceptualize social disclosure as the promotion of the reputation of the companies in the community where their companies activities are carried out by disclosing their contributions and influences on the social position of the community.

In the light of financial experts, Kiyosaki (2019) defined financial expertise as the ability to understand cash flow management, differentiate between assets and liabilities, and create passive income streams. In addition, financial expertise is the ability to manage personal finances effectively, emphasizing the importance of budgeting, savings, investing wisely, and planning for future financial security (Orman, 2019). Financial expertise has also been considered by international professional organizations as a decisive attribute for directors to improve board oversight and monitoring capabilities (Deloitte 2018; Ernst and Young 2020).

The study's assumptions and hypotheses relate to theories like agency theory, stakeholder theory, contingency theory, legitimate theory, and institutional theory. Essentially, The study of (Zheng and Li 2022); (Ohalehi (2020)) is also thought to be significant and to support the prediction and

assumption of legitimate theory. As a result, Dowling and Pfeffer (1975) presented a sound hypothesis that suggested businesses functioned through implicit interactions with society. They explained a dynamic process in which organizations actively control their legitimacy through expectations and norms set by society. Based on these presumptions, it follows that businesses that have financial specialists overseeing their governance should provide sustainable information, such as social disclosure, with their annual report.

2.2 Empirical Review

Despite the fact that a number of studies have focused on the several factors that influence social disclosure for instance, Nguyen et al. (2020) the connection between sustainability reporting and the board of directors. Large listed German companies were the subject of an empirical inquiry of the connection between the board of directors and GRI adherence in sustainability reports. The study used to bit regression on 388 observations from 97 listed German firms from 2013 to 2016. The findings demonstrated a significant negative correlation between board size and the level of GRI-compliant sustainability reporting. The results demonstrate that board committees have a positive impact on GRI compliance for sustainability reporting in sensitive industries and hold true for board size. This study does not reflect the relationship between sustainability reporting and other determinant factors.

This study investigated the role of Chinese audit committees in social responsibility and environmental disclosures, which is similar

to Wang and Sun's (2021) examination of the subject matter. The study also included evidence from the Chinese energy sector. Information was gathered using data from the annual report, and the findings demonstrated that female audit committee members are more successful than their male counterparts in enhancing the disclosures. This might make people want to see more female directors on Chinese audit committees. The factors that the study used make its conclusions amenable to further research. This study contradicts the general standard of GRI without consideration of disclosure 1 and viz and viz not disclosure 0

In the same vein, Mohammadi (2021) the impact of board and audit committee characteristics on corporate social responsibility” Investigated the effect of board and audit committee characteristics on corporate social responsibility [CSR] in Iranian companies listed in stock exchanges. This was a descriptive and applied correlational study. The statistical population for this research includes all companies listed on the Tehran Stock Exchange between the years of 2012 and 2018. A sample of 150 companies was selected during the screening procedure. Multivariate regression and the program reviews 10 were used for data analysis and hypothesis testing. The study's conclusions indicated that the following variables significantly affected corporate social responsibility (CSR): the audit committee's size, independence, members' financial knowledge, and managerial ownership but not CEO duality. The use of CEO in this

study was not discussion thus, this study is subjected to further research.

The impact of audit committee characteristics on corporate social responsibility (CSR) disclosure practices in listed deposit money banks (DMBs) in Nigeria, however, was examined in a recent study by Oyewale and Adubu (2023) titled "Impact analysis of audit committee attribute: corporate social responsibility disclosure practices for deposit money banks in Nigeria." The study's foundation was formed by the notions of agency and legitimacy. The fourteen DMBs that were listed on the Nigeria Exchange Group (NGX) as of the end of 2020 comprised the population of the correlational research design. Particularly, ten DMBs were selected between 2016 and 2020. Regression, correlation, and descriptive statistics were the statistical approaches applied to the collected data. The findings demonstrated that there is no appreciable connection between the CSR disclosure practices of Nigerian DMBs and the attributes of the audit committee. The audit committee used in this study is subjective and it is questionable therefore, further research will reflect the true picture of audit committee.

Adegboye, Ojeka, Alo, and Aina (2020) "Audit committee characteristics and sustainability performance in Nigerian listed banks" investigated the influence of audit committee characteristics on sustainability disclosure among Nigerian listed banks using a fixed effect regression estimator of panel data for ten [10] listed banks in Nigeria from 2014 to 2016. The results

showed a substantial inverse relationship between board size and the degree of sustainability reporting that adheres to GRI. The findings hold true for board size and show that board committees have a beneficial effect on GRI compliance for sustainability reporting in delicate industries. Again, the GRI used is not cleared.

3. Methodology

This study adopted ex-post facto research design. Twenty-five (25) financial firms' in Nigeria were included in this study as of the time of their most recent listing on the Nigeria Exchange Group (NGX). The reason for the use of financial firms' was because of contribution to Nigeria as a country and contribution to per capital income of common man. That information, however, came from the annual reports of each of these institutions for the years 2019 through 2023, a span of five (5) years. Prior to the main estimation, the study presents the descriptive statistics and the correlation matrix. The paper reports on two pre-estimation tests: The Kolmogorov-Smirnov assessment is carried out initially. The largest absolute difference between two empirical data points with the same distribution function, y , is measured by this permutation-based test. The test determines whether the distribution of the used data set is normal.

The second is multicollinearity, indicating a high probability of multicollinearity among the explanatory factors. The test is evaluated using tolerance measurements and Variance Inflation Factor (VIF) testing. The tolerance

evaluates the percentage of an independent variable's variance that is not explained by the other independent variables, whereas the VIF examines the rise in the regression coefficient's variance as a result of collinearity among the explanatory factors. The panel regression analysis for the equation was then completed in order to determine the association between the financial performance and the sustainability reporting metrics. The panel regression analysis for the equation was then completed in order to determine the association

between the financial performance and the sustainability reporting metrics. Regression analysis was used to examine the association between financial specialists and the social disclosure of listed financial firms in Nigeria in order to meet the study's purpose. The Nguyen et al. (2020) model was taken on board and changed in the following ways:

$$SD_{it} = (\beta_0 + \beta_1 FE_{it} + \beta_2 AC_{it} + \beta_3 FM_{it} + \beta_4 ROA_{it} + \beta_5 ROE_{it} + \beta_6 Size_{it} + \beta_7 Leverage_{it} + \beta_8 Industry_{it} + \beta_9 Year_{it} + \epsilon_{it}) \quad (1)$$

Where S.D= Social Disclosure

FE = Financial Expertise's

4. Results

This section discusses the outcome of the result which consists of descriptive statistics, preliminary test carryout and regression analysis.

Table 1: Descriptive Statistics

	N	Mean	Std. Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
FE	125	14.731684	9.0103268	1.006	.217	.882	.430
GRI	125	.880000	.3262692	-2.367	.217	3.662	.430
Valid (listwise)	125						

Table 1 shows the output of the descriptive statistics which provides an overview of the characteristics of each variable. The mean values range from 0.88 (GRI) to 14.731684 (FE), indicating varying levels of central tendency. The standard deviations reveal the spread of each variable, with financial experts (FE) having relatively high dispersions (9.0103268). Moreover, the skewness measures indicate that financial

experts (FE) and social disclosure (GRI) have highly skewed distributions, while AC and the entire independent variables (financial experts) have moderately skewed distributions. Audit committee, on the other hand, has an approximately normal distribution. The kurtosis measures suggest that foreign members (FM) has a highly distribution (59.458), while social disclosure (GRI) has a moderately distribution (3.662).

FE has approximately normal distributions, with kurtosis values close to 0. These results suggest that the variables have different distributional properties, which may impact the choice of statistical tests and analyses.

Additionally, the varying levels of dispersion and skewness may influence the interpretation of correlations and regression analyses.

Table 2.1: Multicollinearity Test

Model	Collinearity Statistics	
	Tolerance	VIF
FE	.978	1.022

a. Dependent Variable: GRI

Table 2.1 provides the test of normality results which indicate that the data digress from a normal distribution. However, the other variables (FE, and GRI) consistently show non-normality across both tests. The results suggest that the data does not meet the assumption of normality, and appropriate actions should be taken to address this in further analysis. Despite the issues with normality and reliability, this study considered multicollinearity test, as it's essential to detect the presence of multicollinearity between independent variables, which can lead to unstable regression coefficients and inaccurate predictions.

Again, table 2.2 The Model Collinearity Statistics indicate that there is low collinearity between the independent variables (FE) in the regression model. The tolerance values for each variable are high,

ranging from to .978, indicating that the variables are not highly correlated with each other. This suggests that the regression model is likely to be stable and reliable, with no issues related to multicollinearity. Furthermore, the Variance Inflation Factor (VIF) values further support this conclusion, with low values ranging to 1.022. These values are close to 1, indicating that the independent variables are not highly correlated and are contributing unique information to the model. As a result, the regression coefficients are likely to be unbiased and accurate, providing reliable insights into the relationships between the variables. Overall, the results provided in Table 2.2 affirmed that the regression model is well-specified, and the independent variables are not suffering from multicollinearity issues. This provides a solid foundation for drawing conclusions and making predictions based on the model.

Table 3: Inferential Statistics

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F Change	Sig. F Change
1	.170 ^a	.029	.021	.3228009	3.679	.057

a. Predictors: (Constant), FE

Tables 3 reflect the result of investigation between the role of financial expertise (FE) within governance structures and sustainability disclosure practices in Nigerian deposit money banks. The model shows a moderate correlation between FE and sustainability disclosure practices, with a correlation coefficient (R) of 0.170. The R-squared value of 0.029 indicates that about 3% of the variance in sustainability disclosure practices is explained by financial expertise within governance structures. The adjusted R-squared value of 0.021 suggests that the model's explanatory power is modest, and other factors also play a role in determining sustainability disclosure practices. The standard error of the estimate

(0.3228009) indicates some variability in the data. The F-statistic (3.679) and p-value (0.057) indicate that the presence of financial expertise (FE) to the model significantly improves the explanation of sustainability disclosure practices, but the significance level is marginal (close to 0.05). This suggests that financial expertise within governance structures may have a modest but notable influence on sustainability disclosure practices in Nigerian financial firms. Hence, the results suggest that financial expertise within governance structures plays a role in shaping sustainability disclosure practices in Nigerian deposit money banks.

Table 4: Coefficient of Determination

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.789	.055		14.219	.000
FE	.006	.003	.170	1.918	.057

Table 4 shows that the out of regression model result that examines the relationship between financial expertise (FE) and social disclosure (GRI). The constant term of 0.789 represents the expected value of GRI when FE is zero. The unstandardized coefficient

of 0.006 indicates a small positive change in GRI for every unit increase in FE. The standardized coefficient of 0.170 suggests a moderate positive relationship between FE and GRI. The t-statistic of 1.918 and p-value of 0.057 indicate that the relationship

between FE and GRI is marginally significant, suggesting that financial expertise may have a positive influence on the level of social disclosure practices in Nigerian firms. The results of Table 4 reveal that there may be a positive relationship between financial expertise and social disclosure in Nigerian firms. This implies that companies with greater financial expertise may be more likely to disclose social information. However, the relationship is only marginally significant, indicating that other factors may also play a role in determining social disclosure practices. Hence, the coefficient of determination can be generated from:

$$\text{GRI} = 14.219 + 1.918\text{FE} + \varepsilon$$

4.1 Discussion of Findings

The analysis based on the role of financial expertise on sustainability disclosure practices revealed a moderate correlation between FE and sustainability disclosure practices, with an R-squared value of 0.029, indicating that about 3% of the variance in sustainability disclosure practices is explained by financial expertise within governance structures. The p-value of 0.057 indicates that the relationship between FE and sustainability disclosure practices is marginally significant; indicating that financial expertise within governance structures may have a modest but notable influence on sustainability disclosure practices in Nigerian financial firms.

The findings of this study contradict with the findings of Abiola et al., (2023). Their study focused on “Financial literacy, financial capabilities, and sustainable business model practice among small

business owners in Nigeria” and findings reveal that financial literacy and financial capabilities practices also have a significant positive impact on firm sustainability. By implication, the presence of financial expertise among board has significant impact on the quality of sustainability reporting.

5. Conclusion and Recommendations

This study examined the relationships between financial expertise, and sustainability disclosure practices in Nigerian financial firms. The findings of this study have implications for policy makers, regulators, and corporate governance practitioners seeking to improve sustainability disclosure practices in Nigerian financial firms. The results suggest that relying solely on financial expertise may not be sufficient to improve sustainability disclosure practices. Overall, the study suggests that other factors may be more important in determining sustainability disclosure practices in Nigerian financial firms, and the interrelationships between financial expertise, and corporate governance mechanisms may be more complex than initially thought. Conclusively, the study's findings highlight the complexity of the relationship between corporate governance mechanisms and sustainability disclosure practices in Nigerian financial firms and found that only the financial expertise within governance structures may have a modest but notable influence on sustainability disclosure practices in Nigerian financial firms. Financial experts on the board should have experience in sustainability reporting and

environmental, social, and governance (ESG) matters. This is achievable by the integration of sustainability considerations into financial decision-making and establishment of clear guidelines and protocols to oversee sustainability disclosure practices. By doing so, financial experts can play a crucial role in ensuring the accuracy and reliability of sustainability disclosure.

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Financial Inclusion and SME's Growth in Ojo Local Government Lagos State, Nigeria

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Abstract

This study looks at the connection between the growth of SMEs in Lagos State's Ojo local governments and financial inclusion. As part of their overall strategy for economic and financial growth, many emerging economies aim to promote financial inclusion, which gives low-income households and small businesses greater access to financial services. Some fund providers refuse to lend to people who don't have collateral, which limits people's and businesses' ability to reach higher income brackets. A survey research design was used to direct the investigation. Five SMEs and five financial institutions that was operational between 2007 and 2017. The acquired data's outcomes were examined using to assess the three (3) developed hypotheses; the Ordinary Least Square (OLS) analysis method is used. The benefits of the Pearson Correlation ($r = 0.9243$; $\alpha = 0.01$) test, which shows a substantial positive relationship between financial inclusion and SME growth, are attested to by the research findings. As expected, there is a positive link between the variables, and the estimated result of 1.2305 indicates that financial inclusion and SME have a positive relationship. This aligns with the priori anticipation. It is determined that there has been a broad usage of SME credit, with many enterprises taking out bank loans, as SMEs credits have expanded on the supply side. Bank loans are the most popular form of external finance and trade credit on the demand side. The study makes several recommendations, including the implementation of strict policy measures to increase SME financial inclusion, which will support financial stability and economic growth in Nigeria, and the need to close the significant difference between deposit and lending rates in order to promote savings.

Keyword: Financial, inclusion, Smes, growth, accessibility, usage

Introduction

The significance of financial inclusion for the growth of small and medium-sized

businesses (SMEs) cannot be overstated.

The importance of financial inclusion has been highly acknowledged by economies as

veritable instrument for capital formation and its importance is not only viewed from prism of capital formation, but also embraced as economic strategy for facilitating transfer of wealth (Bello, Umar & Gawuna, 2023). Financial inclusion is a problem that the government, legislators, and researchers are concerned about. Previous studies have been carried out on the measuring of financial inclusion, bank diffusion, utilization, and accessibility of financing. This study provides a comprehensive overview of a large amount of data and illustrates how SMEs' inability to obtain capital for growth and development often hinders their ability to expand. The local financial system is unable to sufficiently serve the demands of SMEs, which hinders economic growth. This article develops ways to close the financial gap and describes the roles that international and public actors can play in it. It describes the challenges and possibilities faced by international financial institutions. It describes the challenges and chances that international financial institutions may have when working with local intermediaries to assist SMEs in receiving finance in a manner that is both socially and economically sustainable.

Inclusion attempts to enhance access to financial services, Rillo (2021) contends that it is imperative that those who will be directly impacted have a firm grasp of financial affairs. Scholars (Garang, 2021, Ibeachu, 2020; Onaolapo and Odetayo, 2022; Stephen and Sibert, 2021; Godwin, 2021; Pallavi and Bharti, 2023) have acknowledged that financial inclusion is a

solution to the problem of small and medium-sized businesses' expansion on a global level. The primary driving force behind Nigeria's attempts to achieve financial inclusion appears to be the Central Bank of Nigeria (CBN). According to the bank's strategy, microfinance plays a crucial role in providing services to small- and medium-sized business (SMEs) owners who are often overlooked or underserved by traditional financial institutions.

This study indicates that SMEs have limited access to funding, particularly when compared to larger enterprises that have access to commercial debt and microfinance. Serving SMEs is occasionally seen by commercial finance as involving undue risks and costs. Microloans, however, are too little to meet SMEs' capital needs. For instance, if a rural farmer needs a loan of ₦7, 000,000.00, it might be too much for the local microfinance group, but too small, risky, and distant for commercial banks. The finance gap is referred to in this study as the "missing middle." it must overcome specific obstacles in theoretical and practical contexts. Stated differently, attempts to tackle the problem must be motivated by a sense of difficulty. This paper states that financial inclusion is necessary to lower the country's poverty rate. Financial services, such as bank accounts and loans, are essential for the development of wealth and the advancement of the economy. SMEs, or small and medium-sized enterprises, have played a critical role in boosting the economy, creating jobs, and having other beneficial benefits. About 250 million micro, small, and medium-sized

enterprises—both formal and informal—do not, however, have access to credit lines or loans in developing nations. It is estimated that between 55 and 68 percent of formal SMEs are thought to be underfunded. More barriers for SMEs include inefficient or costly business-to-business payment systems, a lack of appropriate risk management solutions (such as insurance), and a lack of funding for expansion. SMEs' owners also consistently have fewer accesses to financing on a worldwide scale. Policy makers have appreciated pivotal role of financial inclusion in improving social cohesion and poverty alleviation, thus, policies have been evolved to advance frontiers of financial inclusion, but the increasing level of global financial crimes seems to be impending tides of progress (Bello, Umar & Gawuna, 2023). Therefore, when it comes to addressing gaps in the understanding of financial inclusion, the quality of regulatory legislation, insufficient policy measures, and a lack of internal synergies to achieve financial inclusion are well-known advisory sagas in all nations. All countries are familiar with the advisory sagas over the quality of regulatory regulations, inadequate policy measures, and lack of internal synergies to implement financial inclusion. Small businesses find it difficult to obtain financing through commercial banks, particularly long-term loans, for a variety of reasons. These reasons include a lack of collateral, difficulties establishing creditworthiness, small cash flows, an inadequate credit history, high risk premiums, underdeveloped bank-borrower relationships, and high transaction costs. This study's main goal is to investigate

Nigeria's small - and medium-sized business (SMEs) growth and financial inclusion. The specific objectives are to;

- i. To investigate how financial inclusion impacts the growth of small and medium enterprises (SMEs) in Nigeria.
- ii. To determine if having access to financial resources always translates to a higher level of financial inclusion.
- iii. To assess how the use of formal financial services and the offerings of Nigerian banks affect the growth of SMEs in Nigeria.

Conceptual Framework

Financial Inclusion

Financial inclusion is the capacity of an individual to access and use basic financial services that are trustworthy, generally straightforward to use, and adaptable, such as insurance, savings accounts, and loans. Nwanko & Nwanko (2014) define the traditional definition of financial inclusion as the availability and utilization of a broad variety of simple, affordably priced financial services. The availability and use of financial services is one of the primary drivers of economic growth (Sharma, 2016). Financial inclusion pertains to sustainable, relevant, inexpensive, and meaningful financial services for the underprivileged population, especially those residing in rural areas. Reducing income disparities, ending poverty, and accelerating economic growth all depend on disadvantaged areas, underprivileged populations, and underperforming industries having access to low-cost, safe credit and other financial services.

Agarwal (2014) argues that easy access to a sound financial system promotes equal opportunities, aids in the more complete integration of socially and economically marginalized people into society, and enables them actively contribute to progress while preventing financial shocks and crises. Therefore, the process of integrating disadvantaged and vulnerable populations into the structured, standardized financial system is known as financial inclusion. Financial inclusion, as defined by Rangarajan (2008), is the process of making inexpensive financial services (such basic banking, insurance, post office scheme, micro finance, mortgage, etc.) available to vulnerable groups, such as lower income groups and weaker parts. The five A's—availability, awareness, affordability, adequacy, and accessibility—indicate the achievement of total financial inclusion, according to Kumar and Sheel (2015), link to the impact of Small Medium Enterprise's

Small and Medium Enterprises (SMEs)

This study emphasizes how small and medium-sized firms (SMEs) are defined differently in different nations. For instance, the European Union (EU) defines a small business as one that employs less than 50 people and has a combined revenue and balance sheet of no more than 10 million euros. A medium-sized company employs less than 250 people, has a maximum of 43 million euros in assets on its financial sheet, and makes no more than 50 million euros in revenue. While value of assets refers to the balance sheet of the firm, which displays the overall worth of the organization, turnover, or sales, is simply the quantity of sales over the course of a specific accounting period

less discounts and sales taxes. In the UK, an industry is considered small if it employs fewer than 200 people and generates less than two million pounds in revenue annually. This definition omits any mention of capital investment. When Americans and Japanese talk about businesses, they usually refer to those with 300–500 employees. Within the United States, the Small Business Administration (SBA) Size Standard Office is in charge of determining the size of SMEs to account for sectoral variations and support initiatives aimed at SMEs. According to SBA (2009), a small business is one that has less than 500 employees.

According to the Central Bank of Nigeria's (CBN) Credit Guidelines, any manufacturing or Service Company in Nigeria that has an annual business turnover of less than N1 million Naira, or N500, 000, which was the cap placed on the Agricultural Credit Guarantee Scheme (ACGS), is considered a small scale industry. SMEDAN (2009) states that SMEs account for 90% of all enterprises in Nigeria. Furthermore, according to Culkin and Smith (2000), small businesses account for 47% of sales, 51% of the GDP, and 53% of the labor force in the private sector. They further argued that in all global economies, SMEs make up the largest business sector. However, SMEs can face significant challenges in acquiring credit and other financial services due to nonprime obstacles such lack of collateral, expense, geographic distance from financial centers, bad or nonexistent credit history, and other factors. SMEs play a vital role in the economy by driving growth, fostering innovation, and providing employment opportunities.

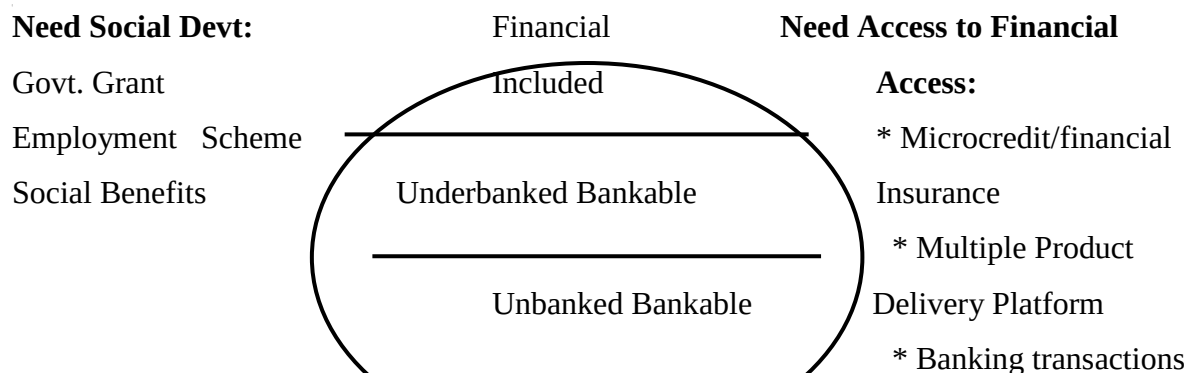
Small and Medium Enterprises Adequate Financial Inclusion

It is desirable to develop policies to achieve sufficient financial inclusion for small and medium-sized enterprises. Innovative financial inclusion is the provision of financial services outside of typical financial institution branches in order to serve those who are financially excluded, especially small and medium firm operators (banks and MFIs). Information and communications technology, non-bank retail agents (such as post offices), and new institutional arrangements are used to achieve this. Apart from customary banking services, this concept also includes insurance policies, savings programs, and alternatives to informal payment methods (Lyman, et al., 2008). Delivery mechanisms under such financing systems include mobile phone-based systems and those that use information and communications technologies, such as Point-of-Sale (POS) device networks, to transmit transaction details between the retail agent, the customer, and the financial service provider in a branchless banking regime. Bank fees,

Know Your Customer levels, and agent banking partnerships are among the new regulations intended to enhance the supply side of financial services delivery.

Literature has also offered numerous suggestions on how to reduce the disparity between the rural poor and financial inclusion. Several of these suggestions—many of which were in the form of models—sought to identify financial exclusion issues exactly as well as the strategies that ought to be employed to raise the impoverished and unbanked to the level of the mainstream. One of these models is the Sustainable Financial Model created by Porteous (2014), which emphasized three key ideas for creating a long-term, sustainable inclusion within an economy: a compliant environment, a business case, and customer expectations. A different model, the Social Development model, depicts society as a pyramid with three segments: the base representing the unbanked, the apex representing the financially included, and the middle representing the underbanked bankable.

Social Development Financial Inclusion Model



Source: Adapted from Porteous (2014)

In this research the base of the pyramid represents the vast majority of people who are not part of the financial system at all and have little to no possibility of ever being so. To get into the under banked bankable category, this population needs social development through government employment programs, subsidies, and social benefits like health and education. Similar to this, in order for the under banked bankable to move into the financially included region, they need access to financial services through banking transactions (deposits, savings, etc.), microcredit/microfinance, micro insurance, multiple product delivery platforms, and the right ecosystem support from the government. The third model, the financial ecosystem model, focuses on how the under banked bankable group's financial integration may contribute to economic growth. Based on the needs of their clients for services like micro insurance, government benefits, microcredit, crop loans, microenterprise finance, and other financial products that support better money management and opportunities for stability and growth, the model advises financial institutions to create a well-thought-out business case.

Theoretical Review

Relevance of the Theories of Financial Inclusion to Small and Medium Enterprises Growth in Nigeria.

Modern Development Theory

Since they provide a traditional approach to financial inclusion and small and medium-sized enterprises (SMEs), which have a favorable effect on economic growth, all of the theories used in this study seem to be appropriate. The best hypothesis to explain

the connection between financial inclusion and the growth of SMEs in Nigeria is the twin theory of supply and demand. Furthermore, the supply side and demand side twin theories are driving inclusive growth in the financial sector. The banks are largely expected to mitigate supply-side mechanisms that prevent people from impoverished and disadvantaged social groups from accessing the financial system. However, this study found that the nation's financial inclusion sustainability remains the cornerstone of economic growth in any nation, since financial inclusion will continue to dictate how quickly the nation's financial excluded population's access to capital will close. According to demand-driven finance theory, certain financial developments react positively to economic activity. Conversely, supply-leading finance refers to the establishment of financial institutions in certain areas before the necessity of their services is determined. The ability for the financial sector to simultaneously stimulate growth and engage in growth-inducing activities is the cornerstone of supply-led and demand-following financial theory. They emphasized that the most important issue for development is how well the financial system supports financial institutions. They made the connection between the availability of initiatives, enterprises, and financial institutions and the production, alteration, and growth of industries and other development-focused activities.

Modern development theory focuses on the analysis of growth, relative income differences, and their persistence in unified models. A significant component of many of

these models is the inefficiencies of the financial markets, which affect critical decisions about the acquisition of material and human capital as well as career trajectories. For example, under theories that prioritize capital accumulation, deficiencies in the financial system dictate the impoverished's capacity to borrow funds for investments in tangible assets or education. Ideas that prioritize entrepreneurship hold those deficiencies in the financial system dictate the extent to which gifted but impoverished individuals may acquire outside funding to start companies. Thus, the development of finance, intergenerational income dynamics, and evolution are closely related. Finance has an impact on the efficiency of resource allocation across the economy as well as the relative economic chances for individuals from relatively wealthy or impoverished backgrounds.

This crucial emphasis on the financial sector in economic modeling has been strengthened by the historical evolution of ideas on the links between economic growth and income inequality. It was long believed that the early stages of economic development would always be accompanied by wealth concentrations and inequality. Theorists argued that because large, indivisible investment projects are required to finance during the development process, rapid growth would demand wealth concentration, resulting in a fundamental trade-off between growth and social fairness. The marginal propensity of the rich to save is higher than that of the poor, they pointed out. More broadly, Andrée (2017) speculated that this trade-off meant growing inequality during the early stages of growth

until the benefits of growth spread throughout the whole economy.

Demand and Supply Side Twin Theory

The relationship between supply and demand According to Chakrabarty (2011), the Twin Theory is a twin pillar framework that promotes financial inclusion and financial literacy. While financial inclusion functions from the supply side by providing the financial market and services that individuals need, financial literacy encourages the demand side. In an inclusive growing economy, both components have to be present and work together. Ullah et al. (2022) assert that the development of the rural economy is critical to inclusive and equitable growth, as well as to releasing the tremendous potential of those who are presently trapped in poverty and the associated sufferings. According to Mehrotra (2009), both supply-side and demand-side factors influence inclusive growth in the financial system. The banks are largely expected to mitigate supply-side mechanisms that prevent people from impoverished and disadvantaged social groups from accessing the financial system. Despite the risks, financing first-time business owners is crucial for financial inclusion and growth. Reduced income and/or asset holdings are among the supply and demand side issues that have a substantial impact on financial inclusion.

Financial Intermediation Theory

Financial intermediation is the degree to which financial institutions mix surplus and deficit spending units (Ndebbio, 2004). One important question that theories try to answer is why investors lend money to

banks, which then lend money to borrowers instead than directly to borrowers. Arguments emphasize banks' capacity to oversee debtors in order to carry out the role of delegated monitoring. Musau (2018). Diamond shows that lower monitoring costs are the source of this comparative advantage. Diamond claims that by issuing secondary financial assets in exchange for the purchase of primary financial assets, intermediaries provide services. If an intermediary provided no services, investors who purchase the secondary securities it created could as well purchase the underlying securities directly and avoid paying the intermediary's fees.

Methodology

Research study

The study employed Ex-post facto Research design. The Ex-post facto research design was chosen because groups with qualities that already exist are compared on some dependent variable. The *Ex post facto* research design examines past occurrences in order to understand a current state. Ex post facto design is justified when manipulating variables is not feasible or ethical, and it relies on retrospective, observational, and correlational data to explore relationships between variables.

Data analysis method

A balance panel data set is constructed because the data set contains all elements observed in all time-frame and static panel data regression analysis is used as the estimation technique because data set for the study is a collection of multi-dimensional data set observed over multiple time periods. The study employed Breusch and Pagan

Lagragian Multiplier (BP-LM) test to determine the most suitable estimates between the pooled Ordinary Least Square (OLS) verse random/fixed effects before subjecting the outcome to Hausman test if need be to select the most suitable model between the fixed and random estimates.

Source of Data

To achieve the objective of the study, the secondary data used in the study have been extensively sourced from World Bank database, Central Bank of Nigeria (CBN), and Nigeria Bureau of Statistics (NBS) and annual financial report of deposit money banks at the same time, a hybrid of data was used where necessary as required during the research.

Population of the Study and sampling Technique

The population of this study comprises, information from Central Bank of Nigeria confirmed that Lagos state has the highest number of small and medium enterprises in the country (CBN, 2013). The population is basically centred on banks and owners of the selected Small-medium scale enterprises (SMEs), which comprises of operators in Bakery business, Confectionary centres and Pastry business that are concentrated in the various divisions of Lagos state, Nigeria.

Though, the population of the SMEs' differs from one location to another in Nigeria but the population size of Lagos state which the study strictly based on and made of 11,663 Small and medium businesses which largely includes owners of above stated businesses. However, the study only concentrates on the owners of the

SMEs in Lagos State of Nigeria, since they are directly involved on the issue of financing as well as expansion of their businesses is concerned.

Model Specification

This study would use the panel data methodological approach described in Porteous (2014) to build the model since it lays out the process for information analysis. The functional relationship between financial inclusions and the growth of SMEs is illustrated by the model provided. Usage (U), one of the model's included variables, will act as the explained variable, and other variables, including banking diffusion and credit availability, will act as the explanatory variables.

The model for the research specified as follows:

$$FI = f(UFS + AC + BD + \epsilon) \dots \dots \dots (1)$$

Where:

Financial Inclusion

= FI

Usage of financial services

= UFS

Access to credit

= AC

Banking diffusion

= BD

Assuming a linear relationship among explanatory variable the explicit form of equation (1) becomes:

$$FI = \beta_0 + \beta_1 ufs + \beta_2 ac + \beta_3 bd + \mu t \dots (2)$$

Where:

β_0 is the intercept of the equation, β_1 , β_2 , β_3 are the parameters of independent variable.

The priori expectation of the model is β_1 , β_2 , $\beta_3 > 0$

Interpretation and discussion of result

The data used for the study are presented and interpreted using the descriptive statistics, followed by the general pooled ordinary least square regression, the random effect generalized least square regression, the fixed effect (within) regression the and lastly the hausman test.

Regression Result for Hypothesis One

	FI	UFS	AC	BD
FI	1.000000	-0.509913	0.009026	0.581990
UFS	-0.509913	1.000000	0.323731	0.600133
AC	0.009026	0.323731	1.000000	0.432590
BD	0.581990	0.600133	0.432590	1.000000

Author's computation, 2024

Table shows the correlation between the variables. Correlation is used to test two variables that are complementary, or one thing is caused by another. From the above results, it can be seen that there is a negative relationship among financial inclusion and usage of financial services, but positive relationship exists between financial

inclusion and access to credit and banking diffusion. Which means holding the above mention variables constant, usage of financial services will have negative impact on financial inclusion while access to credit and banking diffusion will positively influence financial inclusion respectively as shown in table.

Regression Result for Hypothesis Two

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.071218	12.20054	-0.169764	0.8700
FI	3.49E-05	3.35E-05	1.039788	0.3330
UFS	0.359971	0.716111	0.502676	0.6306
BD	1.677602	1.309660	1.280945	0.2410
R-squared	0.301451	Mean dependent var		10.68727
Adjusted R-squared	0.002074	S.D. dependent var		2.738000
S.E. of regression	2.735160	Akaike info criterion		5.125544
Sum squared resid	52.36768	Schwarz criterion		5.270233
Log likelihood	-24.19049	F-statistic		1.006926
Durbin-Watson stat	1.605368	Prob(F-statistic)		0.444427

Author's computation, 2024

The intercept of the result is 2.071218, and was found to be consistent with the A priori expectation as it assumed a positive sign, an indication that there is just few component of Access to capital explained by the independent variables. The positive response reported by the result of the intercept may be connected to the fact that access to credit will have a positive impact on SME growth.

The estimated result shows that financial inclusion is 3.4905 which indicate financial inclusion has a positive relationship with access to credit, it thus conforms with the priori expectation; as positive relationship is expected between the variables. The implication of this is that holding other variables constant, a percentage increase in financial inclusion it will cause a 34% access to credit.

Regression Result for Hypothesis Three

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	15.42215	2.491847	6.189044	0.0005
FI	-1.45E-05	1.79E-05	-0.814061	0.4424
AC	0.096785	0.192540	0.502676	0.6306
BD	0.603126	0.719236	0.838565	0.4294
R-squared	0.420116	Mean dependent var		17.26273
Adjusted R-squared	0.171594	S.D. dependent var		1.558230
S.E. of regression	1.418251	Akaike info criterion		3.812014
Sum squared resid	14.08006	Schwarz criterion		3.956703
Log likelihood	-16.96608	F-statistic		1.690459
Durbin-Watson stat	1.810106	Prob(F-statistic)		0.255095

Author's Computation, 2024

The intercept of the result is 15.42215, and was found to be consistent with the A priori expectation as it assumed a positive sign, an indication that there is just few component of access to capital explained by the independent variables. The positive response reported by the result of the intercept may be connected to the fact that usage of financial service will have a positive impact on SME growth. The estimated result shows that financial inclusion is -1.4505 which indicate usage of financial service has a positive relationship with financial inclusion, it thus conform with the priori expectation; as positive relationship is expected between the variables. The implication of this is that holding other variables constant, a percentage reduction in financial service will cause a -14% usage of financial service. According to the result, access to credit has a figure of 0.359971 which indicates that access to credit has a positive relationship with usage of financial service. This means

that holding all other variables constant, a percentage increase in the usage of financial service will cause a 35% increase in financial service, this comply with the A priori expectation, because a positive relationship is expected between the two variables, as it is expected that usage of financial service should positively influence access to credit.

According to the result, banking diffusion has a figure of 0.603126 which indicates that banking diffusion has a positive relationship with usage of financial service. This means that holding all other variables constant, a percentage increase in banking diffusion will cause a 60% increase in usage of financial service, this comply with the priori expectation, because a positive relationship is expected between the two variables, as it is expected that banking diffusion should positively influence usage of financial service.

Discussion of Findings

This study was aimed at examining the impact of financial inclusion on Small and Medium Enterprises on the Nigerian economic growth. Findings from the empirical results in model one (1) to three (3) results indicate relationship between financial inclusion in Nigeria, poverty reduction, economic growth, and financial intermediation over the thirty (30) years period of study.

In this study, it is summarized among others model that one is statistically significant since the Prob. From the table, it shows that F-statistics is 3.031131; and Prob (F-statistic) is 0.102618. We, therefore, reject null hypothesis and accept alternative hypothesis. This is because it is greater than the critical values or the tabulated value. Thus, it implies that the model is statistically significantly different from zero. In other words, the explanatory variables jointly considered are significantly important in explaining variation in the dependent variable; we can however conclude that banking diffusion has significant influence on SMEs growth in Nigeria.

There is a negative relationship among financial inclusion and usage of financial services, but positive relationship exists between financial inclusion and access to credit and banking diffusion. Which means holding the above mention variables constant, usage of financial services will have negative impact on financial inclusion while access to credit and banking diffusion will positively influence financial inclusion respectively. The

intercept of the result is -0.408110 , and was found to be consistent with the A priori expectation as it assumed a negative sign.

The estimated result shows that financial inclusion is 1.2305 which indicate financial inclusion has a positive relationship with SME, it thus conform with the priori expectation; as positive relationship is expected between the variables. The implication of this is that holding other variables constant, a percentage increase in banking diffusion will cause a 12% increase SMEs growth.

Conclusion

Based on the analyses and findings in this study, it is well known that financial inclusive growth has recently become one of the world's most important policy goals, and economists and finance analyst have given attention to small and medium enterprises and financial inclusion. SMEs play a crucial role in boosting the economy, increasing employment, and creating industries. Therefore, this study analyzed financial inclusion in Nigeria especially in Lagos State metropolis on the basis of SMEs in terms of supply side, demand side and policy perspectives.

Recommendations

In accordance with the purpose of the study to examine the financial inclusion and small and medium enterprises (SMEs) growth in Nigeria, the following recommendations are therefore made.

- i. Providing incentives for banks and other financial institutions to

- develop SME-friendly products and services.
- ii. Encouraging competition among financial service providers to enhance service quality and reduce costs
- iii. Creating awareness campaigns to highlight the advantages of using formal banking services over informal ones.

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Effect of Compensation and Work Environment on Employee Performance Among Public Secondary School Teachers in Kano: The Role of Work Motivation

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Abstract

The study examines the effect of compensation and work environment on employee performance among public secondary school teachers in Kano, Nigeria. The role of work motivation. The population of the study consists of 11834 teachers and a sample size of 372 was drawn from the population. Questionnaire was used as the instrument for data collection. Both descriptive and inferential statistics were used for the analysis. The findings revealed that there is a significant positive relationship between promotion, training and organizational culture on employee performance, reward has no significant positive relationship with employee performance, work motivation was found to mediate the relationship between promotion, training, organizational culture and employee performance. Therefore, the study recommends that employee welfare should be given considerable attention, and teachers should be promoted as at when due. In addition, training should be provided so as to acquire new skills and new strategies which will enhance teachers' performance.

Keywords: Employee performance, reward, promotion training and organisational culture

1.0 Introduction

Employee performance is critical and often associated with the survival of any organization (Baritore, Ikenna & Ibrahim, 2022). In the age of global competition, it is essential to identify and retain the efficient, competent and knowledgeable employees in an organization by developing and maintaining an effective compensation program for getting the best

job performance from the employees (Akter & Moazzam, 2016). Teachers' performance is vital as such poor performance by teachers can seriously compromise teaching quality, learning outcomes, and social development (Bennell & Akyeampong, 2007). Teachers' performance can be measured by the overall performance of the learners, students' outcomes on the average level most

especially in major external and internal examinations (Uguguo & Uboh, 2020). UTME 2024 breakdown reported that only 27 percent of 1.9 million who sat for JAMB scored above 200 marks. The performance of Nigerian secondary schools' external examination showed 98 percent failure rate in 2018 November/ December Senior Secondary Schools Certificate Examination conducted by the National Examination Council (NECO-SSCE); out of the total number of 230,682 candidates who sat for the examination, only 4,223 obtained credits level passed and above in five subjects including English and Mathematics (Bello & Olugbornila, 2018). Kano state recorded 25.03 percent, 25.65 percent, 39.54 percent, 46.11 percent and 54.64 percent in the year 2014, 2015, 2016, 2017 and 2018 respectively, with a mean percentage of 38.19 percent and appears to be 22nd position. It has been recorded that over 90 percent of Kano state students failed qualifying examination in 2021 (Daily Trust, 2021). According to the record by the Kano state zonal office of Teachers Registration Council (TRC), 26,154 teachers, representing 65.3 percent of teachers in primary schools are not qualified to teach, put in arithmetic only 13,899 representing 34.7 percent out of 40,053 are registered and certified by TRC. Available data obtained from the Kano state public secondary schools board shows that out of the 16,482 teachers under the payroll, 10,996 representing 66.7 percent are not qualified to teach. While only 5,486, representing 33.3 percent are qualified to teach. A total of 56,535 teachers who work in both public primary and post primary are not qualified

to teach; out of this figure, 37,150 teachers representing 65.7 percent are not qualified to teach. Additionally, of this figure, 19,385 about 34.3 percent possess the basic requirements for teaching (Salau, 2022). In the contemporary world, institutions of learning now understand the great benefit that can be realized by incorporating rewards, conducive working conditions, motivation, organizational culture, and performance in their educational objectives (Bukhuni, 2022). Viable and quality education is dependent on well qualified, trained, adequately remunerated and motivated teachers. The willingness of a teacher to discharge his/her duties effectively is dependent to a great extent on his/her motivation. Most teachers engage in other financial ventures/activities with the resultant effect ranging from teachers' absenteeism and attrition which has affected teaching and learning drastically (Uzochukwu, Ifeoma & Henry 2023). Teachers are poorly paid and de-motivated. Teachers in public schools have to cope with, poor pay, poor promotional opportunities, and lack of proper training (Olupohunda 2016). In addition, motivating work environments provide conditions that enable teachers to perform effectively, making best use of their knowledge, skills and competences and the available resources to provide high-quality services.

Teachers in Nigeria are becoming increasingly unhappy, frustrated, uninspired and demotivated, indeed teaching profession in Nigeria is neglected, it then seems as a curse to be a teacher since you cannot compete with a colleague in any other sector

on any grounds despite possession of the same educational qualification and years of experience among others. (Uzochukwu, Ifeoma & Henry, 2023). The long-term effects of decreased teachers' effectiveness in the teaching and learning are better imagined than experienced. It is no longer hidden or news that, many people observed low productivity in the output of teachers in the various public secondary schools in Kano state as a result of poor compensation and motivation to the entire workforce (Abdulhakeem, 2020). Also, affected stakeholders at state government level provide limited technical support or supervision; thus, the teaching-line keep losing its best workforce to institutions such as Customs service, banks, oil companies, and other federal government parastatals that offer higher pay and greater prestige (Obike, Ukala & Nwabueze 2019).

It was against the above-stated background that this study is designed to assess the mediating role of work motivation on the relationship between compensation and work environment on employee performance with special attention to public secondary schools' teachers in Kano State, Nigeria. A mediator was incorporated due to consistent relationship from the previous studies finding. Work motivation was suggested to be a mediator by the previous researchers thus; Kumari and Kumar 2023; Ashraf, Ali and Abbasi 2023; Siswato et al 2021.

Hypotheses of the Study

The following hypotheses to be tested are stated in null form:

- H₁:** There is no significant relationship between reward and employee performance in Kano state public secondary schools.
- H₂:** There is no significant relationship between promotion and employee performance in Kano state public secondary schools.
- H₃:** Training does not significantly affect employee performance in Kano state public secondary schools.
- H₄:** Organizational culture does not significantly affect employee performance in Kano state public secondary schools.
- H₅:** There is no significant relationship between work motivation and employee performance in Kano state public secondary schools.
- H₆:** Work motivation does not mediate the relationship between rewards and employee performance in Kano state public secondary schools.
- H₇:** Work motivation does not mediate the relationship between promotion and employee performance in Kano state public secondary schools.
- H₈:** Work motivation does not mediate the relationship between training and employee performance in Kano state public secondary schools.
- H₉:** Work motivation does not mediate the relationship between organizational culture and employee performance in Kano state public secondary schools.

2.1 Literature Review

2.1.1 Rewards and Performance

Kamwenji (2024) conducted a study on reward management practices and employee performance in the State Corporations in Kenya. The study used descriptive and explanatory research designs and targeted 6 respondents from the 123 sampled state corporations totalling to 738. Lavanya, Varalakshmi and Sruthi (2024) conducted a study on Effectiveness of reward system on the employee's performance, the study consists of sample size 200 respondents, selected by using simple random sampling technique. Bolatito and Mohamoud (2024), conducted a study on Reward management and employee performance in Somalia, the study used secondary data and the findings revealed that reward has a positive and significant effect on employee performance.

Ashraf, Ali and Abbasi (2023) conducted a study on Impact of reward on employee performance in the workplace in Pakistan, linear regression was used for the analysis and findings of the study revealed a positive and significant relationship between reward and employee performance. Mdhlalose (2023) conducted a study on A Comprehensive Analysis of the effect of employee rewards on employee performance, Findings revealed positive significant relationship. The study of Kamwenji (2024); Lavanya et al (2024); Ashraf Ali and Abbasi, (2023) were all conducted in Asian countries with only dependent and independent variables while present study is conducted in Nigeria with a mediator inclusive. Present study will provide additional support for the previous studies. The study of Bolatito and

Mohamoud (2024) use secondary data which is not reliable sometimes, while present study uses primary data which is more accurate and reliable.

2.1.2 Promotion and Performance

Nyaga and Omuya (2024) conducted a study on the effect of promotion practices on employee performance in the National bank of Kenya. Descriptive survey design was used with the target population of 215 staff out of which 144 was sampled, questionnaire was used as an instrument for data collection and descriptive and inferential statistics inform of tables and chart were used for the analysis, the study found that promotion has positive and significant influence on employee performance. Gultom, Adnan and Hadiyani (2023) conducted a study on the effect of promotion on performance of personnel in the jurisdiction of the Simalungun police. A total of 200 personnel were used as a sample size. The finding of the study indicates a positive significant effect of promotion and performance. Duru, Eze, Yusuf and Iyaji (2023) study the relationship between promotion and employee performance, the data was derived from a structured questionnaire from 337 employees at the university in Abuja. Madugu and Ogundeji (2023) conducted a study on promotion and job satisfaction on performance the study uses secondary sources of data, content analysis was used for data analysis, findings of the study revealed that effective promotion policy and implementation increase staff morale in discharging their responsibilities which lead to high employee performance The findings indicate that there

is a significant positive relationship between promotion and employee performance. Muhati and Makhamara (2023) studied employee promotion on employee performance at the technical university of Kenya, Nairobi city county. The studies of Nyaga and Omuya (2024); Gultom, Adnan and Hadiyani (2023); Muhati and Makhamara (2023) were all conducted in Asia and other African countries which is quite different from Nigeria, using different sectors and different methodology. The study of Madugu and Ogundeji (2023) used secondary data which is unreliable and sometimes outdated, while present study uses primary data which is collected directly from the source which eliminates the risk of data being misinterpreted, misuse or outdated. Present study is expected to give better result due to the use of primary data and methodology adopted. PLS -SEM was use for the analysis which has the ability to analyse complex causal relationships.

2.1.3 Training and Performance

Sanda, (2024) study effect of training and development on employee performance in some selected SMEs in Maiduguri Metropolis, population of the study comprises of 250 and a sample size of 150 was drawn. Simple regression analysis was used. Finding of the study revealed that there is a significant effect between training and employee performance. The study of Sanda (2024) was done in some selected small-scale enterprises which is quite different from educational sector which the present study was conducted, Nzimakwe and Utete (2024) conducted a study on staff training and employee performance: Perspective of the workplace, the study was

conducted in South African transport sector. The study adopted an exploratory research design using unstructured interview as an instrument for data collection, the key findings revealed that training has a positive influence on employee performance. The study of Nzimakwe and Utete (2024) was conducted in South Africa and in the transport sector, interview was used as an instrument for data collection while present study was conducted in Nigeria educational sector using questionnaire as an instrument for data collection. Arulsamy Singh, Kumar, Panchal, and Bajaj (2023) study Employee training and development enhancing employee performance, finding of the study revealed that training strongly influence performance. Mohd and Bulengela (2023), conducted a study on staff training and employee performance at Dar es salaam. Most of the previous studies were conducted outside Nigeria using different methodologies. Previous studies limit their studies using training and employee performance variables alone, while present study incorporates a mediator which can give the actual relationship.

2.1.4 Organizational Culture and Performance

Katabarwa, (2024) studied organizational culture and its impact on employee performance in Uganda police force Kampala district, the study uses descriptive correlative investigation research design. Sample size consists of 252 employees using simple random and purposive sampling technique. Descriptive and correlation were used for the analysis, finding of the study revealed positive and significant relationship

between organisational culture and employee performance. Marwaha, Sharma and Sharma (2024) conducted a study on impact of organizational culture on employee performance in hotel industry, the study used descriptive design, sample of the study is 100 employees and correlation was used for the analysis, result of the study shows that organizational culture has influence employee performance. Artan and Shupta (2024) did a study of impact of organizational culture on employee performance in private sector in Bangladesh. Cross sectional design was used and the findings revealed a positive and significant impact exist between organizational culture and employee performance. Nyior (2024), studied effect of organizational culture on employee performance, mediating role of strategy. The study used cross sectional survey design. 246 employees from public organization were used as a sample size.

Findings shows a positive and significant effect between organisational culture and employee performance. Hamdan, Ardiyani, Maulani and Solihat (2024), conducted a study on influence of organizational culture on employee performance, the study was conducted in Indonesia with 58 participants, correlation was used for the analysis. findings revealed that organizational culture significantly and positively influence employee performance. Previous studies were conducted in Asian countries, using dependent and independent variables while present study incorporate a mediating variable. Present study used PLS - SEM for the analysis while previous studies used correlation. Present study will provide better result because the sample size is larger than the previous studies and the method of analysis is assumed to be better also.

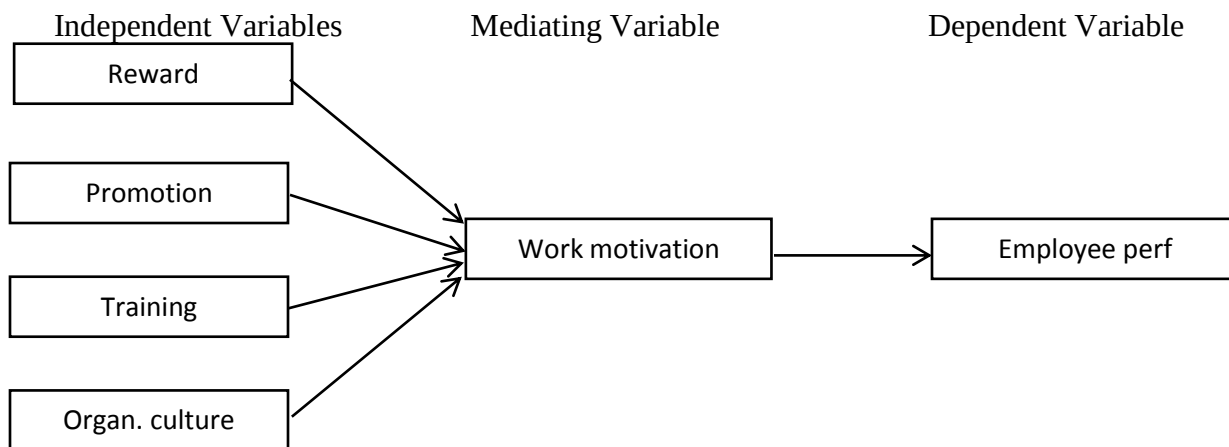


Figure 2.1 Conceptual Framework

2.2 Theoretical Review

Social exchange theory was used as underpinning theory. Social exchange theory (Gouldner, 1960 & Blau, 1964) maintains

that people live as social organisms where everyone depends on one another, it is a situation of mutuality where one provides something to others and expects something

in return from them (Cheung & Law, 2008). According to them, the law of reciprocity maintains that in a social relationship, individuals pay others in kind, returning good with good and bad with bad (Gouldner, 1960; Bateman & Organ, 1983; Karatepe, Ozturk, & Kim, 2018).

In the organizational context, social exchange occurs when an employee offers their service to the organization and in return, they also expect monetary and non-monetary compensation (Virgolino, Coelho, & Ribeiro, 2017). Because of this kind of expectation, when employees receive goodwill from their organization, that is, when their organization meets their needs in good manners, they become more indebted towards the organization by developing a sense of obligation to do good to the organization in return (Swalhi & Zgoulli, 2017). Whereas, if they receive bad treatment from their organization, they may attempt to retaliate and refuse to perform in a better way, it is assumed that when employees get reward, promotion, training from their organisation they will perform better in the workplace.

3.0 Methodology

This research uses quantitative research by developing reliable and valid research instruments. The study used descriptive survey research design. The variables in this study consisted of reward, promotion, training, organizational culture, work motivation and employee performance as measured by a Likert scale instrument 1 - 5. The scale represented a rating from 'strongly disagree' to 'strongly agree'. 520 teachers

were selected from Kano State Senior Secondary School's Management Board which comprises of 372 original sample size of 11,834 using research advisor, (2004) plus 40% of the sample size which is equivalent to 148, which is suggested by Salkind, (2013) to be added to take care of the non-response rate, this gives a total of 520. Cross sectional survey was used. 520 questionnaires were distributed, out of which 365 questionnaires were found to be usable. In the test phase, the measurement of the construct uses the validity and reliability test of the instrument. Both descriptive and inferential statistics were used for the analysis. Preliminary analysis was conducted normality, linearity, multicollinearity, homoskedasticity, missing value were all within the acceptable threshold.

From the missing value analysis conducted out of 11, 270 (245 cases multiplied by 46 items) data points, 21 cases are randomly missed, making a total of 0.18% of the entire data set. Out of which employee performance has 5 missing values, reward has 3 cases, promotion has 3 cases, training has 5 cases, organizational culture has 2 cases and lastly work motivation has 3 cases. Despite the missing data in the study, Tabachnick & Fidell, (2013) opine that missing data of up to 5% or less is not large enough to be a problematic with the result of the data analysis especially if the pattern of the missing data occurs randomly. The assessment of the questionnaire items was carried out by Confirmatory Factor Analysis (CFA) to test the relationship of constructs with indicators based on the theory

developed. Cronbach's Alphas is also used to test construct reliability. CFA test results show that all items in questionnaire were valid because the loading factor of each item > 0. 5. The value of Construct Reliability ≥ 0.7 and Variance Extracted ≥ 0.5 for each construct. CFA test results to

analyze the validity and reliability of the construct; the results concluded that all indicators to measure variables are valid and reliable to analyze research data. Structural Equation Modeling (SEM), using Smart PLS was used to analyze data and answer the study hypotheses.

4.1 Result and Discussions

Table 4.1: Descriptive Statistics for Latent Variables

Latent Construct	No. of Items	N	Mean	Standard
				Deviation
Reward	5	365	2.468	0.70038
Promotion	8	365	3.227	0.62977
Training	7	365	3.239	0.7851
Organizational Culture	9	365	3.589	0.73258
Work Motivation	10	365	3.553	0.6759
Employees Performance	7	365	3.386	0.63084

Source: SPSS Output, 2024

For easier interpretation, the five-point scale used in the present study was classified into three categories, namely, low, moderate and high. Scores of less than 2 (3/3 + lowest value 1 is considered as low; scores of 3 (highest value 4 - 3/3) is considered high, while those between low and high scores are considered moderate (Sassenberg, Matschke, & Scholl, 2011). Table 4.5 above shows that the overall mean for the latent variables ranged between 2.468 to 3.589 and standard deviation 0.70038, 0.62977,

0.7851, 0.73258, 0.6759 and 0.63084 respectively. This suggests that overall respondents tended to have a high score for all the latent variables under consideration (Reward, promotion, training, organizational culture, work motivation and employee's performance). The descriptive statistics further suggest that most of the respondents agreed with the issues raised based on questionnaires and disagreed few issues on reward which returned a mean value of 2.468(2.5).

4.2 Discriminant Validity

Table 4.2 Heterotrait-Monotrait Ratio (HTMT) – Matrix

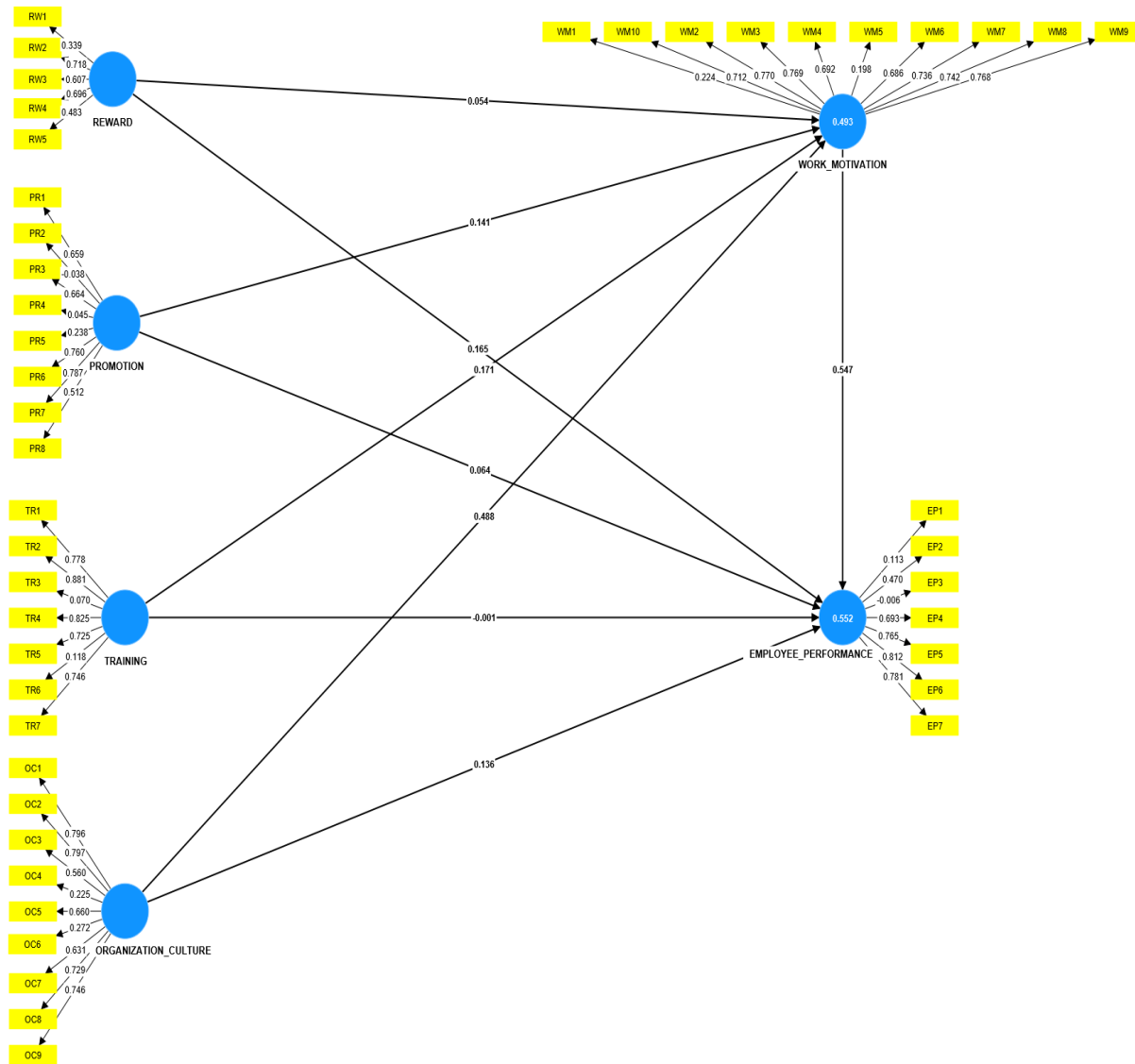
Latent Variables	EP	OC	PR	RW	TR	WM
EP						
OC	0.708					
PR	0.638	0.614				
RW	0.711	0.317	0.625			
TR	0.597	0.652	0.616	0.444		
WM	0.812	0.762	0.613	0.364	0.602	

Source: Smart PLS Output, 2024

The above table values of discriminant validity test show that the root of the Average Variance Extracted in each aspect is higher than the root of the AVE in other aspects. So, the discriminant validity criteria based on Fornell & Larcker (1981) are met. Secondly, for the purpose of this study, the

highest HTMT values is .812 belonging to work motivation which falls below the threshold value suggested by Gold et al. (2001) thus the HTMT inference does not indicate discriminant validity problems in this study.

Fig.4.2 Measurement Model



Initially, some items have to be deleted because they exhibit low factor loadings below the acceptable threshold of 0.5.

4.3 Structural Model and Hypotheses Testing

Table 4.3 TOTAL DIRECT Effect

Hypothesis	Relationship	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values	Decision
H1	RW -> EP	0.039	0.041	0.029	1.333	0.182	Supported
H2	PR -> EP	0.111	0.111	0.039	2.856	0.004	Not supported
H3	TR -> EP	0.131	0.128	0.049	2.665	0.008	Supported
H4	OC -> EP	0.343	0.346	0.050	6.865	0.000	Not supported
H5	WM -> EP	0.713	0.714	0.036	20.083	0.000	Not supported

Source: Smart PLS Output, 2024

Hypothesis 1 states that there is no significant relationship between reward and employee performance. Going by the analysis, we found that there is no significant relationship between reward and employee performance at ($\beta = 0.039$, $t = 1.333$, $p = 0.182$), thus supporting Hypothesis 1. Thus, H_{01} raised in the study was accepted. The findings provide empirical support for the hypothesis and are thus, contrary to previous studies Kamwenji (2024); Lavanya, Varalakshmi and Sruthi (2024); Bolatito and Mohamoud (2024); (Nwamuo 2019); Moreso, Ashraf, Ali and Abbasi (2023); Onuegbu and Ngige (2018). Based on the theory of social exchange an employee is determined to perform better when he/she receives good reward and other working conditions in return for service rendered.

Hypothesis 2 states that there is no significant relationship between promotion and employee performance. The result of the findings revealed that there is a significant relationship between promotion and employee performance among public secondary school teachers in Kano state ($\beta = 0.111$, $t = 2.856$, $P = 0.004$). The finding revealed that employees who perceive greater chances of promotion demonstrated higher level of performance in their tasks. Therefore, hypothesis 2 was rejected. This is in line with the study of Nyaga and Omuya (2024); Gultom, Adnan and Hadiyani (2023); Madugu and Ogundeji (2023); and many more. Secondary school teachers need to be promoted as at when due, lack of promotion creates tension and feeling of injustice in an organization. The finding of the study revealed a positive and significant relationship between promotion and

employee performance. Therefore, management of secondary schools in Kano State should devise a means of promoting staff immediately when they are due, so as to motivate teachers thereby increasing their performance.

Hypothesis 3 states that there is no significant relationship between training and employee performance. The finding of the study revealed that there is a significant relationship between training and employee performance ($\beta = 0.131$, $t = 2.665$, $P = 0.008$). Therefore, hypothesis 3 was not supported; it was rejected since a significant relationship exists between organizational culture and employee performance. This indicates that training makes teachers to perform better. This is in line with the study of Sanda, (2024); Nzimakwe and Utete 2024); Arulsamy Singh, Kumar, Panchal, and Bajaj (2023); Baritore, Ikenna and Ibrahim, (2022). Training whether on the job or off the job training has a great impact on employee as it enhances the performance of an employee. Management should provide periodic training in terms of seminars and workshops to make teachers up to date for a better performance in the organization.

Research hypothesis 4 states that there is no significant relationship between organisational culture and employee performance, the hypothesis was rejected due to the fact that the findings revealed that there is a significant relationship between organisational culture and employee performance with a strong correlation at ($\beta = 0.343$, $t = 6.865$, $P = 0.000$). This outcome suggests that higher levels of organization culture were associated with increased

employee performance. This is in line with the study of Katarbarwa, (2024); Marwaha, et al (2024); Hamdan, et al, (2024); Kuswati (2020). An organization is a social setting whereby employees interact and benefit from each other. Without a good relationship within the organization, an employee may not find it comfortable to work in that environment. So, it is expected for the Secondary Schools Management Board to provide a good and cordial relationship within the work environment. Principals and other administrators in the schools should create a good atmosphere in the workplace, this will increase teachers' happiness and improve performance as well. Hypothesis 5 stated that there is no significant relationship between work motivation and employee performance. The results of the findings revealed a positive significant relationship as indicated by a strong correlation0. ($\beta = 0.713$, $t = 20.083$, $P = 0.000$), based on threshold value of $t > 1.96$ and $P\text{-value} < 0.05$ the result did not support Hypothesis 5. The findings suggest higher level of work motivation can lead to higher performance. So, the null hypothesis was rejected. The findings suggest higher level of work motivation can lead to higher performance. This is line with the with the study of Ogari (2021); Alantali and Zainol (2023); Suryani, Lubis and Majid, (2020). The management of Kano state Secondary Schools Board should provide necessary motivation to employees which can increase employee morale and willingness to perform better. Failure to do so may lead to poor performance.

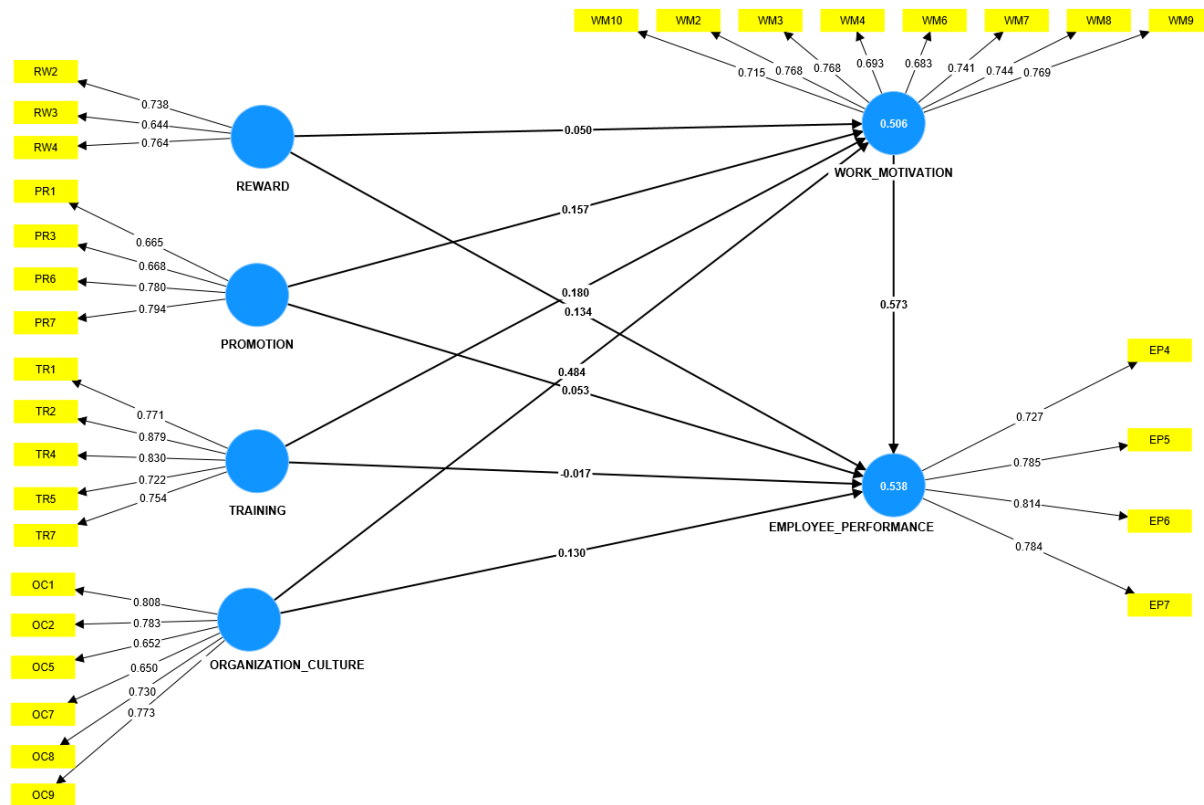


Fig.4.3 Structural Model

Factor loadings represent the strength of the relationship between each item and its underlying construct. In this study, 0.6 is employed as the threshold value for acceptable factor loadings. Looking at the results, most items exhibit strong factor loadings above the threshold, indicating their substantial contribution to their respective constructs. Overall, the majority of items demonstrate robust factor loadings, reinforcing the validity of our measurement model. Threshold: Strong correlations considered are above 0.6 (Hair et al, 2010).

4.4 Assessment of Effect Size (f²)

Ramayah et 'al., (2018) explained that the difference of the R² values for estimating the model with and without the predecessor construct is known as the effect size. Effect size indicates the relative effect of a particular independent latent variable on dependent latent variable (s) by means of changes in the R-squared (Chin, 1998). It is calculated as the increase in R-squared of the latent variable to which the path is connected, relative to the latent variable's proportion of unexplained variance (Chin, 1998). Thus, the effect size is calculated using formula below as recommended by (Ramayah, et 'al., 2018).

$$\text{Effect Size: } f^2 = \frac{R^2 \text{ Included} - R^2 \text{ Excluded}}{1 - R^2 \text{ Included}}$$

Table 4.4 Effect size of the latent variables on the structural model for this study

R Squared Adjusted	Included	Excluded	F squared	Effect size	Remark
Employees Performance:					
Organizational Culture	0.508	0.109	0.122	0.399	Medium
Promotion	0.508	0.199	0.251	0.309	Medium
Reward	0.508	0.177	0.218	0.331	Medium
Training	0.508	0.309	0.451	0.199	Medium
Work Motivation	0.508	0.501	0.477	0.007	Small

Source: Smart PLS Output, 2024

Cohen (1988) describes that f^2 values of 0.35, 0.15 and 0.02 are considered large, medium, medium and small effect sizes respectively. As indicated in table above, the effect sizes for the Organizational culture, promotion, reward, training and work motivation on employee's performance were

0.399, 0.309, 0.331 and 0.007, respectively. Hence, the effects sizes of these four exogenous latent variables on endogenous variable employee's performance can be considered as large, medium, medium and small respectively.

Table 4.5 Specific Mediation effects

Hypothesis	Relationship	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values	Confidence interval (BC)		Decision
							LL	UL	
H6	RW -> WM -> EP	0.039	0.041	0.029	1.333	0.182	0.019	0.096	Supported
H7	PR -> WM -> EP	0.111	0.111	0.039	2.856	0.004	0.035	0.186	Not supported
H8	TR -> WM -> EP	0.131	0.128	0.049	2.665	0.008	0.038	0.233	Not Supported
H9	OC -> WM -> EP	0.343	0.346	0.050	6.865	0.000	0.244	0.440	Not supported

Source: Smart PLS Output, 2024

Hypothesis 6 states that work motivation does not mediate the relationship between reward and employee performance. The results show that there is no mediating effect. There was no statistically significant relationship between reward and employee performance when considering the mediating effect of work motivation ($B = 0.028$, $t = 1.189$, $p = 0.234$). H_0 : 6 is accepted. This is contrary to the study of Siyum 2020; which revealed positive significant relationship between reward and employee performance.

Hypothesis 7 states that work motivation does not mediate the relationship between promotion and employee performance the result of the study hypothesis indicate partial mediation with a beta value of ($\beta = 0.111$, $T\text{-value} = 2.856$, $P\text{ value} = 0.004$). The indirect effects 95 % boot confidence interval bias corrected (LL = 0.035 and UL = 0.186), which do not straddle a 0 in between indicating there is mediation (Preachers & Hayes, 2008). This suggests that promotion has a positive indirect effect on employee performance through the mediation of work motivation. H_0 : 7 was not supported; it was

therefore rejected. The findings regarding mediating effect represent yet another contribution of this study. A possible explanation of the mediating effect of work motivation could be from the theoretical perspective rather than the prior empirical studies. The present mediation can be supported by social exchange theory (Blau,1964) in the sense that when employees feel that their organization are treating them fairly regarding their welfare (reward, promotion and other incentives), they develop a sense of obligation to pay back in a number of ways possible to please an organization.

Hypothesis 8 states that work motivation does not mediate the relationship between training and employee performance among staff of the public secondary schools in Kano state, the findings revealed that there was a statistically significant positive relationship between training and employee performance when considering work motivation as a mediator ($B = 0.103$, $t = 2.510$, $p = 0.008$). This indicates that training has a positive indirect effect on employee performance through work motivation. Hypothesis 8 was not supported and therefore it was rejected. The finding of the study deduced that when employees were given training coupled with work motivation, their performance will be improved.

Hypothesis 9 states that work motivation does not mediate the relationship between organizational culture and employee performance and the findings indicate that a significant positive relationship was observed between organization culture and

employee performance, mediated by work motivation at ($\beta = 0.343$, $t = 6.865$, $P = 0.000$, $LL = 0.244$ & $UL = 0.440$). Hence, hypothesis 9 was not supported. it has a full mediation effect. This suggests that organizational culture has a positive indirect effect on employee performance through work motivation. H_0 : 9 Rejected.

5.1 Conclusion and Recommendations

5.1.1 Conclusion

The present study has provided additional evidence to the growing body of knowledge concerning the mediating role of work motivation on the relationship between compensation, work environment and employee performance. Present study addressed the theoretical gap by incorporating work motivation as a significant mediating variable. It also identified and filled the following gaps that hitherto existed in the compensation and work environment literature; (i) impact of reward, promotion, training and organizational culture on performance among employees was explored in non-western and non- Asian contexts (Nigeria). Secondly, the study tests the combine effect of (reward, promotion, training, organizational culture) on employee performance using one sample i.e. employees of public secondary schools in Kano State, Nigeria.

Social exchange theory underpinned the framework, the framework was empirically tested and findings that improved the understanding of the constructs that were used and how they relate with each other were made. Nine hypotheses were developed and empirically tested. Findings of the study documented a positive

significant effect between promotion, training, organizational culture, work motivation and employee performance. Furthermore, the study documented significant mediating effect of work motivation in the relationship between promotion, training and organizational culture on employee performance. It also documented no significant relationship exist between reward and employee performance. Present study has added valuable theoretical contributions, findings contribute to the body of literature in the area of compensation, work environment and employee performance by reaffirming the relationship established between compensation dimension, work environment dimension and employee performance by the previous studies in an entirely new context, using larger sample than most of the previous studies. Equally important, the study contributes to the literature by reaffirming and validating social exchange theory, (Gouldner, 1960 and Blau, 1964). Practically, it contributes to the growing body of knowledge in the field of industrial and organizational psychology, particularly human resources management, findings revealed that promotion, training and organizational culture significantly affect employee performance which serves as a valuable hint to the management that employee welfare result in better employee performance which is the most important employee behaviour as far as the organizations are concerned. Teachers' welfare, especially reward and promotion, result in better employee performance. Therefore, the management can give priority to reward and promotion through their

human resource policies and practices. Government and other stakeholders should make sure that all policies and procedures are followed to improve teachers' welfare. This will enhance employee performance and consequently achieve organizational objectives. The findings also revealed the importance of work motivation as a significant positive psychological state of mind of the employees, towards the organization. It makes them emotionally attached to the organization and makes them see the organization as part and parcel of their lives and therefore do everything necessary to protect the interest of the organization. Therefore, the findings serve as a clue to the managers and directors on how to achieve the best out of their employees through the development of work motivation among their employees. This will serve as an essential way for improving the employee performance by the managers and directors.

5.1.2 Limitation and Recommendations

Firstly, cross sectional survey was adopted for the study which allows the researcher to collect data one at a time. Future researchers should consider longitudinal study to examine the mediating role of work motivation on the relationship between compensation and work environment on employee performance. Secondly, the study is conducted on public secondary school teachers only in Kano state, Nigeria. Future studies may consider wider coverage area by conducting similar studies in other states in Nigeria or in some geopolitical zones in Nigeria in order to come up with a more powerful result that can be generalized to a wider geographic location. Similarly, other

administrative staff in secondary schools' management board may share similar job condition and experiences that should also be part of the study but were exempted. Additionally, future studies should incorporate private secondary schools as they share common features. Finally, the study examines the mediating role of work motivation on the relationship between compensation and work environment on employee performance. It is therefore recommended that future studies should go extra mile to study the same relationship with other variables as mediators.

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Formal Financing, Country Risks and Livestock Output in Nigeria

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Abstract

Livestock, which accounts for 30% of employment among Nigeria's rural population, is essential to the country's local economy and efforts to reduce poverty. The growth of the livestock sub-sector is hindered, nevertheless, by a range of concerns, such as political, economic, and financial uncertainty, as well as insufficient government budget allocation. In light of this, the purpose of this study is to examine how formal funding and national hazards affect Nigeria's livestock production. Secondary data for the years 1995–2021 were gathered from the International Country Risk Guide (ICRG) and the Central Bank of Nigeria (CBN). Using E-view 9, the study used both descriptive and inferential statistics. Before and after the given model was estimated using Autoregressive Distributive Lag (ARDL), a variety of diagnostic tests were performed. The agricultural guarantee credit scheme funds (AGC) are statistically significant at the 5% level of significance, according to the short term ARDL model. Other variables, such as commercial bank credits (CBC), budgetary allocation to agriculture (BAA), and exchange rate control variable (EXR), are not statistically significant in the short run. The control variable of prime lending rate (PLR, 0.0653) is statistically significant at 5% level of significance. Among other things, the study suggests that banks create customized credit solutions that address the particular requirements of cattle farmers, offer flexible periods for repayment, and form alliances with input suppliers and agriculture specialists.

Keywords: Formal Financing, Livestock Output, Agricultural Credit

JEL Classification: A12, B21, E23, E58, E61, G21, H53, H61, H81, Q13

1. Introduction

Livestock is vital to Nigeria's economy and poverty alleviation, contributing 30 percent to the rural population's employment in the country, but contributing just about 2-3% to the nation's gross domestic productivity (L-PRES, 2024), signaling the under-

development of the sub-sector, despite its potency in enhancing economic stability, growth and creation of hedge against rising food inflation and insecurity. In terms of employment generation, Livestock is estimated to directly and indirectly engage

more than 14 million people in the country (Suleiman, Aliyu & Bello, 2021).

Live-stock, including animals, milk, and eggs, generate revenue, provide investment, insurance, and savings in areas without alternative sources, and enhance income diversity and asset accumulation, particularly for households below poverty threshold. Steven et al (2020) found that investing in cattle fattening enterprises, goat value chains, and dairy farmer hubs can boost milk productivity and net farm returns, leading to significant macro-level effects in Kenya, where dairy policy advocacy efforts lead to industry wide gains of over USD 30 million annually. Livestock production in Nigeria was primarily centered on nomadic pastoralism even before the British Colonial Administration arrived. It contributes one-third of the country's agricultural GDP and offers a variety of benefits including income, employment, food, fuel, manure, farm energy, and transportation (Alhassan, 2022).

The livestock subsector has sluggishly expanded from an estimated 9.3 million cattle, 8.8 million sheep, 20.8 million goats, 133.5 million poultry, and 0.86 million pigs in 1981 (Federal Ministry of Agriculture, 1981), to an estimated 18.4 million cattle, 76 million goats, 43.4 million sheep, 7.7 million pigs, and 80 million poultry farmers as of 2017. At that time, the livestock subsector accounted for 5% of the total GDP and 17% of the agricultural GDP. Despite the socioeconomic, health and environmental impact of livestock production to Nigeria's economy, especially

in the face of growing food inflation and insecurity, dwindling oil revenue as a result of the unimpressive macroeconomic outlook, with consequential economy shamble in the country since 2015, the focus on livestock development subsector as a fallback option for building economic resilience is stifled due to lack of adequate finance (Akpan et al, 2023).

Nigeria's renewed interest in agriculture depends on the extent of institutional credit directed to the sector, both short-term and long-term. The agricultural sector faces challenges in obtaining formal financial services, with many farmers relying on informal financing methods. The lack of formal financial intermediaries and inadequate government interventions have led to a decline in the sector's output. This study examines the impact of formal institutional financing and country risks on Nigeria's livestock sub-sector output.

2. Literature Review

2.1 Livestock Production

Livestock are important to subsistence and economic development in sub-Saharan Africa, as they provide essential flow of food products; generate personal income for individuals and public income for the government. According to a USAID funded FAO report (2019), livestock sub-sector development is fundamental to support the transformation of Nigeria in a sustainable way socially, environmentally and from a public health perspective.

Over the next three decades, Nigeria's population is projected for a rapid increase

and significant transformations. The population will nearly double to 400 million by 2050, and there will be three times as many people living in metropolitan areas - 280 million against 94 million, as there are now. The GDP per person will nearly treble to \$7,137 USD PPP (FAO GPS, 2018). The demand for livestock products is consequently expected to increase dramatically as a result of these changes; estimates indicate that consumption of milk, beef, and poultry meat will increase by 577 percent, 253 percent, and 117 percent, respectively (FAO GPS, 2018), creating the need for a radical transformation to meet the demands, which cannot happen without adequate funding. The increasing demand for products derived from animals, which is often associated with intensification, would need a rapid increase in herd size and productivity. The 2023 estimates of Agramondis, an agricultural bulletin, revealed that Nigeria's consumption of cattle products will increase by more than three percent by year 2050, noting that the amount of milk consumed in 2012 was 1.4 thousand tons and by 2050, this amount is expected to have grown by 262 percent to 4.2 thousand tons. Similarly, there may be a 250 percent increase in egg consumption between 2012 and 2050.

In certain scenarios, the number of cattle might triple to 37 million, while the number of chickens could double to 900 million. The structure of the industry may change significantly. For example, in intensive systems, the proportion of cattle may increase in some circumstances from 1% to 33%, indicating significant increases in

average productivity. The increasing livestock industry and the growing need for animal feed present the country with enormous developmental prospects. A significant income boost is possible for livestock farmers, input suppliers, animal health care providers, processors, wholesalers, retailers, and other stakeholders (FAO, 2019).

2.2 Institutional Finance

Finance as the hallmark of any adventure can be sourced in several ways. According to Ademola (2019), institutional finance is a type of funding that originated from financial organizations other than commercial banks. These financial organizations serve as a go-between or connector for investors and savers. They offer financial services and financing in sectors that are not covered by conventional commercial banking. Institutional financing is defined by Evbuomwan et al (2018) as a means or a portion of financing a work under a method of financing works prescribed periodically, either entirely or partially; in certain cases, capital subsidies (central financial assistance) available to residential consumers as an incentive have exacerbated issues due to long-overdue payments, complicated procedures, delayed disbursement, and intermittent availability (Ibe, 2014).

Lawal et al. (2019) opined that institutional financing should allow farmers to advance to a level of new technology that will boost productivity and jobs in the agricultural sector. Global funding initiatives (GFIs), framework agreements, finance partnership

facilities (FPFs), and trust funds with one or more donors are the many vehicles used for institutional financing collaborations. For the purposes of this study, financial assistance and support from the commercial banks, CBN actions, and budgetary allotments to agriculture are collectively referred to as institutional financing.

2.2.1 Nature of Government Intervention in Agriculture

The Central Bank of Nigeria (CBN) has implemented various schemes to support agricultural growth in the country. The Interest Drawback (IDP) scheme allows farmers to borrow money at market-determined interest rates, with a 40% interest refund for timely repayment. The Commercial Agricultural Credit Scheme (CACS) was created in 2009 to accelerate commercial agriculture growth, with a 9.0% interest rate. The Agricultural Credit Support Scheme (ACSS) offers a 14 percent interest rate, with a refund of 6.0% for full and timely repayment. The Anchor Borrowers' Programme provides farmers with N40 billion annually at a single-digit interest rate.

The Nigerian Incentive-Based Risk Sharing system for Agricultural Lending (NIRSAL) aims to identify, quantify, value, and distribute credit risk associated with agriculture. The National Programme for Food Security Fund supports SMEs, cooperative groups, and Apex Farmers' Associations with a funding structure of 40% grants, 80% loans, and 20% equity contributions. The Agricultural Credit Guarantee Scheme Fund (ACGSF) offers a

maximum 75.0% guarantee for agricultural loans, improving production, financial empowerment, and sustainable growth.

2.2.2 Government Expenditure/Budgetary Allocation and Agricultural Financing in Nigeria:

The costs and expenses incurred by the government in the process of upholding governance are referred to as government expenditures. According to Edeh, Ogbodo, and Onyekwelu (2020), it is a fundamental tool of governance that is employed to foster economic growth, a necessary component of sustainable development. Public (government) spending is typically divided into two categories: capital and ongoing, and it includes expenses on both administration and defense, internal security, health, education, and foreign policy, among other areas (Aigheyisi, 2013).

Extant budgets represent public expenditures as well as government spending. These budgets show the amount that will be spent as well as the amount that taxes will take out of the stream of private expenditure (Everett, 2011). In Nigeria, from 1980 to 2011, the federal government spent less than 4% of its overall budget on agriculture—much less than it did on other important areas like water, health, and education. From 1.8% in 2011, 1.6% in 2012, 1.7% in 2013, 1.4% in 2014, 0.9% in 2015 and 1.2% in 2016, 1.7% in 2017, 2.0% in 2018, 1.56% in 2019, 1.34% in 2020, 1.37% in 2021, and 1.8% in 2022, the federal government allotted depressing budgetary figures to the agriculture industry (Premium Times, 2022). These numbers are all notably inadequate, as

they fall well short of the benchmark set by the Maputo Declaration, undermining Nigeria's agricultural industry and inevitably leading to a decline in agricultural output.

2.3 Country Risks

A country's dangers, whether they are political or financial developments that potentially alter the status quo, are collectively referred to as country risk. Nuno (2015) defines it as the likelihood that alterations to the business climate in a nation where individuals conduct business could have a negative effect on those activities and cause a loss of money. Timurlek and Kaptan (2012) viewed country risk as the political and economic factors that may affect productivity and performance of credit facilities. According to Meldrum (2000), practitioners are less concerned with the full range of potential outcomes and more focused on the risks that could prevent them from reaching a certain target performance. These risks include the possibility of capital being restricted or frozen by government action, as well as risks related to politics, the economy, sovereign risk, exchange rates, and transfer risk. The two aspects of country risks that were the focus of this study were political and economic and financial risks.

2.4 Political Risk

Political risk is the possibility that social and political developments in a country, along with policy decisions, could have an adverse effect on the economic environment and cause a loss (Alon & Herbert, 2009). Governments, corporations, and investors confront political risk when they think specific political outcomes would

significantly affect the projected value of an economic activity or the profitability of a business actor. Kaufmann (2006) argued that political stability in the economy would lead to economic growth. Political risk, often measured by variables such as political structure, ethnicity, or violent frequency, encompasses cultural, ethnic, economical, and institutional changes. It can be further divided into three categories: government risk, societal risk, government policy risk, and political risk.

The Political Risk Services (PRS) Group's International Country Risk Guide (ICRG) offers information on political risk and institutions. It rates government stability, internal conflict, corruption, ethnic tensions, and democratic accountability. Government stability is measured as the government's capacity to implement policies and maintain power; political violence is measured as political violence and its effect on governance; corruption is measured as the threat to government efficiency and the introduction of instability; ethnic tensions are measured as the degree of tension resulting from racial, national, or linguistic divides; democratic accountability is measured as the government's responsiveness to its citizens and fundamental civil liberties and political rights. Each indicator is rated from 0 to 12, with higher values indicating less political risk and better institutions.

2.5 Economic and Financial Risks

Economic risk is determined by a country's strengths and weaknesses, such as inflation rate and GDP per capita. An efficient financial system is vital for capital and money market security. Exposure to

financial markets, transactions, and process dependence all result in financial hazards. It is important to take into account variables like GDP, inflation, exchange rates, and foreign indebtedness in order to comprehend these dangers. A country's GDP is expressed as a percentage of the GDP of all the nations under the International Monetary Fund (IMF), and this is known as GDP per capita. Opening up to foreign investment and trade assisted in severing the link between savings and investment, which fueled economic expansion. The Consumer Price Index (CPI) is measured by the annual inflation rate, whereas the percentage of total exports of goods and services that is represented as external debt is known as foreign debt. A stable exchange medium between nations is the aim of monetary policy, which includes exchange rate stability.

2.6 Empirical Review

This section reviews empirical literatures on the relationship between agricultural financing, country risks and agricultural output in Nigeria, with special focus on the livestock sub-sector. Minja and Samwel (2018) explored the role of financial institutions and agriculture financing policies in Tanzania's agriculture sector growth. Using a mixed approach, data was collected through questionnaires and interviews, and analysis was done using Theme Content Analysis and inferential statistics. The results suggest a positive impact of financial institutions on agricultural development. Due to the qualitative approach adopted by the research, it does not measure the extent at

which financial institution affects agricultural development.

Lawal et al (2019) used secondary data from the Central Bank of Nigeria Statistical Bulletin to investigate the effect of bank lending on agricultural productivity in Nigeria. They discovered a unidirectional causal relationship between ACGSF and AGDP, confirming the estimate of ACGSF's contribution to AGDP change provided by the VAR model. Similarly, the effect of agricultural financing schemes on agricultural output in Nigeria was also studied by Ibitomi and Ijaiya (2019). The study discovered that while interest rates and capital stock had negative effects on agricultural output, Agricultural Credit Guarantee Scheme Funds, Commercial Banks Credit to Agriculture, Government Expenditure on Agriculture, Annual Rainfall, and Population Growth all had positive and significant effects. The study although considered the implication of formal financing on agricultural output, it does not look specifically into its effect on livestock subsector and did not also consider intervening effects of country risks.

Asukwo et al's (2020) study looked into how commercial bank lending affected the expansion of Nigeria's agriculture sector. Using multiple regression statistical approaches, the study discovered a substantial association between loans, advances, lending rate, liquidity, and bank assets on agricultural output. Ndubuaku et al (2020) study looked at how agricultural financing affected the economic growth of Nigeria's agricultural industry. The findings indicated that the contribution of agriculture to GDP was positively and non-significantly

impacted by government support, particularly through the Agricultural Credit Guarantee Scheme Fund (ACGSF). Ndubaka (2020) also conducted a similar research on how Nigeria's economic growth is impacted by the federal government's budget allocation to the agriculture sector. Time series data were used, and OLS multiple regression analysis showed that the amount of money the federal government allocated to the agricultural sector had a positive and significant impact on Nigeria's rate of economic growth. These studies focused on how the agricultural sector affects Nigeria economy, without considering factors that enhances the growth of agricultural sector.

Edeh et al (2020) investigated how government spending affected the output of Nigeria's agricultural industry. They examined variables such labor force participation, capital spending, ongoing expenses, agricultural loans, precipitation, interest rates, and economic reforms using secondary data. According to the study, recurrent expenses had a negative correlation with agricultural output, while capital expenditures had a positive and statistically significant correlation. In a related study, the association between the credit policy environment and Nigeria's livestock output index was investigated by Akpan et al (2023). They discovered that while loans from the agricultural credit guarantee plan had a short-term detrimental influence on productivity, overall commercial bank and domestic lending to the agricultural sector had a long-term favorable impact on animal production. While Edeh et al (2020) only focused on

public policy and public institutional finance effect on agriculture, neglecting the private sector, Akpan et al (2023) however reported a negative relationship between agricultural credit guarantee and productivity, which negates the findings of Ndubuaku (2020).

Using GDP as the endogenous variable and FDI, inflation (INF), money supply (M2), public and private domestic investment (DINVEST), and foreign exchange reserve (FExR) as independent variables, Nath, Begum, and Maleque (2024) investigated the impact of macroeconomic factors on economic growth in Bangladesh. Time series secondary data spanning the years 2005–2023 were used in the investigation. Macroeconomic factors are positively impacted by FDI and DINVEST, according to multiple linear regression analysis. Although it is statistically negligible, the money supply, foreign exchange reserves, and inflation all positively affect economic growth.

According to a review of the empirical literature on the topic, previous studies have mostly concentrated on institutional financing and agricultural output without making any particular effort to look at the composite determinants of agricultural productivity, like livestock production. However, the goal of this study is to examine the impact of different formal institutional funding sources in Nigeria, such as federal budgetary allocation, commercial banks, and interventions by the Central Bank of Nigeria, on the country's livestock subsector. Furthermore, this study took into account the innovative notion of

incorporating hazards unique to Nigeria in terms of politics, economy, and finance.

2.7 Theoretical Framework

In order to assist developing nations like Nigeria in making the transition from traditional subsistence agriculture to a modern, urbanized, and industrially varied economy, this study expands on H.V. Prochanow's 1944 expected income theory. The theory was employed by Sami et al, (2022) to analyse the role of financial banks in Libya in liquidity provision. According to the argument, the central bank should lend to banks based on the security of the short-term liquidation productive loans that commercial banks make. This idea guarantees banks adequate liquidity and a steady flow of money into the economy. Recounting loans allows the Central Bank to raise or lower bank reserves; when businesses grow, banks can recoup more reserves by recounting bills.

In light of this approach, commercial banks are anticipated to lend money to farmers for short periods of time so they can use it to meet their working capital requirements. Their loans are primarily intended to be used for farming operations, and the farm's profits are supposed to be utilized to repay the loans.

3. Methodology

Using a systematic disaggregation technique and a descriptive ex-post facto research design, this study examines agricultural operations in Nigeria from 1995 to 2021.

We gathered information on livestock output, budgetary allocation, agricultural guaranteed credit, and commercial bank credit from the Federal Bureau of Statistics, the Central Bank of Nigeria, websites that provide economic statistics, and the International Country Risk Guide. The following regression model, based on the model developed by Ndubaku et al (2018) was specified:

$$GDLV_t = \beta_0 + \beta_1 GS_t + \beta_2 IC_t + \beta_3 COR_t + \beta_4 ET_t + \beta_5 DA_t + \beta_6 GDPH_t + \beta_7 INF_t + \beta_8 EXS_t + \beta_9 PLR_t + \beta_{10} EXR_t + \mu_t \dots\dots\dots 1$$

Where,

GDLV = Gross domestic product of livestock production

CBC = Commercial Banks Credit

AGC =Agricultural Guaranteed Credit Scheme

BAA = Budgetary Allocation to Agriculture

GS = Government Stability

IC =Internal Conflict

COR= Corruption

ET= Ethnic Tension

DA= Democratic Accountability

PLR= Prime Lending Rate

EXR = Exchange Rate

PLR= Prime Lending Rate

EXR = Exchange Rate

U = Error term or Random term.

According to the model's a priori expectations, there should be a positive correlation between the variables and a positive sign for the impact of agricultural funding on livestock output.

4. Results and Discussion

Table 4.1

Correlation Coefficient Matrix																
	GDLV	CBC	AGC	BAA	PLR	INF	EXR	GS	IC	COR	ET	DA	GDPH	INFDIFF	FDG	EXS
GDLV	1.000															
CBC	0.665 (0.000)	1.000														
AGC	0.582 (0.002)	0.384 (0.048)	1.000													
BAA	0.522 (0.000)	0.372 (0.000)	0.337 (0.086)	1.000												
PLR	-0.670 (0.000)	-0.592 (0.001)	-0.590 (0.001)	-0.593 (0.001)	1.000											
INF	-0.670 (0.000)	-0.592 (0.001)	-0.590 (0.001)	-0.593 (0.001)	0.237 (0.234)	1.000										
EXR	-0.225 (0.259)	-0.155 (0.439)	-0.274 (0.166)	-0.131 (0.514)	-0.507 (0.007)	-0.241 (0.226)	1.000									
GS	0.616 (0.000)	0.637 (0.000)	0.352 (0.072)	0.323 (0.000)	0.229 (0.271)	-0.275 (0.183)	-0.631 (0.001)	1.000								
IC	-0.654 (0.000)	-0.669 (0.000)	-0.364 (0.074)	-0.651 (0.000)	0.478 (0.012)	-0.122 (0.545)	-0.533 (0.004)	0.724 (0.000)	1.000							
COR	-0.604 (0.001)	-0.489 (0.010)	-0.602 (0.001)	-0.446 (0.020)	0.349 (0.074)	0.288 (0.145)	-0.279 (0.159)	0.308 (0.134)	0.549 (0.003)	1.000						
ET	-0.207 (0.301)	-0.086 (0.668)	-0.433 (0.024)	-0.085 (0.673)	0.419 (0.029)	0.117 (0.560)	-0.505 (0.007)	0.616 (0.001)	0.595 (0.000)	0.601 (0.000)	1.000					
DA	-0.517 (0.006)	-0.384 (0.048)	-0.621 (0.001)	-0.353 (0.071)	-0.355 (0.000)	-0.395 (0.042)	0.709 (0.000)	-0.309 (0.132)	-0.485 (0.010)	-0.425 (0.0268)	-0.505 (0.007)	1.000				
GDPH	0.486 (0.000)	0.412 (0.000)	0.602 (0.001)	0.699 (0.000)	0.373 (0.055)	0.360 (0.000)	-0.583 (0.001)	0.212 (0.310)	0.418 (0.030)	0.613 (0.001)	0.645 (0.000)	-0.607 (0.001)	1.000			
INFDIFF	-0.559 (0.003)	-0.439 (0.021)	-0.596 (0.001)	-0.411 (0.033)	0.048 (0.808)	-0.352 (0.072)	-0.116 (0.564)	0.557 (0.004)	0.715 (0.000)	0.544 (0.003)	0.739 (0.000)	-0.075 (0.712)	0.179 (0.369)	1.000		
FDG	-0.124 (0.538)	-0.051 (0.801)	-0.287 (0.146)	-0.035 (0.862)	-0.204 (0.000)	0.862 (0.308)	-0.650 (0.000)	-0.647 (0.000)	-0.247 (0.000)	-0.559 (0.214)	-0.690 (0.0024)	0.782 (0.000)	-0.552 (0.003)	-0.152 (0.449)	1.000	
EXS	0.585 (0.000)	0.187 (0.000)	0.649 (0.000)	0.854 (0.000)	-0.031 (0.879)	-0.457 (0.019)	0.132 (0.520)	0.067 (0.749)	0.159 (0.439)	-0.074 (0.717)	0.116 (0.573)	0.093 (0.652)	-0.262 (0.197)	0.456 (0.019)	0.057 (0.781)	1.000

Source; Author's computation, (2024)

In summary, the table above shows that there is a weak correlation between the factors. This suggests that multicollinearity could not be a significant issue for the regression analysis. According to Gandhi & Porter (2009) and Field (2013), a coefficient of correlation larger than 0.8 may indicate collinearity issue, however a coefficient of correlation less than 0.7 may indicate no multicollinearity between the explanatory

variables. Therefore, the current study is consistent with the recommendations made by Kennedy (2008) and Tabachnick, Tabachnick, and Fidell (2012) about the use of coefficient of correlation to determine multicollinearity. To determine the stationarity of the data for each variable in the table, the study also calculated and provided the results of a unit root test.

Table 4.2 Results of the augmented Dickey-Fuller Unit Root Test (ADF-URT)

Variables	Unit Root at Level		Unit Root at First Difference		I(d)
	Test statistic	p-value	Test Statistic	p-value	
GDLV	-3.310928	0.087	-4.143319	0.017**	I(1)
CBC	-0.529853	0.975	-6.803710	0.000***	I(1)
AGC	-1.557095	0.782	-5.799270	0.000***	I(1)
BAA	1.604827	1.000	-3.728006	0.039**	I(1)
PLR	-1.572264	0.482	-5.029377	0.000***	I(1)
INF	-12.60210	0.000***	-	-	I(0)
EXR	1.230735	0.997	-3.781311	0.008***	I(1)
GS	-1.702963	0.417	-4.154811	0.004***	I(1)
IC	-1.807974	0.368	-5.890190	0.000***	I(1)
COR	-3.885160	0.008***	-	-	I(0)
ET	-1.458687	0.538	-4.714888	0.001***	I(1)
DA	-2.095271	0.247	-4.649382	0.001***	I(1)
GDPH	-2.030725	0.557	-5.501299	0.001***	I(1)
INFDIFF	-5.502075	0.001***	-	-	I(0)
FDG	-13.43327	0.000***	-	-	I(0)
EXS	-2.608886	0.104	-4.845691	0.000***	I(1)

Source: Author's calculation (2024) using E-views 9

Notes: (**) and (***) indicate stationarity at significance levels 5% and 1% respectively

As depicted from the above table, every variable included in the research was either stationary at first difference or at level. The variables are a combination of I(0) and I(1), according to the results of the Augmented Dickey Fuller (ADF) unit root test. This is a necessary condition for the Auto-regressive Distributive lag (ARDL) test. Not a single

variable is I(2) as a result (Sebastian and Schneider, 2018)

Since we now know that the variables are a combination of I(0) and I(1), we can safely start the ARDL data estimation process. The next step of the research is to figure out the ideal lag time for the ARDL estimation test.

Table 4.3 ARDL Estimation Results

Variables	GDLV	CBC	No Long Run Relationship
D(CBC)	-0.000906 (-1.705) [0.104]	AGC	No Long Run Relationship
D(AGC)	0.000000 (2.1159) [0.047]**	BAA	No Long Run Relationship
D(BAA)	-0.000714 (-0.184) [0.855]	EXR	No Long Run Relationship
D(EXR)	-0.004124 (-1.983) [0.061]	PLR	No Long Run Relationship
D(PLR)	0.065341 (2.3058) [0.032]**	C	No Long Run Relationship
CointEq(-1)	-1.533627 (-2.505) [0.021]***	R-Squared	0.5164
	Model 2	Adj. R-Squared	0.3637
	GDLV	F-Statistic (Prob.)	3.3821 (p = 0.0193)

Source: Authors' Computation (2024) Using Eviews 9

The table above shows the result of the estimated ARDL short-run relationship between livestock production (% of GDP), being the dependent variable and commercial bank credits, agricultural guarantee credit scheme funds being the independent variables, while prime lending rate and exchange rate are the control variables included in the model estimation.

With a p-value of 0.021, the short run ARDL model exhibits a strong error correction term (ECT), indicating that the model rapidly adapts to changes in the long-run equilibrium relationship. At the 5% level of significance, the model shows that the prime lending rate (PLR) and the money from the agricultural guarantee credit scheme (AGC) are important. In the short term, other variables such as currency rates, budgetary allotment to agriculture, and credits from commercial banks are not

statistically significant. The livestock output (as a percentage of GDP) in Nigeria increases by 0.0001% and 0.0635 percent in response to increases in the AGC and prime lending rate, respectively. The bound test, however, reveals no sustained correlation between the explanatory variables and cattle production.

The agricultural guarantee credit program funds, commercial bank credits, budgetary allocation to agriculture, prime lending rate, and currency rate account for 51.6% of the variation in livestock output (percentage of GDP), according to the R-squared of 0.5164. The ARDL model as a whole with regard to livestock production (as a percentage of GDP) is statistically significant, according to the F-statistics illustrating the explanatory power of the independent variables determining the dependent variables, which

have coefficients of 3.3821 and associated p-values of 0.0193.

5. Conclusion and Recommendation

The study concludes that a positive relationship exists between institutional financing and livestock productivity in Nigeria, based on the findings of this research. Agriculturist guarantee credit scheme funds significantly impacted livestock production. Prime lending rate also influenced the relationship. Other variables like commercial banks credits, budgetary allocation to agriculture, and exchange rate did not have a significant effect in the short run. To meet the increased demand for livestock products, commercial banks should innovate specialized lending products, establish partnerships with experts, and explore microfinance. Governments should prioritize conflict resolution and peace-building in rural areas, manage economic and financial risks, and increase the agricultural sector budget.

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Response of Selected Macroeconomic Variables to Oil Price Shocks in Nigeria

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Abstract

The question of how exchange rate, oil revenue, inflation rate and other macroeconomic variables response to oil price shocks in Nigeria has generated tremendous interests among economic scholars for decades. This study examines the responses of exchange rate, inflation rate, oil revenue and government expenditures as macroeconomic variables to oil price shocks in Nigeria using time series techniques of Vector Autoregressive (VAR) model, cointegration test, Impulse Response Function (IRFs) and Variance Decompositions (VDCs). The result of cointegration test suggests the presence of cointegration among variables. The estimated VAR model affirms the response of shocks in the macroeconomic variables. The results have shown that the oil price shocks have significant response on macroeconomic variables in Nigeria. The response of inflation rate to global oil price shocks is positive, indicating that increase in oil price leads to increase in inflation rate in Nigeria; while the response of exchange rate to oil price shocks is negative, indicating that an increase in global oil price leads to depreciation of exchange rate and fall in oil revenue thereby affecting government expenditure negatively in Nigeria. Hence, the study recommends that appropriate measures such as capacity utilization of oil sector and stable macroeconomic policies as well as diversification of economy should be emphasized by Nigerian government.

Keyword: Oil Price Shocks, Macroeconomic Variables, VAR Model, and Nigeria

1. Introduction

Oil and gas as well as other bio fuels are the major contributory sources of revenue and employment opportunities in Nigeria; and these have contributed larger to the economic growth and development for many decades. The oil price shocks has an effect on every other Nigerian macroeconomic variable especially oil GDP, exchange rate

volatility, interest rate, inflation rate, government expenditure, oil revenue through the sales of crude oil at international market. There are other Nigeria's macroeconomic variables such as: inflation rate, exchange rate, interest rate, stock prices, government expenditure, oil GDP, household consumption, economic size, net export, and even economic growth rate

which are all positively or negatively responded to global oil price shocks. It is however, noted that the exchange rate response to oil price shocks comes as a result of an increase in oil price leads to a rise in money supply and demand for money since there are more money after the sales of crude oil, then appreciation of exchange rate of US dollar over Nigerian Naira since the crude oil prices are exchanged in foreign currency, thereby leading to a rise on consumer and producer price indices.

However, the response of inflation rate to oil price shocks could be seen through demand side and supply side channels framework whereby in demand side shock, an increase in oil price leads to fall in consumption and investment patterns of households and firms thereby leading to a rise in cost of living that negatively affects consumer price index as well as a rise in inflation in the Nigeria. While, the response of inflation rate to oil price shocks through the supply side channel is when there is an increase in oil price leads to a rise in marginal cost of production which leads to a fall in capacity utilization and output level, the worker will demand a higher wages which will complement an increase in cost of living that will subsequently allow firms to lay-off some workers so as to maintain the same profit margins (Buhari, *et al.* 2023). In addition, the response of oil revenue and government expenditure to oil price can be seen though the inability of Nigerian government to fulfill its quota in producing over 2 million barrels per day occasioned by the activities of Niger Delta militants through pipelines vandalism, oil theft and illegal oil refineries

in the Nigeria's oil producing states which leads to dwindling of oil GDP and oil revenue that has a multiplier effect on government expenditures and budget implementation so as to meet its financial obligations as and when due .

The trend patterns in prices of global oil in the past years, reached its record nominal high of US \$98.94bpd in 2014 and a sharp drop to US \$46bpd in August 2015, down to less than US \$40 a barrel in 2016 leading to high concern about its implications on economic activities and macroeconomic variables within and outside Nigeria (Buhari, 2020). However, the Covid-19 pandemic era in 2020, coupled with Russia – Ukraine war in 2022 which caused a lot of energy crises also impacted negatively on every macroeconomic variable in the world as well as the world oil price shocks that led to fall in the price of oil at international oil market to less than \$10/pb in 2020 thereby leading to negative effects on the world's economy including Nigeria's macroeconomic indicators such as: exchange rate, inflation rate, oil revenue, interest rate and total government expenditure. This has forced the government of Nigeria to review its budget bench mark downward from \$65 to \$45.

Nigeria is known as an import dependent economy, that highly depended on the foreign exchange through the sales of her crude oil in order to finance its enormous expenditures. Nigeria continued heavily depended on oil as major export product is perceived to continue impacting on all macroeconomic variables in Nigeria.

Nigeria is highly affected by the oil price shocks at a global oil market despite being the 2nd and 5th positions of oil producing country in Africa and the World in 2022 respectively. Theoretically, if oil-price increase, it leads to a movement of labour and resources from importing to exporting countries through the terms of trade. The extent of the direct effect of an oil-price increase depends on the movement of tradable to non-tradable and services sector in the country. The rise in the price of oil leads to rise domestic cost of production, then the supplier price index will also increase, the wages will also rise thereby reducing the level of employment and level of output which will lead to rise in the both consumer and producer price indices (Aminu & Buhari, 2018).

Nigeria is however, endowed with abundant oil and gas resources, in which its production constituted about almost one-third of her GDP for over decades. Similarly, the immediate effect of rise in oil price is the rise in oil revenue, then rise in oil GDP that has a short term and long run effect. The short term effect is the appreciation exchange rate, then rise in wages because of the rise in money supply in oil sector thereby leading to a rise in the cost of production which leads to a reduction in the level of output and unemployment will rise as well as rise in inflation in Nigeria. In the long run, however, the rise in wages of labour in resource and oil sector, leads a movement of labour from productive because the people are moving to oil sector since most of the investments are centred to oil and service

sector due to more profits in the sector thereby leading to a shortage of goods and services from non-oil (productive) sector which consequently leads to a domestic inflation in Nigeria. Moreover, the macroeconomic performance of Nigeria has been strongly associated with the oil sector. Although Nigeria remains second Africa's largest oil producer after Angola in 2022, the country has inadequate refining capacity, hence imports refined petroleum products to meet the local demand. Thus, government kept subsidizing petroleum products so as to maintain its controlled price despite the changes in prices at international oil market and the exchange rate (Bawa, Ismail, Abdullahi, Sani & Yusuf 2020).

Nigeria is both an importing and exporting country, importing refined oil products and other products from the rest of the world, since her refineries were incapacitated and not functional since 1990s, this led to an increase in the cost of imported fuel products which affects its local currency by weakening Naira over Dollar, since these refined products are exchanged in foreign currency. The fall in the oil price globally at international oil market has led to depreciation of Nigerian currency between ₦168 in October, 2015 and ₦347.52 in August 2016 which represents almost 106.7 per cent within a year; the Nigerian government also depreciated its currency from about 400 naira per Dollar up to official rate of ₦423 per USD in July, 2022 due to shocks in oil price that affecting Nigerian and the world economy respectively. However, the Nigerian inflation rate is also affected by the shocks

in oil price because both consumption and investment were adversely affected due to a rise in oil price which affects disposable income of households, domestic of tradable and non-tradable goods and services. During the period under study, the year-on-year inflation rate jumped from 9.3% in the 10th of 2015 to 17.6 percent in August 2016, and there was also recent increment of inflation rate to 18.1 percent in July, 2022 to 20.3 in December 2022.

The declining in prices of crude oil in the globe that occurred in July 2014 has negatively affected Nigeria, particularly in the areas of currency crises, inflation rate, declining government revenue, government expenditure, and eventually threatening the ability to meet financial bounds as and when due. The price of oil came down from its all-time high between USD105.87 in 2013 and USD 98.94 in 2014 and to USD40.76 in 2016. This means that from 2013 to 2016 oil price declined sharply by more than half (64.5%) in 2016, but in 2017 the oil price started rising to \$70/bpd to an ever decrease of \$10/bpd in 2020 (Barkindo, 2022). The resultant impact has been a huge cause of policies and programs especially to policy makers and debate among scholars on the best policy intervention to reverse the situation.

It is against this background that the study put forward the following research question. What is the response of selected macroeconomic variables to oil price shocks in Nigeria? In order to answer the above research question, the following objective arises. The objective of this study is to

empirically analyze the response of selected macroeconomic variables to shocks in oil price in Nigeria.

2.0 Literature Review

Concept of Oil Price Shocks: According to Lippi and Nobili (2008), Crude Oil Price Shocks is a source of oil shocks that affect economic performance differently: oil price increase due to higher oil demand shocks affect output differently than oil price increase due to lower world oil supply shocks. They argued that positive oil supply shocks decrease domestic production. However, the crude oil fluctuation could be either in the oil prices or in the production process which positively and negatively affect macroeconomic variables and even every sector of economy either directly or indirectly.

Concept of Exchange Rate: According to Buhari (2020), exchange rate as the country's currency value in terms of another country's currency. It is normally expressed as the number of units/elements of a local currency which will buy a one unit of other country's currency or the number of units/elements of other country's currency that will purchase one unit of a domestic currency, for example, the Naira per United States Dollar (N/USD) or US dollars per naira (USD/N). Essentially, exchange rate changes affect the prices of both imported and exported goods, services.

Concept of Inflation: Krugman (1998) defined "Inflation" as a continuous increase in the general or average price level in the economy, usually measured through the calculation of consumer price index. The

word “persistent” is of greater importance in understanding the inflation concept. A single increase in prices is not inflation. When inflation occurs, there is a continuous increase in the price level. Prices of individual goods and services are determined in many ways. In competitive markets, the interaction of large buyers and sellers. In imperfectly competitive markets, prices are determined by producer’s decisions (Friedman, 1963).

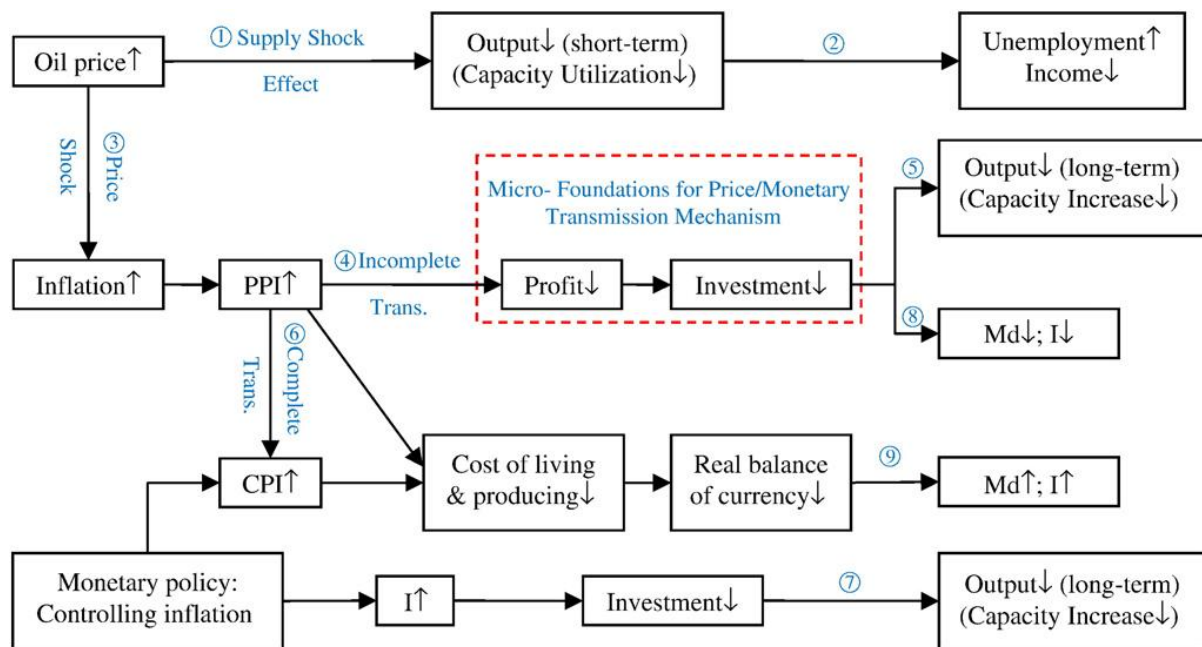
Concept of Oil revenue: It is defined as a form of government revenues earned after the sales of crude oil at international oil market which make the government of a country to have means (resources) in financing both capital and recurrent expenditure for the benefits of its citizens in a country. According to Keynes (1936), change in government revenue would have positive/negative impact on growth. Increase in oil revenue could be in two give ways: either through increasing the payment rate by existing tax payers or increasing the number of tax payers. The combine effects of the shocks in oil prices that brought about influx of petrodollar oil revenue and over appreciation of domestic exchange rate also have had effects on domestic prices of products and services in Nigeria.

Concept of Government Expenditure: Usman & Buhari (2018), Government Expenditure defined as a total government spending on both recurrent and capital expenditures. By recurrent expenditure, it means the government expenditures on the day-to-day activities such as payments of workers’ salaries and wages, retirees’ pensions, fueling machines and equipment,

and other recurrent spending. By capital expenditure, we mean the government spending on white elephant projects such as: building road networks, rail networks, stadia, hospitals, housing estates, and rest of others.

2.1 Theoretical Framework

The macroeconomic responses to oil price shock in Nigeria can be explained by using both supply and demand channels. According to economic theory, crude oil price changes affect real economic activity through both supply and demand channels. Supply side effects could be explained based on the fact that oil is an important input in production. Therefore, crude oil price increases reduce the demand for crude oil, decreasing the productivity of other input factors which induce firm to lower output. Supply-side is on the argument that rising oil prices is an evidence of a disruption in the productive techniques within the economy, thereby leading to decline in the level of output. This indicates that a rise in the cost of production per average unit of output leads to slow down the growth rate of product and profitability. The demand side shocks are derived from the based on oil prices changes affect both consumption and investment decisions. Consumption is negatively affected because a rise in oil price changes disposable income and the domestic price of tradable goods. Investment is negatively affected because such rise in oil price thus affects firms’ input prices and thereby increasing their costs. Demand side effect depicts that rise in oil price could lead to decrease in consumption, investment and expenditure prices.



the response of inflation to oil price shocks could be seen through demand side and supply side channels whereby in demand side shock, an increase in oil price leads to fall in consumption and investment patterns of households and firms thereby leading to a rise in cost of living that negatively affects consumer price index as well as a rise in inflation in the Nigeria. While, the response of inflation rate to oil price shocks through the supply side channel is when there is an increase in oil price leads to a rise in marginal cost of production which leads to a fall in capacity utilization and output level, the worker will demand a wage-price spiral or demand a higher wages which will complement an increase in cost of living that will subsequently allow firms to lay-off some workers so as to maintain the same profit margins. In addition, the response of oil revenue and government expenditure to oil price can be seen through the inability of Nigerian government to fulfill its quota in

producing over 2 million barrels per day occasioned by the activities of Niger elta militants through pipelines vandalism, oil theft and illegal oil refineries in the Nigeria's oil producing states which leads to dwindling of oil GDP and oil revenue that has a multiplier effect on government expenditures and budget implementation so as to meet its financial obligations as and when due.

2.2 Empirical Literature

Buhari, *et al.*, (2023) empirically examine how shocks in oil prices affect Nigeria's inflation and exchange rate using yearly time series data from 1981 to 2021 applying the NARDL (Nonlinear Autoregressive Distributed Lags) technique. The findings demonstrate that, both in the short and long terms, global oil price shocks have a significant impact on the exchange rate and inflation rates. Specifically, the response of oil price shocks to inflation rates is positive,

indicating that rising oil prices cause Nigerian inflation to rise, while the response of oil price shocks to exchange rates is negative, indicating rising global oil prices cause Nigerian interest rates to rise and the exchange rate to depreciate.

Eric (2020) empirically examines the responses of consumer price index (CPI) to international oil price shocks in the pre- and post-2008 global financial crisis in Nigeria. The study used the Structural Vector Autoregressive model to analyze monthly data from 2000M01 to 2019M12. The impulse response functions showed that for pre as well as post-crisis periods, oil price shocks have a positive impact on CPI. This effect was an insignificant direct perpetual increase in pre-crisis CPI before use up. However, the study adopted various theoretical literatures so as to explain different kinds of model such as: The supply-push and demand-pull factors. The change in the prices of oil as a result of increase in demand is said to bring about wealth transfer impact in oil exporting economies and inflation outcome in oil importing economies. Whereas, changes in the prices of as a result of positive changes in supply of the commodity translate to supply side shock effects.

Ahmad, *et al.*, (2020) investigate the Dynamics of Oil Price and Exchange Rate: What Can We Learn from China and India? The paper tried to examine the variability of global oil and foreign exchange markets and spillover between them. The study considers currencies/paper monies of two major oil-importing countries (India and China) from

January 1, 2013 to October 31, 2019. However, the paper above has tried in conducting descriptive statistical analysis and Generalized Autoregressive Hetrocedansticity (GARCH) model for econometric analysis.

Apere (2017) empirically investigated the co-relationship between oil price fluctuations and inflation in Nigeria using quarterly data from the period 1980:1 to 2015:4. Vector autoregressive econometric model was adopted in analyzing the data for this research with the analysis carried out; the Lag length selection, VAR stability tests, VAR LM test for serial correlation, the Impulse Response Functions(IRFs) and the Forecast Error Variance Decomposition(VDCs). The study depicted that the response of inflation to oil price change is that as prices of oil fall, then inflation decrease also and stable as well as a positive price of oil results in a stable negative inflation rate, hence the relationship between inflation and oil price fluctuation is negative through the following variables: Crude Oil Price (COP), Inflation Rate (INFL) and Exchange Rate (EXCHR).

3. Methodology

The Secondary data was used for the purpose of this study. The study used annually time-series data on oil price and some selected macroeconomic variables. Secondary data covered the macroeconomic variables yearly transactions for 42 years (1981 – 2022) for each macroeconomic variable which was obtained from National Bureau of Statistics (NBS) and Central Bank of Nigeria (CBN). The oil price is the Brent

crude oil price also obtained from the US Energy Information Administration (EIA). The data collection was focused on the following variables: exchange rate, inflation rate, oil revenue and government expenditure which are the selected macroeconomic variables.

3.1 Model Specification

The specification of VAR model is as follows:

$$Y_t = C + \sum_{i=1}^p \Phi_i Y_{t-i} + u_t \text{-----} 3$$

Where: Y_t is a column vector of four (4) variables or $Y_t = (y_{it} - - Y_{ct})$, is a (4×1) vector of the variables, therefore $Y_t = (\text{Oil price Increase, oil Price Decrease, Maximum Oil Price and structural Equation of Oil Price})$ modeled in terms of her past values. Φ_i are $k \times k$ matrix with coefficients to be estimated or Φ_i are (4×4) is a matrix of coefficients (Exchange Rate, Inflation Rate, Government Expenditure and Oil Revenue), C is a $k \times 1$ vector with constants and ϵ_t is a vector of white noise processes, that is $U_t = (U_{it} - - U_{kt})$ is a (4×1) of K -dimension white noise with zero means that is $E(U_t) = 0$. Where the covariance matrix Ω is assumed to be positive definite and p is the order of autoregression. The study was relied on variance decompositions and impulse-response functions to evaluate the nature of interactions among the variables.

Where:

$$Y_t = \begin{pmatrix} \text{OIL_PRICE}_t & \text{EXCH_RATE}_t \\ \text{INFL_RATE}_t & \text{OIL_REVENUE}_t \\ \text{GOVT_EXP}_t \end{pmatrix} \text{-----} 4$$

OIL_PRICE_t = Oil Price

EXCH_RATE_t = Exchange Rate of the Naira

INFL_RATE_t = Inflation Rate

OIL_REVENUE_t = Oil Revenue

GOVT_EXP_t = Government Expenditure

't' = Time Period.

et = Error Term assumption to be normally distributed with zero mean and constant variance.

C = $k \times 1$ vector of constants

Σ = Summation of exogenous variables at time 't'

Y_{t-i} = Lag of endogenous variables.

$U_t = N_1 - N_5$ are the impulse, innovations or shocks

$\Phi_i = \alpha_1 - \alpha_5$ Parameter to be estimated

It should be noted that estimated results of the VAR model such as (1) are more easily interpreted in its moving average representation, from which we may generate variance decomposition (VDC) and impulse response functions (IRFs).

The model of Apere (2017) was modified on the fact that Apere used three variables, while this study considers five variables that can be impacted by the oil price shocks.

The model is therefore specified in a matrix form as follows:

This equation can be expanded as by applying the Choleski decomposition results in a recursively identified structural VAR model:

$$Y_t = \begin{Bmatrix} \Delta OILPMN \\ \Delta OILPMX \end{Bmatrix} = \begin{Bmatrix} \Delta EXCR_{t-1} & \Delta INFR_{t-1} & \Delta OILR_{t-1} & \Delta GEXP_{t-1} \\ \Delta EXCR_{t-1} & \Delta INFR_{t-1} & \Delta OILR_{t-1} & \Delta GEXP_{t-1} \end{Bmatrix} \begin{Bmatrix} \varepsilon_{t-1}^{MN} \\ \varepsilon_{t-1}^{MX} \end{Bmatrix}$$

$\Delta OILPS \quad \Delta EXCR_{t-1} \quad \Delta INFR_{t-1} \quad \Delta OILR_{t-1} \quad \Delta GEXP_{t-1} \quad \varepsilon_{t-1}^{ST}$

Where:

Y_t = is a column vector of observation at 't' of all the variables in model, i.e.

$Y = (OIL_PRICE_t, EXCH_RATE_t, INFL_RATE_t, OIL_REVENUE_t, GOVT_EXP_t)$

$\Delta OILPMN$ = Minimum Oil Price,

$\Delta OILPMX$ = Maximum Oil Price,

$\Delta OILPST$ = Structural Equation of Oil Price Shock

This study is conducted by modifying and adopting the work of Apere (2017) in the field of social sciences after slight modifications in his model. The model of Apere (2017) was modified on the fact that Apere used three variables (crude oil price, inflation Rate, and real exchange rate) by using VAR model in quarterly time series data from 1980:1 to 2015:4 in his study

titled “ Crude Oil Fluctuation and Inflation in Nigeria”. The modifications, however, affect the period and study variables, that is, this study considers annual time series data from 1981 to 2022 with oil price and the selected macroeconomic variables (exchange rate, oil revenue, inflation and government expenditure) in carrying out the study.

4. Results and Discussions of Findings

4.1 Tests for Stationarity Results

Table 1 Unit Root Tests

Variables	Levels (5%)	Critical Values (5%)	1 st difference (5%)	Orde 1
Loil_price	-2.379	-3.527	-6.235	I(1)
Exchang_rate	-0.068	-3.527	-4.777	I(1)
Inflation_rate	-3.096	-3.553	-5.744	I(1)
Loil_revenue	-0.544	-3.527	-5.564	I(1)
Lgovt_expend	-0.403	-3.530	-7.970	I(1)

Source: Computed by Researcher using E-Views 9 (2024)

In order to establish the stationarity of the data set, the ADF statistics was used. This

was necessary because time series data are generally believed to be non-stationary and

the nonstationarity implies the existence of unit root in the data which often give rise to the occurrence of spurious regressions (Bello, 2022). The ADF statistics in Table 1 shows that all the variables are non-stationary at level of 5% critical values. Consequently, the levels in the series will generate spurious results if used for information. The table also shows order of integration for oil price and selected macroeconomic variables that

the variables are to be integrated of order one, with the maximum lag is 9 and lag length is for all the variables, but the inflation rate has to be changed to 12 maximum lag in order to be integrated of order one so as to fit in VAR model for the study, then all the variables are now at first difference indicating that the series are not stationary at their level forms (p -value > 0.05).

4.2 Johansen Cointegration Test

Table 2 Johansen Cointegration Results

Null Hypotheses	Trace Statistics	C.V (5%)	Max- Eigen statistics	C.V (5%)	Variables
$r = 0^*$	108.631	88.804	43.976	38.331	Loil_price
$r \leq 1^*$	64.654	63.876	23.980	32.118	Exch_rate
$r \leq 2$	40.674	42.915	20.135	25.823	Infl_rate
$r \leq 3$	20.539	25.872	10.949	19.387	Loil_revenue
$r \leq 4$	9.590	12.517	9.590	12.517	Lgovt_exp

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Source: Computed by Researcher using E-Views 9 (2024)

However, since all variables are integrated of the same order, Johansen cointegration test is performed and results are in Table 2. The result showed that the trace value exceeded the critical value and there are one cointegrating equation(s) at the 5 per cent significance level, while max eigenvalue indicates none cointegrating equation. As may be observed from the table, the trace

statistic indicates the presence of cointegrating vector. From these results, the study concludes that there must be a unique cointegrating vector governing the long-run relationship among the variables. The study then proceeds to estimate a VAR on first difference for the oil price and selected macroeconomic variables in the following section.

4.3 Optimal Lag Structure

Table 3 VAR Lag Order Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-449.2017	NA	62574.64	25.23343	25.45336	25.31019
1	-264.6954	307.5106	9.009453	16.37197	17.69156*	16.83254
2	-230.0134	48.16936	5.728753	15.83408	18.25334	16.67847
3	-209.5569	22.72954	9.301906	16.08649	19.60542	17.31469
4	-153.0071	47.12482*	2.680525	14.33373	18.95232	15.94574
5	-106.2063	26.00044	2.301843*	13.12257*	18.84083	15.11840*

* indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

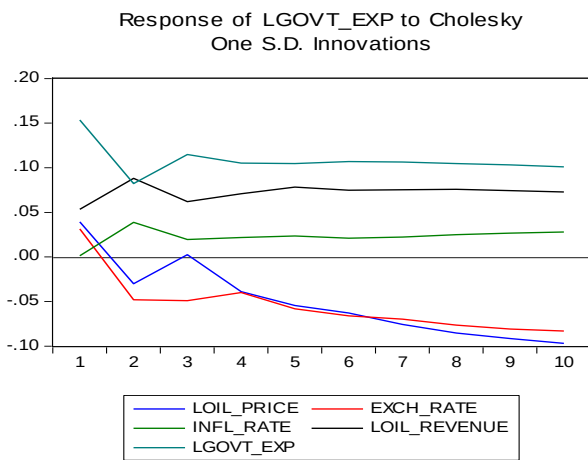
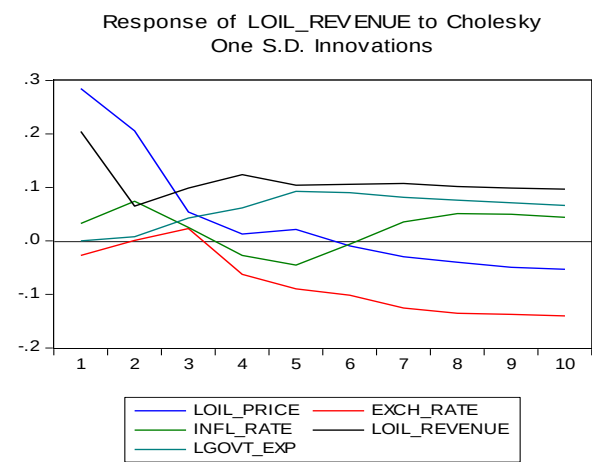
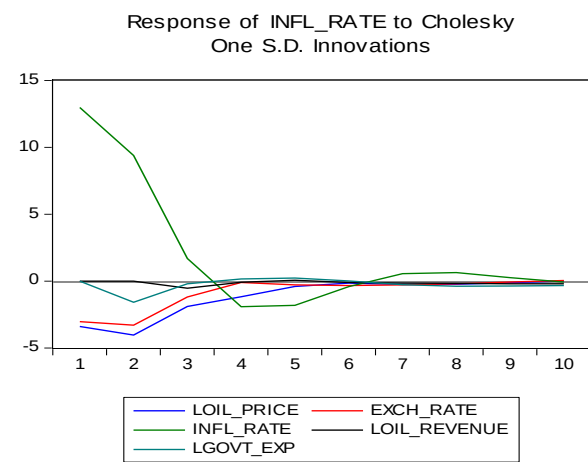
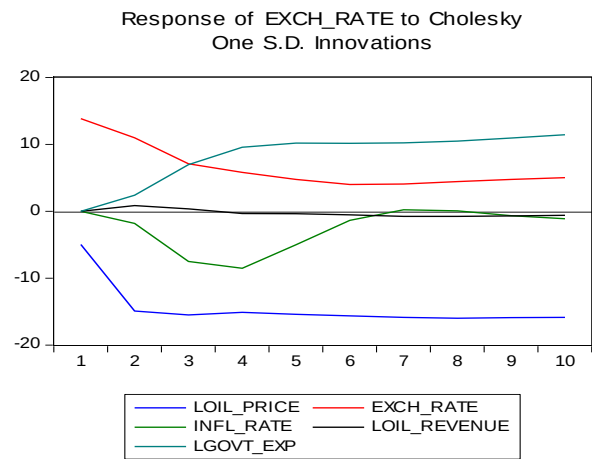
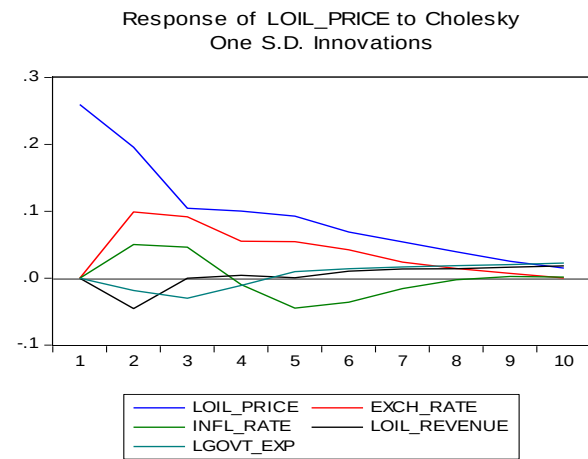
HQ: Hannan-Quinn information criterion

Source: Computed by Researcher using E-Views 9 (2024)

The result in Table 3 shows the maximum lag length determination estimated via the lag order selection criteria. The result shows that the optimum lag is lag five (5) since most of the criteria – FPE, AIC, and HQ showed the fifth lag to be the optimum lag length the VAR (5) model was estimated.

4.4 Impulse response functions for Oil price and Selected Macroeconomic Variables

An impulse response function depicts the effect of a one-time shock to one of the innovations/shocks on current and future values of the endogenous variables. It is also showed the responses of macroeconomic variables due to oil price shocks in Nigeria.



Source: Computed by researcher using E-Views 9 (2024)

Figure 1 Impulse Response Functions

The figure 1 shows combined graph of responses of macroeconomic variables to oil price shocks which examines the long run dynamic interactions among these variables, the research generates impulse-response functions from the estimated VAR. From the second graph, the study shows the response of exchange rate to Cholesky oil price shocks as when the oil price falls within the negative region of a graph, from -5 to -15 and did not up to it reaches 10 period on horizontal line, then the response of exchange rate starts coming down from 15 to 5 on Y-axis and did not die up to it reaches 10 period on horizontal line (X-axis); indicating that the oil price and exchange rate are moving on the different directions, that is, as oil price raises, leads to depreciation of exchange rate since since Nigeria is both an importig and exporting nation, importing refined oil products and other products from the rest of the world dur to her incapacitated refineries.

However, the response of inflation due to oil price shocks from third graph is as oil price starts rising from -5 on Y-axis up to 0 level on X-axis and did not die until it reaches

period 10 on X-axis, thereby leading to a fall of inflation rate from 15 on Y-axis to negative region and it starts rising to positive region and did not die until period 10 on X-axis; meaning that as oil price falling slowly leads to rapid falling of inflation since the money supply falls which leads to fall in demand on consumption and investment desicions of households and firms under the periods of study.

From the fouth graph, however, as oil price starts coming down up to negative region on Y-axis and did not die until it reaches period 10 on X-axis, while the oil revenue responds by coming down frpm Y-axis and keeps maintainig the constant or straight line up to period 10 on X-axis, which depicts that as an oil price falls at global oil market leads to a fall on Nigeria's oil-GDP and oil revenue that has a multiplier effect on govnrnmt expenditure and annual budget implementation in the country as we can see from graph fifth where by the curves or plots of oil price, oil revenue and government expenditure are moving in the same direction within the positive region and did not die until it reaches period 10.

Table 4 Impulse Response Functions (IRFs)

Horizon(Annually)	LOIL_PRICE	EXCH_RATE	INFL_RATE	LOIL_REVENUE	LGOVT_EXP
1	0.259	13.847	12.966	0.204	0.153
2	0.195	10.959	9.389	0.065	0.082
3	0.104	7.088	1.678	0.098	0.114
4	0.100	5.813	-1.921	0.123	0.105
5	0.092	4.757	-1.809	0.104	0.104
6	0.068	3.995	-0.422	0.105	0.106
7	0.054	4.056	0.544	0.107	0.106
8	0.039	4.415	0.628	0.101	0.104
9	0.025	4.746	0.250	0.098	0.103
10	0.015	5.010	-0.066	0.096	0.100

Cholesky Ordering: LOIL_PRICE, EXCH_RATE, INFL_RATE, LOIL_REVENUE, LGOVT_EXP

Source: Compued by Researcher using E-Views 9 (2024)

The Table 4 shows the reaction of exchange rate (Exch_rate) due to shocks in oil price (Loil_price) present for a short time period, but after that it stabilizes at 13.847% but started ups and downs to less than 4% at 6th year. Also, for inflation rate (Infl_rate) response to shocks in oil price (Loil_price) begins at 12.966% at first year and negatively started coming down to the 4th year period at -1.921% keeps fluctuating down to -0.066% after 10th year which is insignificant. However, for Oil revenue (Loil_revenue) response to shocks in oil price (Loil_price) starts from the first year at 0.204% to downward at 0.096% for the final year (10th year). In addition, for Government expenditure (Lgovt_exp) response to shocks in oil price (Loil_price) starts at 0.153%

from first year to downwards sloping as a result of its shocks down to 0.1% after 10-year horizons. In this case, the impact is positive, which means that the shock in one variable makes positive reaction to the other one.

4.5 Variance Decompositions of Oil Price and Selected Macroeconomic Variables

While an impulse response functions depict the changes of a shock to one endogenous variable on to the selected variables in the VAR, Variance Decompositions separate the variation an endogenous variable into the component shocks to the VAR. Thus, the Variance Decompositions provide the information on the relative importance of each random innovation in affecting the variable in the VAR.

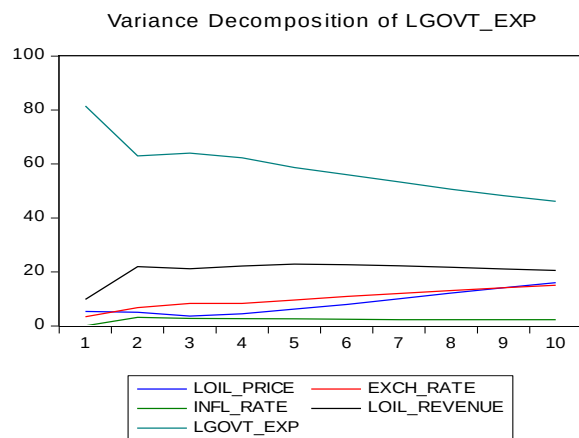
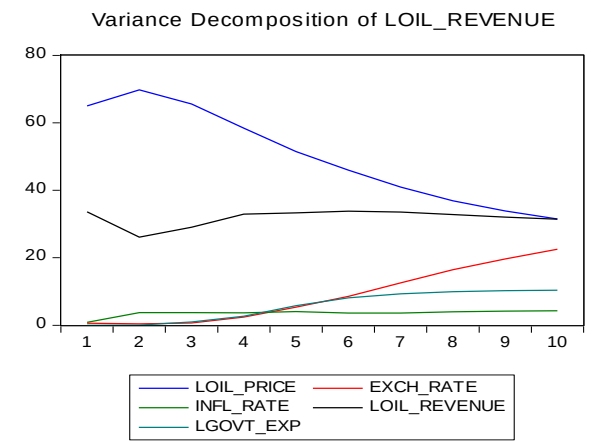
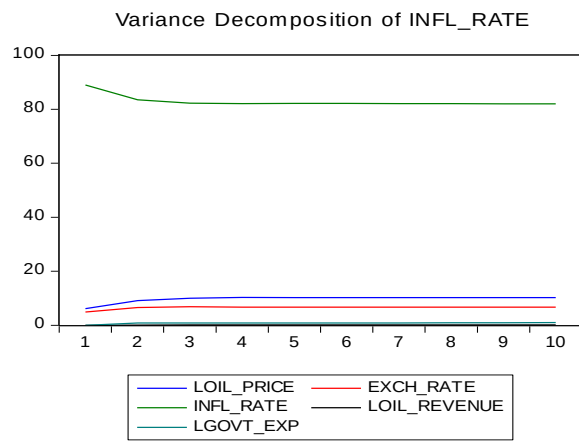
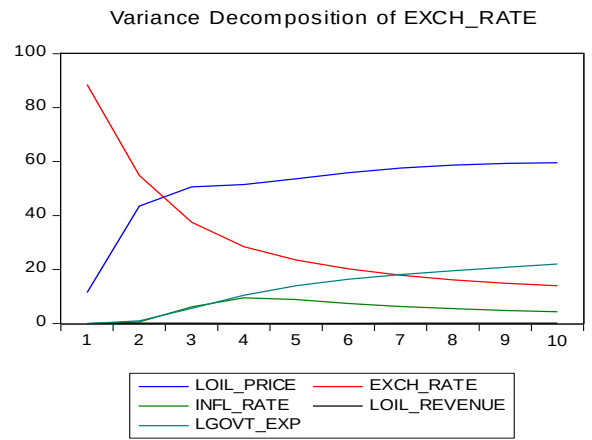
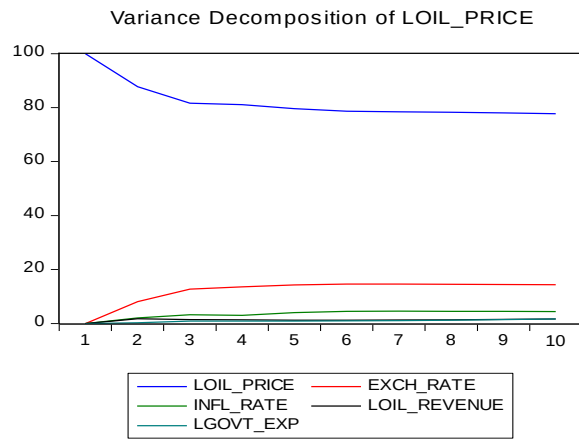
Table 5 Variance Decompositions for LOIL_PRICE and Macroeconomic Variables

Horizon (Annually)	S.E.	LOIL_PRICE	EXCH_RATE	INFL_RATE	LOIL_REVENUE	LGOVT_EXP
1	0.259	100.000	88.500	88.992	33.589	81.442
2	0.346	87.744	54.831	83.542	26.097	62.966
3	0.377	81.627	37.527	82.268	29.038	64.019
4	0.394	81.102	28.464	82.103	32.922	62.289
5	0.411	79.614	23.520	82.208	33.314	58.718
6	0.421	78.647	20.251	82.180	33.774	56.021
7	0.426	78.441	17.903	82.136	33.577	53.363
8	0.429	78.302	16.196	82.085	32.819	50.662
9	0.430	78.068	14.934	82.037	32.068	48.268
10	0.432	77.747	13.966	81.997	31.391	46.136

Source: Computed by Researcher using E-Views 9 (2024)

Initially in Table 5, at 1-year horizon, all forecast error variances in LOIL_PRICE are explained by their own innovations at 100 per cent, while all the explanatory variables of macroeconomic variables started from 0 per cent. The decrease in price of oil was about 59.59% and 4.34% of EXCH_RATE forecast error VDC is explained by the LOIL_PRICE and INFL_RATE respectively. However, LOIL_PRICE and EXCH_RATE contribute 10.2% and 6.7% for the variation in the forecast error of

INFL_RATE due to rise in oil price respectively. From the result in Table 5 shows that the variations in the forecast error of LOIL_REVENUE after 10 years as results of contributions by LOIL_PRICE and LGOVT_EXP to 31.46% and 10.36% due to maximum oil price shocks respectively; It can also see from Table 5 for LGOVT_REVENUE, where LOIL_PRICE and LOIL_REVENUE contribute 15.99% and 20.51% for the variations in the forecast error respectively.



Computed by researcher using E-Views 9 (2024)

Figure 2 variance Decompositions (VDCs)

The figure 2 of VDC was used as an alternative method to examine the effect oil price shocks on selected macroeconomic variables (exchange rate, inflation rate, government expenditure and oil revenue). It depicted the forecast error variance for any variable in a system is explained by innovations to each variable, over a series of time horizons. Normally, own variable shocks try to explain most of the error variance, although the shock would also influence other variables in the system. In this case, the VDC validate the significant role played by LOIL_PRICE in accounting for shocks in these macroeconomic variables namely: EXCH_RATE, INFL_RATE, LOIL_REVENUE, and LGOVT_EXP. It is also showed the results of shocks of macroeconomic variables due to oil price shocks under the study period in Nigeria.

However, from the second graph in figure 2 above shows the shocks as oil price tends to increase from 10 to 60 levels then the exchange rate tends to have a downward sloping from 90 to 10 rate which indicates an inverse relationship between oil price and exchange rate. From the third graph of variance decompositions forecast error depicts that the shocks of inflation rate to oil price is very wide as oil price maintains less than 10 forecast error then inflation rate remains on 90 forecast error did not die till it reaches period 10. The fourth graph, however, shows that as oil price tends to have downward sloping from about 70 to 40 on horizontal line and did not die till it reaches period 10, then the oil revenue tends to have a shocks from 35 to 30 and starts moving upward slowly up to 40 and did not

die till at period 10. Lastly, the innovations of government expenditure shows that there is a fall in government spending from about 80 to 50 due to fall in oil price at global oil market to less than 20 and did not die till it reaches period 10 on horizontal line.

5. Conclusion and Recommendations

From the research findings, the study is carried out to investigate whether or not a response exists among oil price shocks and selected macroeconomic variables and to examine the various of oil price shocks with the implications on the Nigerian economy; and hence the study adopts the VAR model with Impulse Response Functions (IRFs) and Variance Decompositions (VDCs) to measure the shocks and responsiveness of both global oil price and some selected macroeconomic variables. It therefore, affirmed that the response of exchange rate to oil price shocks has an inverse relationship between oil price and exchange rate, indicating that the oil price and exchange rate are moving on the different directions, that is, as oil price raises, leads to depreciation of exchange rate since Nigeria is both an importig and exporting nation, importing refined oil products and other products from the rest of the world dur to her incapacitated refineries. Furthermore, the response of inflation rate, oil revenue and government expenditure to oil price shocks are positive but insignificant; meaning that as oil price falling slowly leads to rapid falling of inflation since the money supply falls which leads to fall in demand on consumption and investment desicions of households and firms as well as a fall on Nigeria's oil-GDP and oil revenue that has a

multiplier effect on government expenditure and annual budget implementation in the country under the periods of the study.

However, based on the results, the following were recommended: first, efforts geared towards developing the oil sector locally by making its refineries are operating at full capacity so as to reduce so more depending on foreign currency (US Dollar over Naira) so as to make an appreciation of exchange rate, controlling inflation, rise in oil revenue and oil GDP to complement government expenditure in Nigeria. Second, to assist federal government and CBN in achieving lower inflation and stable exchange rate towards economic growth targets, and diversification of economy should be formulated and implemented by Nigerian government.

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Mediating Role of Burnout on the Relationship Between Role Ambiguity, Role Conflict and the Performance of Vice Principals

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Abstract

Studies in the literature have shown that the number of analyses on the effects of role ambiguity, role conflict, and burnout on employee job performance has been inconsistent and limited. Therefore, this study examines the mediating role of burnout on the relationship between role ambiguities, role conflict and vice principals performance. The population of the study were all vice principals serving in public schools of Niger North Senatorial District. Using a census sampling, 188 vice principals were considered the sample of the study. The study employed PLS-SEM 3 to run and analyze the data collected. The results showed that four out of five hypotheses were rejected. The direct effect of role conflict increases vice principal's performance while role ambiguity was found to decrease performance, and overall burnout increases their performance through its sub-dimensions, especially, EE and DP. Meanwhile, a significant mediating role of burnout was established in all the indirect relationship. It is concluded that vice principals faced competing demands both directly and indirectly; their responsibilities are clearly spelt out to them directly but due to certain interferences in the environment make their performances low. The Niger State Secondary Schools Board and Ministry of Education in general should note that the absence of ambiguity in secondary schools is a key element in achieving success; role ambiguity should be minimized through the establishment of procedures that will increase the effectiveness and well-being of vice principals.

Keywords: Burnout, Job performance, Role Ambiguity, Role Conflict

Introduction

Job performance has become a matter of great concern among academicians, researchers, practitioners, and governments across the globe. The concept of employee job performance has been regarded as one of the most important and widely researched variables within the domain of work and organizational studies (Omar, Hussein, & Azli, 2016; Chiaburu, Oh, Wang, & Stoverink, 2017), this can be attributed to the role of employees as being imperative to the success of any organizational establishment (Steffens et al., 2014; Worlu

et al., 2016; Inuwa, 2016; Alessandri, Borgogni, & Latham, 2017). The desire of every organization is to get the best out of their employees because of the crucial role employee's play in the overall success of the organization (Ojokuku, 2013; Inuwa, 2016). As a dependent variable of this study, it is conceptualized as the level of commitment and effort of an employee in carrying out his responsibilities effectively and productively in order to fulfill the organization's stated goals.

In the literature, job performance has been categorized into task performance and contextual performance: task performance comprises of the behaviours that are directly or specifically related to the job tasks which can either contribute directly or indirectly to the core of an organization (Hararia *et al.*, 2016). For example, task performance for a vice principal includes assessing lesson notes, teaching, marking of examination scripts, conducting student's assessment, attending teachers meeting, and giving students feedbacks. Contextual performance is that aspect of an employee's performance that involves activities which are not directly or formally related to job tasks, but which solely contribute to the social and psychological core of an organization (Li, Sandvers, & Frankel, 2012). Examples of contextual performance within the context of secondary education includes re-writing a colleague's lesson notes and opening or using social media platform (whatsapp) to ease communication.

However, organizational, individuals, and environmental factors affect performance in schools. These factors influence performance levels in either positive or negative ways (Ericson & Lehmann, 2016). Job stress is considered one of these factors that impacts individuals directly; individuals display low performance under high stress or high performance under sufficient stress. Role ambiguity and role conflict are considered the two main components of role stress (Jackson & Schuller, 2017). Role ambiguity refers to a situation where there is a lack of necessary information for an organizational position, resulting in role dissatisfaction, anxiety, fear and hostility and lower performance. The existence of ambiguity with respect to objectives and poor communication of information affects employees' understanding of what they are expected to do, generates doubts about how to achieve their own performance objectives,

and creates uncertainty as to how their performance will be assessed, and what the consequences will be for completing or failing to complete their objectives (Rogalsky *et al.*, 2016; Urien *et al.*, 2017; Buil, Martinez, & Matute, 2019). Role conflict is the existence of two or more roles such that to manage one would make it difficult to manage the other (Kahn *et al.*, 1964). Role conflict occurs when employees are required to meet incompatible demands and expectations. In line with Karimi (2014) this study operationalized role conflict as a situation where an employee is placed on competing demands relating to their job or position at the same time.

Researchers have extensively investigated burnout to the effect that organizations globally are increasingly showing great concern. The World Health Organization (WHO) formalized researchers' conclusions that burnout is an occupational phenomenon caused by persistent stress in the workplace (Jone-Schenk, 2019). In the literature, stress is anything related to work that presents a threat to employees at the workplace; Bozkus (2018) affirmed that burnout is experienced more in professions that have intensive human relations. Kadiri & Akinmayowa (2015) posited that job stress would arise when there is a mismatch between the expectations or requirements of the job and resources available to meet these requirements or expectations. In a similar study, Jex (2017) posits that job stress arises when work demands threaten the well-being of employees. Celik (2013) argued that it is difficult to differentiate between burnout and stress since burnout is a multidimensional construct: emotional exhaustion, depersonalization, and decreased sense of personal accomplishment. Emotional exhaustion occurs when individuals feel tense and frustrated due to their fears about meeting previous work performance.

Depersonalization arises when individuals do not want to work because they perceive interactions with tasks, clients, or co-workers as dehumanizing. Feelings of reduced personal accomplishment are the result of failures to meet one's desired goals (Albritton, 2020).

Quite a number of studies have confirmed that teaching is a stressful profession, for example, studies like Van da mal, Oolbekkink-Marchand, Schaap, & Meijer (2019) and Skaalvik & Skaalvik (2015) noted that teaching was consistently identified as a highly stressful profession. When teachers experience high stress levels, the outcomes include lower quality instruction, negative teacher well-being and health, and eventually teacher attrition and burnout (Harmsen, Helms-Lorenz, Maulana, & van Veen, 2018). Moreover, teacher stress and poor well-being negatively affect student achievement (Arens & Morin, 2016; Collie & Martin, 2017; Klusmann, Richter, & Lüdtke, 2016).

In the light of the foregoing, role ambiguity and role conflict are considered issues that affect performance; since vice principals are expected to carry out a variety of responsibilities as principals and educators, it is predicted that they frequently experience role ambiguity and role conflict. For example, vice principals are expected to monitor teachers' movement, they experience shortage of teachers especially concerning English and Mathematics, they experience unnecessary interference from parent teachers associations, they have lingering poor relationship between them and other teachers as well as principals, they are challenged by inadequate instructional materials, and general financial resources to carry out their responsibilities amongst others.

Yurur and Keser, 2015; Leiter and Maslach (2009); found that burnout plays a mediating role in the relationship between behavioural and psychological outcomes such as role stressors (role ambiguity and role conflict), job satisfaction, and performance. Burnout is expected to transmit the effect of both role ambiguity and role conflict to an outcome variable (employee job performance), such that role ambiguity and role conflict causes burnout, and burnout causes vice principals performance. There have been a methodological gap in literatures which this study will address; however, there is also a dearth in studies researching how vice principals in secondary schools in Niger North Senatorial District are affected by this situation.

Review of Literature and Hypotheses Development

Employee Job Performance

The concept of employee job performance has been regarded as one of the most important and widely researched variables within the domain of work and organizational studies (Chao *et al.*, 2015; Díaz-Vilela *et al.*, 2015; Omar *et al.*, 2016; Chiaburu, 2017), this can be attributed to the role of employees as being imperative to the success of any organizational establishment (Steffens *et al.*, 2014; Worlu *et al.*, 2016; Inuwa, 2016; Alessandri *et al.*, 2017). The desire of every organization is to get the best out of their employees because of the crucial role employee's play in the overall success of the organization (Ojokuku, 2013; Inuwa, 2016). Job performance is also said to be behavioral, incidental, measurable and multi-dimensional concept (Campbell & Wiernik, 2015) and "very subjective depending on how, why and for whom it's being measured" (Shields *et al.*, 2016). This implies that it can be evaluated across the

sum of actions that employees have taken during a given time period.

Performance has been defined differently in different contexts. In management science, quite a number of studies have described job performance as the achievement of many results that employees want to achieve through a series of behaviours within a certain period of time under the guidelines of corporate goals (Ye, Lou & Tobias, 2023; Mengistu & Jinxing, 2020). In another study, job performance is viewed as the extent to which employees carry out their job obligations, responsibilities and expectations effectively and efficiently (Ericsson & Lehmann, 2016). As a dependent variable of this study, it is conceptualized as the level of commitment and effort of an employee in carrying out his responsibilities effectively and productively in order to fulfill the organization's stated goals.

A model of job performance was developed by Borman and Motowidlo (1993) which categorises employee job performance into task performance and contextual performance: Task performance is also sometimes referred to as in-role performance. Task performance comprises of the behaviours that are directly or specifically related to the job tasks which can either contribute directly or indirectly to the core of an organization (Hararia *et al.*, 2016). For example, task performance for an academic employee includes planning and preparing lesson notes, teaching, marking of examination scripts, conducting student's assessment, attending teachers meeting, and giving students feedbacks. Contextual performance can also be referred to as extra role performance (De Clercq & Belausteguigoitia, 2017). In other words, it refers to an employee simply going the extra-mile for their organization that is, voluntarily carrying out tasks outside their

formal job requirements but known to be beneficial to their organization. Examples of this include an employee working extra hours, making useful suggestions to improve one's school, relating with others courteously, offering help to colleagues when necessary (Bauwens *et al.*, 2017). This study focuses on task performance of vice principals as the work they had to perform that directly contribute to their schools' activities.

Role Ambiguity

Role ambiguity is broadly considered to include uncertainties about role definition, expectations, responsibilities, tasks, and behaviors involved in one or more facets of the task environment (Schmidt, Kusserow & Rau, 2014; Jackson & Schuler, 1985; Kahn *et al.* 1964). Role ambiguity is of two dimensions: objective and subjective components — Objective role ambiguity refers to external conditions in the individual's workplace environment, whereas subjective role ambiguity relates to the amount of ambiguity that the individual perceives in their workplace owing to the information gap that they face (Kahn *et al.* 1964).

Most studies in the 21st century, have explicitly described role ambiguity in an easy to understand ways. Role ambiguity, according to Rizwan *et al.* (2014) and Zhao & Rashid (2010) as a situation when someone does not have clarity on the authority and information about how to do or complete the work that has been assigned to them. In the same vein, Karimi (2014) states that role ambiguity is a factor that causes work stress, and so it occurs when expectations, goals, responsibilities have not been clearly designed for employees. Similarly, the research of Khuoung and Yen (2016) and Baker and Demerouti (2017) supported Karimi (2014) to the effect that role ambiguity is one of the factors that

causes job demands; and this means stress. Role ambiguity refers to a situation where there is a lack of necessary information for an organizational position, resulting in role dissatisfaction, anxiety, fear and hostility and lower performance. The existence of ambiguity with respect to objectives and poor communication of information affects employees' understanding of what they are expected to do, generates doubts about how to achieve their own performance objectives, and creates uncertainty as to how their performance will be assessed, and what the consequences will be for completing or failing to complete their objectives (Rogalsky et al., 2016; Urien et al., 2017; Buil, Martinez, & Matute, 2019). In this paper, Karimi (2014) was adapted, hence, conceptualized as a situation where an employee is unclear about his role in the organization and lacks proper direction and information to perform his job adequately.

Statistical evidence has provided mixed results over a decade; Manas et al. (2018) noted that performance of employees is affected by role ambiguity. While substantial number of studies (such as Yesiltas, 2014; Davis & Stazyk, 2016; Merida-Lopez et al. 2017; Manas et al. 2018) reported negative and significant effect of role ambiguity on employee performance, other studies (e.g., Srikanth & Jomon, 2013; Diaz et al. 2020; Pervez et al. 2022) have found positive and significant relationship between role ambiguity and employee job performance. Hence the study formulated the following hypothesis based on these variations:

H0₁ Role ambiguity does not have significant effect on Employee job performance.

Role Conflict

Individuals in complex organizations are constantly exposed to a variety of expectations from both themselves and others as they carry out their organizational roles. Role conflict is a demonstration of the situation of a person's crisis. Role conflict is also called role stress by (Srivastav, 2010) and role strain by (Goode, 1960) caused by the role that individuals need to internalize in an organization.

There exists many definition of role conflict (Rizzo et al., 1970; Rosse & Rosse, 1981; Drafte, 1998; Schafer, 1998; Rosen et al., 2010); the definition of role conflict was pioneered by Kahn et al. (1964); role conflict is the existence of two or more roles such that to manage one would make it difficult to manage the other. However, this study conceptualizes role conflict as the incompatibility between two or more job roles or responsibilities; this is in line with Bowling et al., (2017).

Kahn et al. (1964) and Hellriegel and Slocum, (1979) specified the concept of role conflict as divided into four (4) dimensions namely inter-role conflict, intra-role conflict, inter-sender conflict and intra-sender conflict. Inter-role conflict is a conflict between several roles for the same person and required different needs or behavioural incompatibilities or changes in behaviour as necessary in the situation (Kahn et al., 1964). This conflict occurred against incumbent because he felt he had to perform more than one task in the role system which caused role overload. Intra-role conflict is an incompatibility between anticipated expectations of incumbent and expectations related to his position (Gross et al., 1958). It was a conflict between standards or personal values of incumbent with himself alone in fulfilling his responsibility for a position or

role. Inter-sender conflict occurred when expectations and requests differs between role senders (Kahn et al., 1964). Some authors interpreted inter-sender conflict as situational conflict which happened when individual expectations and needs did not correlate with organizational needs (Gross et al. (1958). In the case of intra-sender conflict, it materialized when demands or directives from the top leaders for something to be executed within limited time or sources were not able to be implemented by middle leaders (Kahn et al., 1964).

Role conflict has also been examined by past studies in relation to employee job performance; it has been both negative and positive over time. Previous studies (e.g.Yeboah-Kordee et al. 2018; Ehsan & Ali, 2019; Kalyar et al. 2019; Pervez et al. 2022) have found negative relationship between role conflict and employee job performance. In negation to this, studies such as Al-Khasawneh and Futa (2013); Ali (2014) reported significant positive relationship between role conflict and employee job performance. This inconsistency has led to the formulation of this hypothesis:

H0₂: Role conflict does not have significant effect on Employee job performance.

Burnout

The term *burnout* was first coined by Freudenberg (1974) to explain a situation experienced by professionals, who appear to be exhausted or in a state of inability to perform tasks effectively or sometimes even to care for their clients. There exists series of definitions of burnout in the last three decades; for example, Freudenberg (1975) opine that burnout is a feeling of exhaustion due to excessive demands on energy; which manifests in different ways depending on the person. In 2019, World Health Organization

criticized the foregoing definition to the effect that it argued that burnout is a distinct syndrome, rather than a form of exhaustion. In a priori view, Maslach & Jackson (1981) described burnout as the physical and psychological reaction to overwhelming job stressors that occur when an employee cannot effectively deal with stress. Furthermore, burnout describes an individual employee's negative and extreme response to job stress (Maslach et al. 2001). Decades of research has indicated that if burnout is not addressed, it can result in serious psychological and physiological problems, such as, low job performance, increased absenteeism, depression, and high blood pressure (Traunmuller, Stefitz, Gaisbachgrabner, Hofmann, Roessler & Schwerdtfeger, 2019). In tight labor markets, burnout can also create increased turnover, as individuals seek out opportunities with other organizations to find relief from burnout in their current jobs (Chan, Wan, & Kuok, 2015). In addition to the consequences of burnout; it can negatively affect the output and productivity of individuals, teams, and entire organizations (Barkhuizen, Rothmann, & Van de Vijver, 2014) and in the same vein, it can impede performance at all organizational levels (Nazari, Jariani, Beiranvand, Saki, Aghajefi, & Ebrahimzadeh, 2016).

Celik (2013) argued that it is difficult to differentiate between burnout and stress since burnout is a multidimensional construct. In addition, Essiam, Mensah, Kudu, & Gyamfi (2015) explained that stress is the body's response to any change in the environment that needs mental or physical adjustments in order to work properly and productively. In a more recent study, Ahmad, Zahid, Wahid & Ali (2021) found out that stress arises as a result of economic growth, increase in employee's responsibilities at work, increase in advance

information technology. Quite a number of studies have indicated that burnout in teachers consists of three separate, yet related dimensions: emotional exhaustion, depersonalization, and decreased personal accomplishment (Jones-Schenk, 2019; Traunmüller et al., 2019; Dyrbye et al., 2018; Maslach, 2017).

Emotional exhaustion is the fundamental individual stress dimension of burnout, characterized by feelings of emotional and physical depletion, and overextension. In other words, a prolonged workplace stress caused by several actors can lead to emotional exhaustion (Maslach, 2017). In addition, exhaustion is the most reported and studied component of burnout, characterized by a sense of physical or emotional weariness (Leiter & Maslach, 2016). Depersonalization describes detachment from one's work and co-workers, along with a sense of cynicism and disconnect. It also results in cognitive distancing when workers become indifferent or cynical because of emotional exhaustion; and distancing is often a direct reaction to exhaustion, indicating a clear relationship between emotional exhaustion and depersonalization (Maslach et al., 2001). Lack of personal accomplishment, or inefficacy, characterizes the self-appraisal dimension of burnout, described as feelings of ineptitude, lack of achievement, and low levels of productivity on the job. The inefficacy component of burnout manifests in feelings of lacking the ability to complete job tasks or experiencing a lack of fulfillment from one's work. A reduced sense of personal accomplishment can impede job effectiveness and motivation, hindering individuals' work performance (Maslach et al., 2001).

Sa'ad, Daud, and Mohamad (2018) investigated the relationship between role conflict and job satisfaction among school teachers in secondary schools. 125 teachers

were used as sample and regression was employed for the analysis; the result found a moderate significant relationship between the level of role conflict and job satisfaction among the school teachers. In the study of Ahmad, Zahid, Walid and Ali (2021), 200 questionnaire was distributed and 175 was analyzed using statistical correlation and regression; the findings indicated that role ambiguity has a negative relationship with job satisfaction as well as Islamic work ethics has a negative impact on job stress. Empirical studies concerning mediating effect of burnout on the relationship between role ambiguity, role conflict and performance was inconsistent. Celik (2013) found that when the three sub-dimensions of burnout were analyzed; they were insufficiently influential. Emotional exhaustion (EE) fully mediates performance while personal accomplishment (PA) partially mediates performance and Depersonalization was excluded for lack of correlation. Some studies have found out that RA and RC affects the sub-dimensions of burnout negatively. Karatepe and Uludag, (2008), Hsieh and Hsieh, (2003) indicated that RC and RA increased EE and DP. Similarly, Sabuncuoglu (2008) stated that RA affects three dimensions of burnout. Hence, the study formulated the following hypothesis:

H0₃: Burnout does not have significant effect on Employee job performance

H0₄: Burnout does not mediate the relationship between RA and Employee job performance

H0₅: Burnout does not mediate the relationship between RC and Employee job performance.

Organizational Role Theory (ORT)

Organizational Role Theory (ORT), developed in the 1960s, offers a foundational understanding of how roles

within organizations impact the physical and emotional states of individuals, influencing their workplace behaviour and, consequently, their performance (Kahn et al., 1964). Despite its historical roots, ORT remains relevant in contemporary organizational contexts, where the complexity of roles has evolved. Organizational Role Theory offers a comprehensive framework for studying roles within organizations. By exploring individual behaviours, organizational context, and interactions between defined roles; ORT provides a basis for examining how roles can be a source of stress and how they interact. Concepts such as role integration, conflict, and ambiguity further contribute to explaining the dynamics of roles within organizations. This theoretical framework serves as the underpinning theory for investigating role ambiguity, role conflict, and burnout in predicting performance in this study.

Additionally, concepts like role conflict and role ambiguity contribute to understanding role interaction, providing insights into how individuals experience stress and dissatisfaction when facing competing or unclear expectations (Cooper, Dewe, & O'Driscoll, 2001; Katz & Kahn, 1978). This study is closely aligned with ORT as it provides a basis for examining how roles of vice principals can be a source of stress and how they can interact.

Methodology

The study used a cross-sectional descriptive survey design; a cross sectional study is a one-off study that gathers data just once upon a time (Wang & Cheng, 2020). Besides, a survey method is employed when a researcher is intending to evaluate opinions and thoughts on a given phenomenon by gathering quantitative data

from the respondents who are representative of the target population (Odoh & Ihedigbo, 2014). Data was collected from a population of 188 vice principals by census method because the population is small and who are working in Niger North Senatorial District of Niger State using self-administered questionnaire. Vice principals are assumed to practically carry out most functions academically and administratively. So also, census method is employed because all the vice principals form the population and were used for analysis. The district is composed of two Emirate Councils and eight local government areas. The main reason for choosing the senatorial district was not by priority but rather because of accessibility, convenience, and homogeneity.

Instruments

The instrument for measuring Employee Job Performance (EJP) was adapted from Koopmans (2015) with 5 items; Role Ambiguity (RA) and Role Conflict (RC) from Rizzo, House, & Lirtzman, (1970) with 5 items and in measuring burnout, Maslach Burnout Inventory (MBI) developed by Maslach and Jackson, (1981) was adapted. The questionnaire consisted of 15 statements measuring three components: emotional exhaustion, depersonalization, and personal accomplishment; each with 5 items. All questions were in close ended form and responses were on a 5 point likert scale, thus: (Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree) as recommended by (Joshi, Kale & Pal, 2015).

Technique of Data Analysis

This study employed the use of Smart PLS 3 in order to compute the two primary model

of PLS path modeling: measurement model and structural model based on the recommendation of (Hair et al., 2017, Anderson & Gerbing, 1988). The main objectives for the use of PLS are: it places a very stretchy control in respect of distribution and population of the study (Benitez, Henseler, Castillo, & Schuberth, 2020). It also has the possibility of providing further reliable and accurate calculations of mediating roles because its accounts for error that is capable of lessening the possible relationship as well as the increase of the validation of the theory as stated in (Chin, Cheah, Liu, Ting, Lim, & Cham, 2020).

Results and Discussion of Findings:

PLS Path Model Assessment

Prior to the analysis, normality and multicollinearity assumptions were met based on (Hair et al., 2017) recommendations. Subsequently, after satisfying all criteria, the data collected were further evaluated using SmartPLS3 software for partial least squares path modeling; a statistical process designed to estimate the causative network between two or more constructs and is defined in terms of a

theoretical framework as stated in (Vinzi et al., 2010). To confirm and evaluate the model adopted for this study, Hair et al., (2017) recommended a two-stage assessment: measurement models (external assessment models) and structural models (internal assessment models) respectively.

Assessment of Measurement Model (Outer model)

This section assessed the reliability and validity of the model; as presented in Table 4.1, the reliability analysis has been achieved for all constructs as represented by Composite Reliability, Cronbach's alpha, are all above the threshold of 0.70 for all variables as recommended in (Henseler et al., 2009). The Average Variance Extracted (AVE) that represents the convergent validity of the constructs is also achieved. This is also evident in Table 4.1 which indicated values above the threshold of 0.50 as recommended in (Hair et al. (2017) and thus indicates that each of these constructs explains more than 50% of the variance of its indicators (Hair et al., 2017). On the other hand, to ascertain the discriminant validity of all the constructs, the square root of AVE of each variable should be higher than its correlations with any other construct (Fornell & Larcker, 1981).

Table 4.1: Measurement Model (Reliability and Convergent Validity)

Constructs	Items	Cronbach's Alpha	Composite Reliability	AVE
Employee job performance	EJP	0.905	0.930	0.725
Role Ambiguity	RA	0.857	0.898	0.689
Role Conflict	RC	0.879	0.912	0.674
Burnout	BT	0.796	0.905	0.701

Source: Smart PLS version 3.2.8

Finally, all constructs were reliable because their respective composite reliability and Cronbach's alpha values were above the

threshold of .70. In addition, all constructs had indicator reliability and convergence

validity because the AVE level of each construct is higher than .50.

Likewise all the constructs of this study have discriminant validity as the square roots of their respective AVEs are above their correlation with any other construct. In essence, each of the latent constructs of this study is distinctively different from one another as none of them is highly correlated

with the other. More importantly, each of the said constructs are unique and captures phenomena not represented by other constructs based on Fornell and Larcker's (1981) criterion. As shown in Table 4.2, the diagonal bolded values represent the square root of AVE, which is above the correlation of any reflective variable with one another. This clearly indicates the distinctiveness of each of these constructs.

Table 4.2: Fornell-Larcker Criterion for Discriminant validity

Constructs	EJP	RA	RC
Employee job performance	0.85		
Role Ambiguity	0.34	0.83	
Role Conflict	0.72	0.19	0.82

Source: SmartPLS version 3.2.8

Note: Diagonal elements (**figure in bold**) are the square root of the Average Variance Extracted (AVE) shared between the constructs and their measures. Off diagonal elements are the correlations among the construct.

Assessment of Structural Model (Inner model)

Haven achieved the assessment of measurement model conditions; the next is structural model assessment. The first part of the structural model evaluation involved

the analysis of theoretical relationships. Precisely, standard bootstrap was adopted on a sampled case of 188 using 5,000 bootstrap samples to assess the importance of path coefficients for the relationships in line with the recommendation of (Hair et al., 2017).

Table 4.3: Results of Structural Model

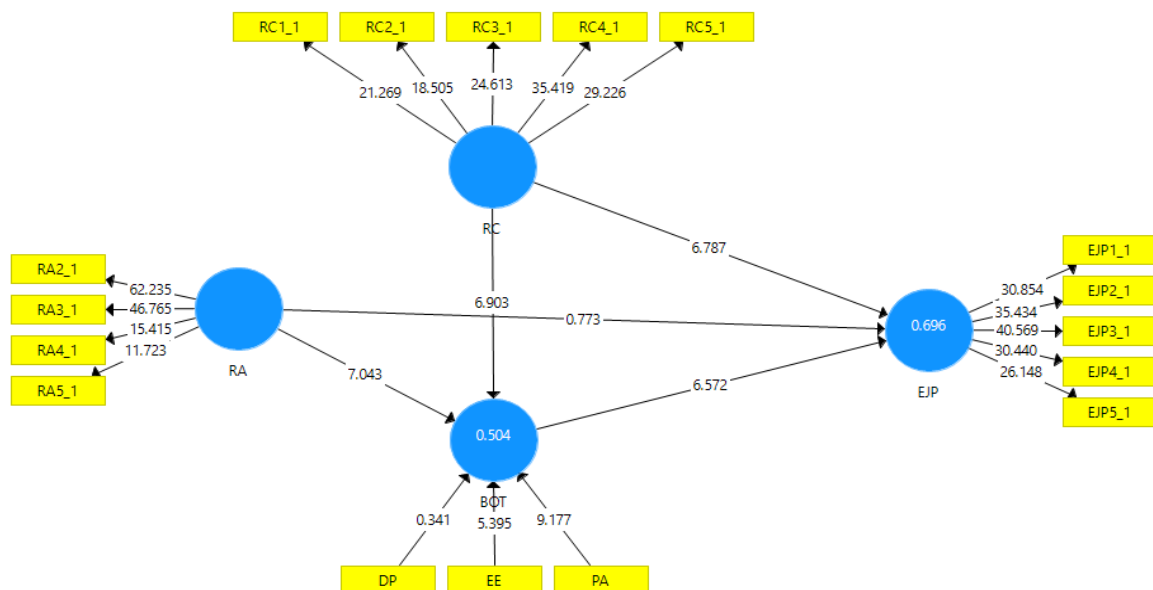
Relationship	β Values	Mean	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Decision
BOT -> EJP	0.53	0.52	0.08	6.76	0.00	Rejected H_{0_3}
RA -> EJP	0.05	0.05	0.06	0.80	0.43	Fail to reject H_{0_1}
RC -> EJP	0.46	0.46	0.07	6.65	0.00	Rejected H_{0_2}
RA -> BOT -> EJP	0.27	0.26	0.05	5.74	0.00	Rejected H_{0_4}
RC -> BOT -> EJP	0.22	0.22	0.04	4.97	0.00	Rejected H_{0_5}

**p < 0.05, Hypotheses 1-3: IV-DV relationships, Hypotheses 4&5: Mediating relationships, SE: Standard error

The bootstrapping result in Table 4.3 shows that all the direct and indirect relationships were significant except RA -> EJP. Precisely, BOT -> EJP was significantly related ($t = 6.76$, $p < .05$), RC was also significantly related with EJP ($t = 6.65$, $p < .05$). In addition, results also shows mediating relationship of BOT; where RA -> BOT -> EJP ($t = 5.74$, $p < .05$),

furthermore, RC -> BOT -> EJP ($t = 4.97$, $p < .05$). However, an insignificant but positive relationship was found between RA -> EJP ($t = 0.80$, $p = 0.43 > 0.05$) at 5% level of significance. Table 4.3 results are represented graphically in Figure1, where the T-values are expressed on the lines between the independent variables and dependent variable.

Figure 1: Structural model



Enter your message here ...

Table 4.4: Bootstrapped Confidence Interval

Relationship	Bêta value	Sample Mean (M)	Lower Limit (2.5%)	Upper Limit (97.5%)
RA -> BOT -> EJP	0.266	0.259	0.175	0.348
RC -> BOT -> EJP	0.220	0.224	0.139	0.315

Hypothesis is Rejected, when there is no zero between lower and upper limits, LL: Lower limit, UL: Upper limit, SE: Standard error

On the mediating relationships, all the mediation relationships are significant based on path coefficients (Beta), T-statistics (t-value), and their respective p-values. Nevertheless, the hypotheses may only be rejected when there is no zero between Lower Limit (LL) and Upper Limit (UL) of the confidence interval, which relies on bootstrapping standard error in accordance with (Hair et al., 2017). However, as shown in Table 4.4, there is no zero (i.e., when the lower limit has a negative and the upper bound have a positive sign) between any of the confidence intervals of each of the relationships. Hence, all hypothesized relationships on the mediating effect of BOT on the relationship between independent variables (i.e., RA and RC) and vice principal's performance are therefore rejected empirically. In addition, indices such as effect size, model fit, predictive power, IPMA, etc have met acceptable limits.

Discussion of findings

This study investigated the mediating role of burnout on the relationship between role ambiguity, role conflict and the performance of vice principals in North Central Senatorial District of Niger State. The study was underpinned by organizational role theory (ORT) developed by Kahn, Wolfe, Quinn, Snoek, and Rosenthal (1964).

However, the statistical analysis of this study established the practical validation of the effects of role ambiguity on employee job performance, and role conflict, burnout and vice principals performance. The direct relationship did not provide evidence of empirical relationship between role ambiguity and vice principals performance; this means role ambiguity decreases performance directly.

In the indirect relationship, the effect of role ambiguity and role conflict was transmitted by burnout; hence, it increases performance indirectly. This was not contrary to our expectation that Burnout mediated the relationship between Role Ambiguity and Role Conflict with the performance of vice principals.

Nevertheless, the results is not surprising as some number of preceding studies found that Role conflict is significantly related to Employee job performance (e.g. Yeboah-Kordee et al. 2018; Ehsan & Ali, 2019; Kalyar et al. 2019; Pervez et al. 2022) among others . Additionally studies have also provided evidence that Role ambiguity is not positively connected to employee job performance (e.g., Srikanth & Jomon, 2013; Diaz et al. 2020; Pervez et al. 2022) among others. Even though the mediating role of Burnout is linking Role conflict and Role conflict with vice principals performance is

rare in the extant literatures, studies have provided a good evidence that the Burnout dimensions significantly relate to vice principal's performance (Celik, 2013; Sabuncuoglu, 2008) among others.

Conclusion and recommendations

In line with the findings of the study, it is concluded that Role conflict significantly affect the performance of vice principals directly and indirectly through Burnout dimensions; however, Role ambiguity does not significantly affect their performance directly but indirectly related to their performance through the burnout dimensions. Even though some of the relationship was not previously established, the results support previous research about the relationships in our model. For example, direct relationships between RC and EJP, BOT and EJP, were established previously by (Ehsan & Ali, 2019; Kalyar et al. 2019; Pervez et al. 2022) among others. It also shows that apart from having direct relationship, Burnout mediates the relationship between RA and RC with EJP. This indicates that the association between RA and RC with performance of vice principals is best understood through Burnout dimensions (Emotional exhaustion, Depersonalization and reduced personal accomplishment). Hence the study answers the questions and proves that if vice principals are affected by role ambiguity and role conflict; their performance will be low. However with regards to role ambiguity relationship with vice principal's performance; this study failed to provide substantial answer to the question, this may perhaps be due to the environment in which vice principals experience role ambiguity

creates uncertainty in decision making, and vice principals spend more effort and time gaining approval from principals and others. This might decrease performance.

Therefore, it can be recommended that role ambiguity should be minimized through the establishment of procedures that will increase the effectiveness and well-being of vice principals. It is equally necessary to determine the roles, mission, authority, and responsibilities of vice principals more exactly, as this might prevent them from experiencing role conflict i.e. increasing performance.

Implication of the Study

Theoretically, the study made a fundamental contribution by examining the mediating role of burnout on the relationship between role ambiguities, role conflict and vice principals performance. Though; this study provides no evidence of direct relationship between Role ambiguity with vice principals performance, however study provides evidences of indirect relationship between role ambiguity, role conflict, and vice principals performance through burnout dimensions. Hence, we recommend the use of longitudinal research to investigate organizational stressors such as role ambiguity and role conflict using a moderator for a more robust result.

Practically, the study confirms the relative importance of each component of role ambiguity and role conflict in the performance model; since vice principals are expected to carry out multifaceted responsibilities as principals and educators, it is predicted that they frequently experience role ambiguity and role

conflict. The study further confirmed that burnout plays a mediating role in the relationship between behavioural and psychological outcomes such as role ambiguity and role conflict. This study recommended that other researchers should employ these hypotheses with other antecedents of employee job performance for further proof. The Niger State Secondary Schools Board and Ministry of Education in general should note that the absence of ambiguity in secondary schools is a key element in achieving success.

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Effect of Risk Management on Financial Performance of Listed Deposit Money Banks in Nigeria

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Abstract

This study examined the effect of risk management on the financial performance of listed deposit money banks in Nigeria. The study used an ex post facto design, targeting 19 listed deposit money banks in Nigeria as of 31st December 2022. A sample of 14 banks was purposively selected, meeting the criteria of being listed before 31st December 2014 and having complete annual reports for the 2014-2023 period. Descriptive statistics and regression analysis were used to analyze the data obtained. The study found that, credit risk has positive but insignificant effect on the financial performance of the listed deposit money banks in Nigeria. While, interest risk and liquidity risk have positive and significant effect on financial performance of deposit money banks in Nigeria. The study concluded that risk management influence financial performance of listed deposit money banks in Nigeria. The study therefore study recommends among others deposit money banks in Nigeria should improve on their credit risk management practice by way of implementing effective credit assessment, monitoring, and recovery mechanisms to minimize the impact of credit risk on their financial performance. They should also focus on diversifying their loan portfolios, setting appropriate credit limits, and strengthening their credit risk modeling and analysis capabilities to enhance their resilience to credit-related shocks.

Keywords: Credit Risk, Deposit Money Banks, Financial Performance, Interest Risk, Liquidity Risk, Return on Assets, Risk Management, Nigeria

1. Introduction

The financial performance of Deposit Money Banks (DMBs) is a crucial aspect of the overall stability and efficiency of the banking sector. Globally, the banking sector has undergone significant changes over the past few decades, particularly in the aftermath of the 2008 financial crisis, which underscored the importance of robust risk management practices (Ayodeji & Adebayo, 2023). These practices are now essential for maintaining banks' financial health, helping them mitigate risks and sustain profitability

in an increasingly complex financial landscape. In Nigeria, the performance of DMBs has been shaped by factors such as economic instability, regulatory reforms, and fluctuating oil prices, which significantly influence the country's economy. The sector has faced multiple challenges, including increased level of Non-Performing Loans (NPLs) in the credit portfolio of banks (Bello & Umar, 2019), inadequate capital, and liquidity shortages, all of which have affected the profitability and stability of Nigerian DMBs (Kumshe et

al., 2024). These challenges highlight the critical need for effective risk management practices to safeguard the financial health of banks. Financial performance, typically measured by metrics such as Return on Assets (ROA), Return on Equity (ROE), and Net Interest Margin (NIM), reflects the profitability and operational efficiency of these banks. However, this study used return on assets (ROA) to measure financial performance.

Risk management in the banking sector involves identifying, assessing, and controlling threats to an institution's capital and earnings. These risks can stem from various sources, including credit risk, market risk, operational risk, and liquidity risk. Effective risk management is crucial for the sustainability and financial performance of banks, as it helps mitigate potential losses and ensures compliance with regulatory standards. In the wake of global financial crises, banks worldwide have been increasingly focused on strengthening their risk management frameworks to enhance resilience against economic shocks (Moudud-Ul-Huq, 2018). The importance of risk management in Nigeria's banking sector cannot be overstated, especially given the country's economic volatility and the significant role of banks in its financial system. The 2009 banking crisis in Nigeria, which led to the collapse of several banks, underscored the vulnerabilities in the sector's risk management practices (Sanusi, 2010). In response, there have been concerted efforts by both banks and regulators to enhance risk management frameworks, focusing on improving capital adequacy, asset quality, credit risk, interest risk management and liquidity management (Nwosu, 2019). However, the effectiveness of these efforts in improving the financial performance of banks remains a critical area of investigation. Therefore, this study used

credit risk, interest risk and liquidity risk to measure risk management.

Credit risk associate with the possibility that a borrower may default on a loan, is a significant issue for Deposit Money Banks (DMBs) in Nigeria and has a strong effect on their financial performance. Credit risk play an important role on banks' financial performances as loans from which interest is derived serves as the main source from which banks' revenue accrues, therefore, the deterioration of credit quality in form of increased level of Non-Performing Loans in the credit portfolio of banks should be an issue of concern to bank management (Bello & Umar, 2019).

High levels of credit risk contribute to an increase in non-performing loans (NPLs), which reduces bank profitability by lowering interest income and raising loan loss provisions (Eke & Osagie, 2019). The Nigerian banking sector has faced persistent challenges with high NPL ratios, often worsened by economic instability and weak risk management practices. These difficulties not only reduce banks' profitability but also negatively affect their liquidity and capital adequacy, weakening their overall financial health (Afolabi et al., 2020). Therefore, managing credit risk effectively is crucial for Nigerian DMBs to maintain financial stability and ensure sustainable profitability in an unpredictable economic.

Interest rate risk, associated with the potential for financial losses due to fluctuations in interest rates, poses a significant challenge for Deposit Money Banks (DMBs) in Nigeria. Unexpected increases or decreases in interest rates can create a mismatch between the interest earned on assets and the interest paid on liabilities, leading to reduced net interest margins (NIM) and diminished profitability

(Agboola et al., 2022). Given Nigeria's often volatile economic landscape, marked by sudden shifts in interest rates due to monetary policy changes or inflationary pressures, DMBs are particularly vulnerable to this risk. Poor management of interest rate risk can result in substantial financial instability, as banks struggle to maintain balanced balance sheets, which can lower earnings and weaken capital positions (Ogunbiyi & Ihejirika, 2023). Therefore, effective management of interest rate risk is crucial for Nigerian banks to safeguard their financial performance and ensure long-term sustainability.

More so, liquidity risk, the risk that a bank will not be able to meet its short-term financial obligations due to an inability to convert assets into cash without significant loss, is a critical concern for Deposit Money Banks (DMBs) in Nigeria. When a bank faces liquidity issues, it may struggle to meet depositor demands or settle other liabilities, leading to a loss of confidence among stakeholders and potentially triggering bank runs (Nwosu, 2019). In the Nigerian banking sector, where economic conditions are often unpredictable, managing liquidity risk is particularly challenging. Poor liquidity management can result in higher borrowing costs, reduced profitability, and even insolvency if not adequately addressed (Olawajun & Adeyemi, 2015). Therefore, effective liquidity risk management is essential for Nigerian DMBs to ensure financial stability, maintain profitability, and sustain operations during periods of economic stress.

The financial performance of Deposit Money Banks (DMBs) is vital for the stability and growth of Nigeria's financial sector, yet these banks have faced ongoing challenges, such as economic volatility, regulatory changes, and high levels of non-

performing loans (NPLs), all of which have hindered profitability. Despite efforts to bolster the sector, many listed DMBs continue to struggle, raising concerns about their ability to effectively manage risks such as credit, market, operational, and liquidity risks. Effective risk management is crucial for reducing the likelihood of financial losses and improving overall performance (Eke et al., 2019), but the full impact of risk management practices on the financial performance of Nigerian banks has not been extensively explored, particularly among listed DMBs.

Prior research on risk management and bank performance presents mixed findings, often focusing on singular risk factors or varying performance measures. Studies like those by Sulaiman and Mohammed (2022), Nyanyuki et al. (2022), and Almustapha et al. (2020) focused on single variables, while others, such as Ramazan and Gulden (2019), combined return on equity (ROE) and return on assets (ROA). Furthermore, research spans various regions and industries, including Kenya (Kipngetich & Muturi, 2015), Sri Lanka (Kodithuwakku, 2015), and Oman (AL-Mamari et al., 2022). With differing approaches, the existing literature lacks consensus on how risk management influences financial performance, especially within the Nigerian context. Thus, this study aims to examine risk management on performance of listed deposit money Banks in Nigeria. Specifically, it seeks to explore the effects of credit risk, interest rate risk, and liquidity risk on the performance of listed DMBs in Nigeria, addressing gaps in the current understanding.

2. Literature Review

2.1. Financial Performance

Financial performance is the extent to which a firm achieves financial efficiency in terms of future expectations on return on

production investment, marketing investment and increase in sales (Suleiman, Aliyu & Bello, 2021). Financial performance is therefore, a key indicator of a company's overall financial health and its ability to generate profits, manage resources efficiently, and meet financial obligations. It reflects the outcomes of a firm's policies and operations in monetary terms, it refers to the assessment of a firm's financial health and its ability to generate profit, sustain growth, and meet its financial obligations, typically measured through key indicators such as return on assets (ROA), return on equity (ROE), and profit margins (Alqaraleh, 2023). In the banking sector, financial performance is especially critical, as it reflects a bank's efficiency in managing risks, liquidity, and capital adequacy, which are essential for ensuring long-term stability (Olokoyo & Osabuohien, 2023). For Deposit Money Banks (DMBs), financial performance encompasses not only profitability but also their resilience in navigating regulatory challenges and economic shocks, highlighting the importance of robust risk management practices (Adeyemi, 2023). Evaluating these performance indicators is crucial for stakeholders, such as regulators, investors, and management, to ensure sustainable growth and financial stability in an increasingly volatile economic environment.

Financial performance is widely recognized as a critical indicator of a company's ability to generate revenues, manage expenses, and efficiently utilize its assets to achieve profitability and create value for its shareholders. Alijarde and González (2019) describe financial performance as the capacity of a firm to manage its resources efficiently to generate revenue and control costs, emphasizing its role in assessing the company's long-term sustainability. Similarly, Akter et al. (2021) highlights financial

performance as a measure of a firm's competitive position and operational efficiency. Agha (2020) further defines financial performance as reflecting a company's ability to generate net income and cash flows, while also measuring the efficiency of asset deployment. The comprehensive nature of financial performance is reinforced by Malik (2020), who notes that it captures the outcomes of a firm's policies in monetary terms, including key metrics like return on investment (ROI) and return on assets (ROA). Nawaiseh (2022) expands on this by emphasizing financial performance as a holistic assessment of a firm's financial health and operational success, which is crucial for informed investment decisions. Various methods of measuring financial performance have been highlighted, including ROI, ROA, return on equity (ROE), and financial ratios (Chuke & Kenneth, 2018; Mishkin, 2017). Importantly, Nwude and Okeke (2018) and Achieng et al. (2018) stress that financial performance is a subjective measure, focusing on how effectively a company can use its assets to generate revenue and achieve its financial objectives. In summary, financial performance encompasses the overall financial health of a company, gauging its ability to manage resources, generate profits, and meet financial goals, with ROA being a common measure used in the assessment of a firm's success.

2.1.1 Return on Assets (ROA)

Financial performance is evaluated through various metrics, each offering distinct insights into a company's operations. Common measures include return on equity (ROE), return on investment (ROI), earnings per share (EPS), profit margin, and Tobin's Q, all of which help assess profitability and efficiency. ROE measures the returns generated on shareholders' equity, providing insight into investor returns (Ullah et al.,

2021). ROI assesses the efficiency of specific investments relative to their costs (Chowdhury & Rasid, 2017), while EPS indicates profit per share, reflecting shareholder value (Akter et al., 2021).

Among these, return on assets (ROA) is one of the most comprehensive indicators of financial performance, especially in industries like banking. ROA evaluates how efficiently a company uses its total assets to generate profit (Akani & Swenem, 2019), reflecting both profitability and asset utilization. This metric is particularly useful for cross-company comparisons as it standardizes profitability relative to asset size, offering consistency across industries (Agostini et al., 2020). For this reason, ROA is frequently chosen in financial performance studies for its ability to capture both profitability and efficiency

According to Akani and Swenem (2019), return on assets (ROA) is a financial performance indicator that measures a company's profitability in relation to its total assets. ROA can be used by corporate management, analysts, and investors to assess how effectively a company uses its resources to make a profit. The metric is frequently represented as a percentage using the net income and average assets of a corporation (Smith & Johnson, 2023). A company's ability to manage its balance sheet to produce profits is more effective and efficient when its ROA is higher; on the other hand, a lower ROA suggests there is potential for improvement (Akani & Swenem, 2019).

Return on Assets (ROA) is defined as the ratio of income to total assets, which measures a company's ability to generate profits from its available assets (Bello & Umar, 2019; Katchova & Enlow, 2013). This metric reflects the efficiency with

which a firm utilizes its assets to generate earnings, and it is a key indicator of a company's profitability and overall financial performance (Akter et al., 2021). According to Martínez-Sola et al. (2019), ROA is a profitability ratio that calculates the net income generated per unit of asset, and it is used to evaluate a company's ability to efficiently utilize its assets to generate profits. This metric provides insights into the operational efficiency of a firm and the effectiveness of its management in using the company's resources to generate earnings (Agostini et al., 2020).

ROA is a financial ratio that measures the efficiency of a company in generating profits from its total assets. It is calculated as the ratio of net income to total assets, and it is a widely used indicator of a firm's overall financial performance and competitiveness (Ullah et al., 2021). ROA gives a sense of how effectively a company is leveraging its resources to create profits, making it a valuable metric for evaluating a firm's financial health and management effectiveness (Chowdhury & Rasid, 2017). ROA measures the efficiency of a company in using its assets to generate profits. It is calculated as the ratio of net income to total assets. A higher ROA indicates that the company is effectively utilizing its assets to generate earnings (Agostini et al., 2020).

2.1.2 Risk Management

Risk management is a systematic process involving the identification, analysis, and response to potential risks that may affect an organization's ability to meet its objectives. According to Oliva (2016) and others, this process is essential for ensuring long-term sustainability by mitigating, transferring, or

avoiding risks. It involves coordinated activities to control risk (Aven, 2016), including assessing and prioritizing threats to minimize their impact (Yaraghi & Langhe, 2011). Risk management spans various risk types, such as financial, operational, strategic, and compliance risks (Frigo & Anderson, 2011; Lalonde & Boiral, 2012). The process is ongoing and dynamic, adapting to evolving risks that continuously threaten organizations (Tasmin & Muazu, 2017). Brustbauer (2016) emphasized that effective risk management is key to safeguarding a company's capital and earnings, ensuring its long-term viability.

In the banking context, risk management involves understanding and managing diverse risks, including credit, interest rate, liquidity, operational, and foreign exchange risks (Nwude & Okeke, 2018). Strong risk management practices are crucial for financial stability and contribute significantly to a bank's ability to achieve its strategic goals and provide value to stakeholders. The proactive approach of risk management ensures that organizations effectively allocate resources to address uncertainties and capitalize on potential opportunities (Lam, 2014; Aon, 2020).

In this context, this study views risk management as a vital, continuous process that enhances organizational governance and operational performance. By integrating comprehensive strategies to mitigate risks, banks and other organizations can maintain financial stability and achieve long-term success, contributing to value creation for their stakeholders.

2.1.2.1 Credit Risk

Credit risk refers to the potential for financial loss arising from the failure of a borrower or counterparty to meet its financial obligations, such as repaying principal or interest, leading to interrupted

cash flows and additional costs for recovery (Hasan & Dridi, 2011; Miao et al., 2017). It is one of the most significant risks faced by banks, especially in traditional lending activities, where the possibility of default can result in a deterioration of the lender's financial performance and stability (Fiordelisi et al., 2017; Fungáčová & Weill, 2013). Effective credit risk management is essential for Deposit Money Banks (DMBs), as higher levels of credit risk increase the likelihood of financial failure (Hempel & Simonson, 2019). Banks that successfully manage credit risk are better equipped to maintain profitability, financial stability, and access to capital markets, which are essential for long-term success (Afolabi et al., 2020).

Based on these views, this study conceptualizes credit risk as the potential for a borrower or counterparty to default on its financial obligations, resulting in a direct impact on the lender's financial health. Effective credit risk management, therefore, plays a crucial role in safeguarding the financial performance of DMBs and ensuring their sustainability in a competitive financial environment. By mitigating these risks, banks can enhance their profitability and resilience, which is vital for achieving their strategic goals and maintaining financial stability.

2.1.2.2 Interest Rate Risk

Interest rate risk refers to the potential for financial losses arising from fluctuations in interest rates, which can affect the value of financial instruments such as bonds and the overall profitability of financial institutions. When interest rates increase, the market value of fixed-income investments declines, and conversely, when interest rates decrease, the value of these investments rises (Ballester et al., 2016; Aljalbani, 2020). The quality of credit quality on

balance sheets of banks is also a function of credit risk exposure levels (Bello & Umar, 2019). This risk is particularly significant for banks and financial institutions, where mismatches in the maturities of assets and liabilities expose them to changes in net interest income and economic value (Khan & Khan, 2018; Saunders & Cornett, 2018). Interest rate risk is driven by the sensitivity of a financial institution's portfolio to changes in the general interest rate environment, which directly impacts its stability and profitability (Jiang et al., 2019).

In this study, interest rate risk is a critical factor for financial institutions, as it directly affects the value of their assets and liabilities, especially those involving fixed-income securities. Managing this risk is essential to maintaining financial stability, as shifts in interest rates can lead to substantial changes in the market value of investments and overall profitability. Therefore, this study conceptualizes interest rate risk as the potential for financial losses due to fluctuations in interest rates, emphasizing its relevance for banks and other financial institutions that hold significant fixed-income assets or face maturity mismatches between their assets and liabilities.

2.1.2.3 Liquidity Risk

Liquidity risk refers to the possibility that a financial institution or other entity may be unable to meet its short-term financial obligations due to insufficient liquid assets or cash. According to Berger and Bouwman (2017), this risk arises when short-term cash inflows are not adequate to cover short-term cash outflows, which could lead to insolvency. Liquidity risk can emerge from unexpected withdrawals, the inability to roll over short-term funding, or the need to

finance asset growth (Acharya & Mora, 2015). Proper management of liquidity risk is essential to avoid disruptions in operations and ensure that institutions can meet their liabilities without incurring significant losses (Hasan et al., 2020; Muriithi, 2016). In this study, liquidity risk can be conceptualized as the risk that an individual, company, or financial institution will not have sufficient liquid assets or cash to fulfill their short-term financial obligations when they fall due. It highlights the importance of maintaining an appropriate balance between assets and liabilities and ensuring access to adequate funding sources to avoid potential insolvency. Effective liquidity management is crucial for financial stability and smooth business operations.

2.2 Empirical Review

This section provides the reviews of some empirical literatures related to the objectives of this study.

2.2.1 Credit Risk and Financial Performance

Aryal (2023) examined the effect of credit risk on the financial performance of commercial banks in Nepal, employing both descriptive and causal-comparative research designs. The study analyzed pooled data from 14 commercial banks over a five-year period (2017/18 to 2021/22) using a regression model. The results indicated that the credit-to-deposit ratio significantly influences bank performance. However, the non-performing loan ratio had an insignificant and negative effect on financial performance. A limitation of the study is its coverage of only a five-year period, which may affect the reliability and generalizability of the findings.

Ukpong and Essien (2022) determined the relationship between credit risks and the financial performance of quoted commercial banks in Nigeria. The research design employed in this study was the Ex-post facto research design. The population comprised the top 10 commercial banks in Nigeria as of December 2021 with updated financial statements up to 2021. The study covered a period of five years - 2017 to 2021. The study utilized secondary data that were extracted from the annual report and accounts of the commercial banks. Descriptive statistics were used to analyze data and regression analysis was used to analyze the research hypotheses. The findings of the study revealed a significant relationship between credit risks and financial performance. The five-year period (2017-2021), though recent, may not fully reflect the long-term impacts of credit risks on bank performance, especially during periods of economic instability or external shock

Mushafiq et al. (2021) investigated the relationship between credit risk and financial performance in non-financial firms, using the Altman Z-score model as a proxy for credit risk and Return on Assets (ROA) and Return on Equity (ROE) as indicators of financial performance. The study also incorporated leverage, liquidity, and firm size as control variables. Using Least Square Dummy Variable regression analysis, data from 69 non-financial companies listed on the Pakistan Stock Exchange KSE-100 Index between 2012 and 2017 were analyzed. The findings revealed that the Altman Z-score, leverage, and firm size significantly affect financial performance, with Altman Z-score and firm size showing a positive relationship, while leverage had a negative effect. However, liquidity was found to be insignificant. A limitation of the study is its focus on non-

financial firms in Pakistan, which may restrict the generalizability of the results to other sectors or regions. The study covered non-financial companies from the Pakistan which could limit the generalization of its findings to other sector.

Munangi and Sibindi (2020) examined the impact of credit risk on the financial performance of 18 South African banks for the period 2008 to 2018. Panel data techniques, namely the pooled ordinary least squares (pooled OLS), fixed effects and random effects estimators were employed to test the relationship between credit risk and financial performance (proxied by non-performing loans (NPLs) and by return on assets (ROA) and return on equity (ROE) respectively). The study found that credit risk was negatively related to financial performance. The study focused only on indicators of credit risk which is only one out of many proxies to measure risk management.

2.2.2 Interest Rate Risk and Financial Performance

Belinda and Irawati (2024) examined the effect of interest rate risk on financial performance, with a focus on the mediating role of banking security levels in commercial banks listed on the Indonesia Stock Exchange. The study analyzed data from 24 banks between 2019 and 2022 using multiple linear regression. The findings indicated that interest rate risk significantly influences both banking security levels and financial performance, with banking security mediating the relationship between interest rate risk and financial performance. The study is its focuses on Indonesian banks, which may restrict the generalizability of the results to other regions.

Onyango and Kalunda (2023) investigated the Interest Rate Risk and Financial Performance of Investment Banks in Kenya to understand how interest rate risk influences financial outcomes. The study used an explanatory sequential mixed-method design, drawing on a population of 16 Kenyan investment banks from 2011 to 2019. Quantitative data was sourced from annual financial statements, while primary data was collected through interviews with key informants, including managers. Regression analysis revealed that interest rate risk had a low but positive and significant influence on financial performance, particularly return on assets (ROA). The study covered only nine (9) year's period.

Bemshima et al. (2022) examined the impact of interest rates on the financial performance of listed manufacturing firms in Nigeria from 2009 to 2018. Financial performance was measured by return on assets (ROA) and return on equity (ROE), with interest rate (ITR) as the independent variable. Using secondary data from 28 manufacturing companies and interest rate data from the Central Bank of Nigeria, the study adopted a correlation research design with cross-sectional and time-series data. Panel multiple regression analysis, conducted via Eviews-10, revealed that interest rates significantly impacted ROA but had no significant effect on ROE. The study focused on manufacturing firms, which differs from research on Deposit Money Banks (DMBs).

2.2.3 Liquidity Risk and Financial Performance

Aregbesola, Wright, Kolawole, and Omojola (2024) examined the impact of liquidity risk and leverage on the financial performance of Nigerian deposit money banks. The objective was to assess how liquidity risk

and leverage affect the profitability of 15 listed deposit money banks in Nigeria from 2013 to 2022. Using a census approach, the study employed descriptive statistics, correlation analysis, and multiple regression analysis. The findings revealed that liquidity risk positively impacted return on equity (ROE), while leverage had a negative effect on profitability. The study highlighted the need for effective liquidity and leverage management to enhance financial performance. A limitation of the study is its sole focus on Nigerian banks, which may not allow for generalization to banks in other regions.

Udenwa, Suberu, and Jacob (2023) conducted a study titled effect of liquidity risk on the financial performance of quoted deposit money banks in Nigeria, aiming to analyze how liquidity risk influences financial performance using Return on Assets (ROA) as a metric. The research employed a panel data design, focusing on a population of 11 quoted deposit money banks from 2014 to 2021. Secondary data was collected from the annual financial reports of the banks. The method of analysis included panel regression models. The findings indicated that liquidity risk, measured through loans and advances to total assets and loans to deposits ratios, significantly affected the financial performance of the banks. The study covered only seven (7) year's period which limit the generalization of its finding.

Alim et al. (2023) investigated the effect of liquidity risk management on financial performance of commercial banks in Pakistan. The objective was to analyze how liquidity risk management affects bank profitability, using Return on Assets (ROA) and Return on Equity (ROE) as performance indicators. The study adopted a panel data

approach, analyzing financial data from 2006 to 2019 of all commercial banks in Pakistan, sourced from the State Bank of Pakistan. The study employed Ordinary Least Square regression analysis. Results indicated that liquidity have positive and significant effect on financial performance of banks. A critique of the study is its limited focus on Pakistani commercial banks, which may not fully represent banks in other financial environments.

Ratemo (2021) explored the liquidity risk and financial performance of commercial banks in Kenya. the objective was to examine how liquidity risk affects the financial performance of commercial banks. The study used a causal research design and collected secondary data from financial books and reports of 42 commercial banks operating in Kenya from 2012 to 2017. Data was analyzed using Stata 14.0, applying both descriptive and panel regression models. The findings showed that asset quality negatively impacted financial performance, while operational efficiency and bank size positively affected it. One limitation of the study was its narrow focus on Kenyan banks, potentially limiting its applicability in other regions.

2.3 Theoretical Framework

This study is hinged on the Risk Management Theory. The Risk Management Theory propounded by Sharpe in 1964 through his development of the Capital Asset Pricing Model (CAPM). The central premise of the Risk Management Theory is that risk should be actively managed and minimized to enhance financial performance (Sharpe, 1964). The theory emphasizes the importance of identifying, measuring, and controlling various types of risks, such as market risk, credit risk, operational risk, and

liquidity risk, that can affect the financial performance of an organization.

Several other scholars have built upon the foundations of the Risk Management Theory and contributed to its development: Harry Markowitz: Markowitz's modern portfolio theory, which focuses on the relationship between risk and return, is closely related to the Risk Management Theory (Markowitz, 1952). Merton Miller and Franco Modigliani: Their work on the irrelevance of capital structure in a perfect market provided insights into the role of risk management in corporate finance (Miller & Modigliani, 1958). Jensen and Meckling: Their agency theory highlighted the importance of risk management in aligning the interests of managers and shareholders (Jensen & Meckling, 1976). Holmström and Tirole: Their work on the role of liquidity and information in risk management contributed to the understanding of liquidity risk management (Holmström & Tirole, 1998).

While the Risk Management Theory has been widely accepted, it has also faced some criticisms: 1).Difficulty in Measuring Risk: Accurately measuring and quantifying various types of risks can be challenging, which can limit the effectiveness of risk management practices (Taleb, 2007). 2). Assumption of Rationality: The theory assumes that decision-makers are rational and can make optimal risk management decisions, which may not always be the case in practice (Kahneman & Tversky, 1979). 3). Ignoring Behavioural Factors: The theory tends to overlook the influence of behavioral factors, such as risk perception and cognitive biases, on risk management decisions (Barberis & Thaler, 2003).

Despite the criticism of the theory, it is highly relevant to the study on the effect of risk management on the financial performance of listed Deposit Money Banks (DMBs) in Nigeria for the fact the theory

provides a strong conceptual foundation for understanding the importance of effective risk management practices in the banking sector (Saunders & Cornett, 2020). Specifically, the theory suggests that banks should actively identify, measure, and control various types of risks, such as credit risk, market risk, and liquidity risk, to enhance their financial performance and mitigate the adverse effects of financial crises. The insights from the Risk Management Theory can inform the development of appropriate risk management frameworks and strategies for Nigerian DMBs, ultimately contributing to the stability and performance of the banking sector. However, this study will adopt Risk Management Theory. The justification for adopting Risk Management Theory is based on the fact that the Theory provides a well-established and comprehensive framework for identifying, assessing, and managing the diverse risks faced by deposit money banks in Nigeria. This holistic approach is crucial in understanding the impact of risk management on bank performance.

3 Research Methods

The objective of this study is to examine the effect of risk management on the financial performance of listed deposit money banks (DMBs) in Nigeria. The study employed an ex post facto research design, which is appropriate for cases where the researcher does not have control over the independent variables as they have already occurred and cannot be manipulated (Kerlinger & Lee, 2000). This design also facilitates the collection and analysis of existing data to determine the relationships between the variables of interest.

The study focused on 14 out of 19 listed DMBs in Nigeria, selected based on the availability of data. These banks include

Access Bank, Eco Bank, FCMB, Fidelity Bank, First Bank, Guaranty Trust Bank, Jaiz Bank, Stanbic IBTC, Sterling Bank, United Bank for Africa, Union Bank, Unity Bank, Wema Bank, and Zenith Bank. The study covered a 10-year period from 2014 to 2023. The justification for selecting this time frame and the 14 banks was due to the availability of consistent data throughout the period.

Secondary data was used, obtained from the published annual reports and financial statements of the selected banks as well as the Central Bank of Nigeria (CBN) statistical bulletin. The CBN data was particularly valuable, as it accurately reflects the involvement of the banks in the variables under study. The hypotheses were tested using regression analysis, and the data was analyzed with the help of EVIEWS software to establish the relationships between risk management and financial performance.

The Regression Model Used

$$ROA_{it} = \beta_0 + \beta_1 CDR_{it} + \beta_2 IRR_{it} + \beta_3 LRR_{it} + \epsilon$$

Where:

ROA_{it} = Return on Assets i in year t

CDR_{it} = Credit Risk i in year t

IRR_{it} = Interest Rate Risk i in year t

LRR_{it} = Liquidity Rate Risk i in year t

β_0 = common y-intercept

$\beta_1 - \beta_3$ = coefficient of the relevant predictor variables

μ = stochastic error terms.

Measurement and description of the Variable

Table 1. Variable Measurement

Variable Name & Acronym	Variable type	Variable Description/Measurement	Source
Return on Assets (ROA)	Dependent variable	<u>Earnings before Income Tax (EBIT)</u> Total Assets (TASSET)	Manzaneque et al. (2021); Olatunji and Ahmadu (2019).
Credit Risk (CDR)	Independent variable	Probability of Default (PD) x Exposure at Default (EAD) x Loss Given Default (LGD)	Bellotti and Crook (2012); Dionne, (2013); Glennon and Nigro, (2005)
Interest Rate Risk (IRR)	Independent variable	Duration = $\sum (t \times Ct / (1 + r)^t) / P$	Fabozzi (2012); Saunders and Cornett (2014). Hull (2018)
Liquidity Rate Risk (LRR)	Independent variable	Liquidity Coverage Ratio (LCR) = <u>High-Quality Liquid Assets (HQLA)</u> Total Net Cash Outflows over the Next 30 Calendar Days	Crouhy et al. (2014); Saunders and Cornett (2014).

Source: Researcher's Compilation, 2024

3. Results and discussion

This section provides results from the data analysis and discussions of findings were made. It presents the key findings derived from the data analysis and provides a comprehensive interpretation of these results in relation to the research objectives and hypotheses. In this section, the results of the statistical analyses were typically presented in a clear and structured manner, using tables, and figures to enhance understanding. The discussion then contextualizes the findings, comparing them

with previous studies and theories within the literature. This section also highlights the implications of the results for the field. Additionally, it addresses whether the hypotheses have been supported or refuted, offering insights into the practical and theoretical significance of the research outcomes.

4.1 Descriptive Analysis

This section present the result of descriptive statistics for the variables used in this study, and presents the behaviour of the data for the variables.

Table 2: Descriptive Analysis

	ROA	CDR	IRR	LRR
Mean	0.292	0.305	0.524	0.417
Median	0.312	0.346	0.435	0.470
Maximum	0.629	0.674	0.841	0.8176
Minimum	0.110	0.270	0.250	0.399
Std. Dev.	1.221	2.847	15.126	2.494
Skewness	-0.064	-0.012	0.313	-0.003
Kurtosis	1.625	1.595	3.421	1.757
Jarque-Bera	1.026	1.068	0.308	0.835
Probability	0.599	0.586	0.856	0.658
Sum	38.049	39.777	68.178	54.218
Sum Sq. Dev.	59.12057	71.083	27.709	81.5747
Observations	140	140	140	140

Source: Researcher's Computation, 2024 via EVIEWS

The table 2 is the descriptive statistics for the variables used in this study. The table offer insights into the descriptive characteristics of dependent variable ROA (Return on Assets) and the three independent variables: CDR (Credit Risk), IRR (Interest Rate Risk) and LRR (Liquidity Rate Risk).

The descriptive statistical analysis for Return on Assets (ROA) shows the Mean value of 0.292 which indicates that on average, the return on assets is 29.2%, Median value of 0.312. The median ROA is 31.2%, suggesting that the distribution is slightly skewed. Maximum value of 0.629 which shows that the maximum ROA observed is 62.9%, Minimum value of 0.110 which indicate that the minimum ROA observed is 11.0%. The Std. Dev value of 1.221 indicates that the ROA values have a relatively high degree of dispersion around the mean. Skewness value of -0.064 which show that the distribution of ROA is slightly negatively skewed, indicating a longer left tail. Kurtosis value of 1.625 which shows

the distribution has a kurtosis value less than 3, suggesting a flatter distribution compared to a normal distribution. The Jarque-Bera value of 1.026 with Probability value of 0.599 suggests that the ROA data follows a normal distribution.

While, the descriptive statistical analysis for Credit Risk (CDR) shows Mean value of 0.305, meaning that the average credit risks level is 30.5%. The Median value of 0.346 indicates that the median credit risk level is 34.6%, while the Maximum value of 0.674 shows that the maximum credit risk level observed is 67.4%. The Minimum value of 0.270 revealed that the minimum credit risk level observed is 27.0% and the Std. Dev. value of 2.847 show the credit risk values have a relatively high degree of dispersion around the mean. The Skewness value of -0.012 show that he distribution of credit risk is slightly negatively skewed, indicating a longer left tail. The Kurtosis value of 1.595 mean that the distribution has a kurtosis value less than 3, suggesting a flatter distribution compared to a normal

distribution. The Jarque-Bera value of 1.068 and its corresponding Probability value of 0.586 suggest that the credit risk data follows a normal distribution.

Similarly, the descriptive statistical analysis for Interest Rate Risk (IRR) shows the Mean value of 0.524 which indicate the average interest rate risk level is 52.4% and the Median value of 0.435 means that the median interest rate risk level is 43.5%. The Maximum value of 0.841 means that the maximum interest rate risk level observed is 84.1%. The Minimum value of 0.250 which show that the minimum interest rate risk level observed is 25.0% and the Std. Dev. value of 15.126 which mean that the interest rate risk values have a very high degree of dispersion around the mean. The Skewness value of 0.313 shows that the distribution of interest rate risks is slightly positively skewed, indicating a longer right tail. The Kurtosis value of 3.421 shows that the distribution has a kurtosis value greater than 3, suggesting a more peaked distribution compared to a normal distribution. The Jarque-Bera value of 0.308 and its corresponding Probability of 0.856 suggest that the interest rate risk data follows a normal distribution.

Finally, the descriptive statistics for Liquidity Risk (LRR) show the Mean value of 0.417 indicates that the average liquidity risk level is 41.7 percent. The Median value of 0.470 means that the median liquidity risk level is 47.0 percent, while the Maximum value of 0.8176 means that the maximum

liquidity risk level observed is 81.76 percent. The Minimum value of 0.399 indicates the minimum liquidity risk level observed is 39.9 percent. The Std. Dev. Value of 2.494 indicates that the liquidity risk values have a relatively high degree of dispersion around the mean. The Skewness value of -0.003 – means the distribution of liquidity risk is almost symmetrical, the Kurtosis value of 1.757 indicates that the distribution has a kurtosis value less than 3, suggesting a flatter distribution compared to a normal distribution. The Jarque-Bera value of 0.835 and its corresponding Probability value of 0.658 suggest that the liquidity risk data follows a normal distribution.

Overall, the data suggests that the variables have varying degrees of dispersion, skewness, and kurtosis, which can have implications for risk management, decision-making, and further analysis. The normality of the distributions, as indicated by the Jarque-Bera test, suggests that parametric statistical methods can be appropriately applied to the data. Therefore, this study relied on the above result and straightway conducts Pearson's correlation and Regression analysis.

4.2 Correlation Analysis

The correlation result is a statistical measure that indicates the strength and direction of the relationship between two variables. Therefore, correlation analysis was computed to determine the strength and direction of the relationship between the variables used.

Table 3: Correlation of the Variables

Date: 22/078/24 Time: 11:35

Sample: 2014 2023

Included observations: 140

Number of groups: 14

Correlation				
Probability	ROA	CDR	IRR	LRR
ROA	1.000			

CDR	0.131	1.000		
	0.000	-----		
IRR	0.102	0.112	1.000	
	0.000	0.000	-----	
LRR	0.093	0.105	0.142	1.000
	0.000	0.000	0.000	-----

r=correlation coefficient; t-stat; probability of t-statistics,

Source: Researcher's Computation, 2024 via EVIEWS

The table 3 provided correlation matrix provides insights into the relationships between the different variables: ROA (Return on Assets), CDR (Credit Risk), IRR (Interest Rate Risk), and LRR (Liquidity Risk).

The result shows that There is a positive correlation between Return on Assets (ROA) and Credit Risk (CDR) with a correlation coefficient of 0.131. The correlation between ROA and Interest Rate Risk (IRR) is 0.102, indicating a weak positive relationship. Also, there is a weak positive correlation between ROA and Liquidity Risk (LRR), with an r value of 0.093. Similarly, a weak positive correlation exists between Credit Risk (CDR) and Interest Rate Risk (IRR), with a coefficient of 0.112. in addition, the correlation between Credit Risk (CDR) and Liquidity Risk (LRR) is 0.105, which suggests a weak positive relationship. And there is a slightly

stronger positive correlation between Interest Rate Risk (IRR) and Liquidity Risk (LRR), with an r value of 0.142. This indicates a weak but more pronounced positive relationship compared to the others. All the correlations are weak and positive, meaning that they follow the same pattern.

Collinearity becomes a concern when the correlation between independent variables is high, typically above 0.7. In this case, none of the correlation coefficients between the independent variables (CDR, IRR, LRR) exceed 0.2, indicating that there is no significant multicollinearity issue among the risk variables. This suggests that these variables can be included together in a regression model without concern for collinearity affecting the results.

4.3 Regression Result

The regression results table provides an in-depth analysis of the relationship between

the dependent variable and one or more independent variables in the study. In this case, the dependent variable is typically return on assets (ROA), a common measure of financial performance for banks, while the independent variables are the risk management factors, including Credit Risk (CDR), Interest Rate Risk (IRR), and Liquidity Risk (LRR). This study used Ordinary Least Squares (OLS) regression.

OLS was appropriate for this study because it estimates the linear relationship between risk management factors (credit risk, interest rate risk, and liquidity risk) and financial performance (ROA). Pre- and post-estimation tests, such as checks for normality which was done using the Jarque-Bera test, multicollinearity and autocorrelation help ensure the reliability and validity of the regression model.

Table 4.9: Regression Result

Dependent Variable: ROA

Method: Ordinary Least Squares

Date: 22/078/24 Time: 11:35

Sample: 2014 2023

Included observations: 140

Group: 14

Variable	Coefficient	Std. Error	t-Statistic	Prob.	VIF
C	0.01559	0.00684	2.49233	0.0254	
CDR	2.34302	2.55903	0.36408	0.4260	2.35
IRR	5.22460	1.27621	4.54434	0.0000	2.12
LRR	3. 01791	1.14327	2.544223	0.0031	1.45
R-squared	0.42442	Mean dependent var		14.6797	
Adjusted R-squared	0.34263	S.D. dependent var		3.78572	
S.E. of regression	1.263177	Akaike info criterion		3.31646	
Sum squared resid	4.462139	Schwarz criterion		3.45287	
Log likelihood	-9.442641	Hannan-Quinn criter.		3.22361	
F-statistic	25.94315	Durbin-Watson stat		1.97132	
Prob(F-statistic)	0.005123				

Source: Researcher's Computation, 2024 via EVIEWS

Table 4 presents the regression result for the effect of effect of risk management on financial performance of DMBs in Nigeria.

From the result above, VIF values are in all respective case are less than 5, therefore, these indicate that multicollinearity is not a concern in this model. The VIF values for all independent variables in the model are less than 5, indicating that multicollinearity

is not a concern. Multicollinearity occurs when independent variables are highly correlated, which can distort the estimated coefficients. However, since the VIF values are low, the independent variables (credit risk, interest rate risk, and liquidity risk) are not excessively correlated, making the OLS estimates stable and reliable. Also, The Durbin-Watson statistic of 1.97132 is very close to 2, indicating that there is no

significant autocorrelation in the residuals. Autocorrelation can lead to inefficient estimates in OLS regression and biased standard errors, affecting the validity of hypothesis testing. However, with a Durbin-Watson value near 2, the residuals are independent, ensuring that OLS is appropriate for this dataset and that the model produces unbiased and efficient estimates.

The use of Ordinary Least Squares (OLS) is justified in this study based on the diagnostic results from the Variance Inflation Factor (VIF) and Durbin-Watson (DW) statistics. These tests confirm that key assumptions of OLS regression have not been violated, ensuring that the model's estimates are reliable and unbiased

The R-squared value is 0.42442, indicating that the model explains approximately 42.44% of the variation in the dependent variable. The adjusted R-squared value is 0.34263, which takes into account the number of predictors in the model and is a more accurate measure of the model's explanatory power. The standard error of the regression (S.E. of regression) is 1.263177, which represents the average amount the dependent variable deviates from the regression line. The F-statistic is 25.94315, which is statistically significant (p-value = 0.005123), indicating that the model as a whole is a good fit for the data. The Durbin-Watson statistic is 1.97132, which is close to 2, suggesting that there is no significant autocorrelation in the residuals.

From the regression result in the table 4 with respect to credit risk, it revealed that credit risk (CDR) has coefficient value of 2.34302,

t-value of 0.36408 and P-value of 0.4260 which is positive but insignificant at 5% level of significant. It is therefore found that credit risk has positive but insignificant effect on financial performance of listed deposit money banks in Nigeria. The coefficient for the credit risk variable (CDR) is 2.34302. This means that for a one-unit increase in credit risk, there is a 2.34302 unit increase in the financial performance of the banks, holding all other variables constant. The t-statistic for the CDR variable is 0.36408, and the corresponding p-value is 0.4260. Since the p-value is greater than the commonly used significance level of 0.05 (5%), it implies that the effect of credit risk on financial performance of DMBs is not statistically significant at the 5% level. This result suggests that an increase in credit risk is associated with an increase in financial performance of the banks. However, this relationship is not statistically significant. This statistical analysis has not provided the sufficient ground for rejecting null hypothesis one. Therefore, the null hypothesis one which states that credit risk has no significant effect on financial performance (ROA) of DMBs in Nigeria is hereby accepted. This finding is in line with the finding of Aryal (2023) who examined the effect of credit risk on financial performance of commercial banks in Nepal and found that credit risk indicators, non-performing loan ratio has insignificant and negative effect on bank performance.

The result indicating a positive but insignificant effect of credit risk on financial performance challenges the effectiveness of credit risk management in Nigerian Deposit Money Banks. From a Risk Management

Theory perspective, the findings suggest that banks may not be managing their credit risk optimally to translate higher risk into improved financial performance. In practical terms, this highlights the need for Nigerian banks to strengthen their credit risk management frameworks, review lending policies, and adhere to stricter regulatory oversight to better align risk-taking with performance outcomes. Investors and regulators should also be mindful of these findings when assessing the health and stability of banks in the Nigerian financial system.

From the regression result in the table 4 with respect to interest rate risk and financial performance of DMBs, it revealed that interest rate risk (IRR) has coefficient value of 5.22460, t-value of 4.54434, and P-value of 0.0000 which is positive and significant at 5 percent level of significant. This means that for a one-unit increase in interest rate risk, there is a 5.22460 unit increase in the financial performance (ROA) of the banks, holding all other variables constant. The t-statistic for the IRR variable is 4.54434, and the corresponding p-value is 0.0000. Since the p-value is less than the commonly used significance level of 0.05 (5%), it implies that the effect of interest rate risk on financial performance is statistically significant at the 5 percent level. It is therefore found that interest rate risk has positive and significant effect on financial performance (ROA) of listed deposit money banks in Nigeria at 5 percent significant level. Therefore, the null hypothesis two which states that interest rate risk has no significant effect on financial performance (ROA) of DMBs in Nigeria is hereby

rejected. This finding is in line with the finding of Bemshima et al. (2022) who examined the impact of interest rate on the financial performance of listed manufacturing firms in Nigeria and found that interest rates had a significant impact on ROA.

The finding that interest rate risk has a positive and significant impact on the financial performance of Nigerian deposit money banks supports the key tenets of Risk Management Theory, which emphasizes the importance of managing financial risks to enhance profitability. From a practical perspective, this suggests that Nigerian banks are managing their exposure to interest rate fluctuations effectively, which contributes to their overall financial success. However, continued efforts are required to optimize risk management strategies, enhance regulatory oversight, and build capacity to ensure that banks can sustain their performance in the face of evolving interest rate risks.

Similarly, the regression result respect to liquidity rate risk and financial performance of DMBs, it revealed that liquidity rate risk (LRR) has coefficient value of 3.01791, t-value of 2.544223 and P-value of 0.0031 which is positive and significant at 5 percent level of significant. This means that for a unit increase in liquidity rate risk, there is a 3.01791 unit increase in the financial performance (ROA) of the DMBs, holding all other variables constant. The t-statistic for the LRR variable is 2.544223, and the corresponding p-value is 0.0031. Since the p-value is less than the commonly used significance level of 0.05 (5%), it implies

that the effect of liquidity rate risk on financial performance is statistically significant at the 5% level. It is therefore found that liquidity rate risk has positive and significant effect on financial performance (ROA) of listed deposit money banks in Nigeria at 5% significant level. Therefore, the null hypothesis three which states that liquidity rate risk has no significant effect on financial performance (ROA) of DMBs in Nigeria is hereby rejected. This finding contradicts the finding Alim et al. (2023) who investigated the effect of liquidity risk management on financial performance of commercial banks in Pakistan and found that liquidity have positive and significant effect on financial performance of banks.

The finding of liquidity rate risk has a positive and significant effect on the financial performance of Nigerian deposit money banks (DMBs) supports the Risk Management Theory by illustrating the critical role that proper liquidity management plays in enhancing profitability. From a practical standpoint, banks should continue to strengthen their liquidity risk management practices to maintain financial stability and capitalize on profitable opportunities. Regulatory compliance, operational efficiency, and strategic asset-liability management are key elements that will enable banks to optimize their liquidity positions and drive better financial performance. Investors and regulators alike should place a strong emphasis on liquidity risk management to ensure that Nigerian banks remain resilient and profitable in the face of liquidity challenges

5. Conclusions and Recommendations

Based on the findings of this study, it can be concluded that effective management of both interest rate risk and liquidity risk significantly enhances the financial performance of listed deposit money banks (DMBs) in Nigeria. The positive and significant relationships indicate that bank's strategies in managing these risks are well-implemented, contributing to improved return on assets (ROA) and overall profitability. This suggests that listed DMBs in Nigeria have developed sufficient mechanisms to mitigate the adverse impacts of interest rate fluctuations and liquidity shortages, resulting in better financial outcomes.

However, it is also conclude that despite some level of effectiveness, credit risk management practices among Nigerian DMBs are not robust enough to significantly enhance financial performance.

This study therefore recommends based on the findings and conclusion that:

- i. DMBs in Nigeria should strengthen their credit risk management frameworks by implementing more rigorous credit assessment, monitoring, and recovery mechanisms. This includes diversifying loan portfolios, setting appropriate credit limits, and adopting advanced credit risk modeling techniques. By improving their ability to evaluate and manage credit risk, banks can reduce potential credit-related losses and improve their overall financial performance.
- ii. DMBs in Nigeria should prioritize the development of sophisticated interest rate risk management strategies. This

involves utilizing advanced financial forecasting models to anticipate interest rate movements and optimizing asset-liability management to reduce exposure to interest rate fluctuations. By improving their capacity to manage interest rate risk, banks can protect their profitability during volatile economic periods and take advantage of favorable rate conditions to enhance their financial performance

- iii. DMBs in Nigeria should continue to focus on maintaining strong liquidity
- iv.

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Tax Planning Strategies and Financial Performance among Quoted Consumer Goods Companies in Nigeria

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Abstract

High tax rates have been a problem for consumer products companies in emerging economies, especially in Nigeria, where it has had a big effect on their financial performance. This study looks at how leverage tax planning techniques and research and development (R&D) affect the financial performance of Nigerian enterprises that manufacture consumer goods. The study, which uses cross-sectional data from 2011 to 2020 and an ex-post facto research design, covers all consumer goods companies listed on the Nigeria Stock Exchange as of December 31, 2020. The results show that the financial performance of listed consumer goods manufacturing companies in Nigeria is not considerably impacted by research and development. Moreover, conflicting findings emerge from the study of the relationship between company leverage and financial success. To potentially increase profitability, the report suggests that employers hold frequent training sessions on modern tax planning techniques for their staff. Furthermore, as interest paid on debt financing is tax deductible, using leverage as a source of financing is advised to optimize tax deductions as a way to enhance financial performance. In light of the difficult tax environments, this research provides practical suggestions to improve tax planning strategies and strengthen financial performance for Nigerian companies that manufacture consumer goods.

Keywords: Tax Planning Technique, Research and Development, Firms Leverage, Financial Performance and Return on Asset (ROA)

Introduction

It is more troubling than ever that organizational profit is continuing to decline in today businesses. This has been connected to high expenses, high production prices, and most importantly high tax rates. However, tax revenue is essential to the expansion of any economy, both developed and developing, as it offsets inflation, ensures resource redistribution, helps fund government activities, and generates employment. On the other hand, the company goal to optimize its profit, the company, both domestic and multinational try to minimize the tax burden by using existing tax-probation's blind spot and urge management to do aggressive tax measures (Muhammed, 2022). Recently, there has been a lot of interest in certain multinational businesses' (MNEs') tax planning. The topic of low reported effective tax rates has been raised. In 2010, large profitable U.S. corporations reported an average ETR of 16.9%, even though their official statutory tax rate of 35% was among the highest in the world (Gardner et.al, 2017).

Furthermore, multinational corporations are primarily responsible for the decline in tax revenues in developing countries, losing over \$300 million annually in the financial sector due to aggressive tax planning strategies, as per a 2015 report by the United Nations Conference on Trade and Development (UNTAD). The World Investment Report (2015), which is also mentioned in Ibeh's paper, states that multinational companies (MNEs) account for 10% of income on average in developing countries, and 14% in countries on the

African continent (Ibeh, 2018). Furthermore, a number of the 500 biggest American companies, including Facebook, Boeing, Google, Apple, and Coca-Cola, were discovered by S&P Global Market Intelligence to employ complex tax planning techniques in order to avoid paying federal income taxes. Despite the official rate being 35%, S&P 500 corporations paid an average of 26.9% in income taxes between 2007 and 2015, according to Wolff (2021).

In Nigeria, corporations are subject to corporate income tax at rates of 30% and 2% education (recently, the Finance Act of 2019 has changed education tax to 3%) tax on the taxable profit and assessable profit, respectively, as per the Company Income Tax Act (CITA) chapter C21 LFN 2020 as modified. These taxes are a significant burden for businesses since they reduce the distributable profit that managers of incorporated organizations are required to report (Avi-Yonah et.al,2008). Businesses continue to evade taxes with the help of tax experts and accountants who help them set up their operations in a way that allows them to take advantage of the tax laws' loopholes, even though almost every nation in the world including Nigeria has anti-avoidance tax laws to discourage tax evasion.

Once more, the manufacturing sector in Nigeria especially that of consumer goods, is essential to the country's overall economic health as well as the financial security of every individual resident. Despite this, steadily increase in companies' research and development cost and high cost of external debt which have become increasingly

alarming for a corporation, resulting in subpar financial performance. Data from Olayiwola and Okoro (2021) showed that companies employ a range of tax planning techniques, like tax planning mechanisms, to maximize their profits.

Since 2010, Nigeria's tax income to GDP ratio has significantly decreased due to taxpayers' efforts to evade paying taxes (Onyeka & Nwankwo 2016). Furthermore, progressives have been successful in combating tax evasion in Nigeria despite a number of tax changes, audits, penalties, and initiatives. Specifically, the recently enacted national tax policy from February 2017 asks for a decrease in small enterprises' corporate income tax rates. Considering the high level of manufacturing company operational activity in Nigeria's economy, the aforementioned information indicates that the cause for the stagnant growth in corporate tax income is the active conduct toward tax planning attempts. This is alarming, because of this, the Nigerian government does not have the funds necessary to construct the essential infrastructure for its citizens (Eneh, 2011).

However, these aforementioned issues have been contended in literature and different mechanisms have been discussed as the causes of these issues. Thus, considering research and development expenditures, businesses are able to produce innovations that boost their earnings (Hall & Lerner 2010). Investments in R&D by businesses will lead to innovations that boost their assets, and there is a correlation between capital intensity and company value.

Therefore, it is important to determine whether the stated Nigerian manufacturing companies are improving their performance through the use of this thin capitalization method as a tax planning tool. A significant amount of research has examined how tax planning affects corporate value and performance across a range of economic sectors and levels.

In addition to the current issue, corporate entities use unnecessarily high levels of leverage at the expense of shareholders in order to engage in aggressive tax planning. This raises the interest that can be deducted from taxes, which in turn raises the risk of bankruptcy for shareholders who have a high debt profile in their capital structure for tax aggressiveness reasons (Ricca et.al, 2021). The overuse of debt will produce operational disruptions for the firm since it will put it in the category of extreme leverage, or extreme debt, which means it will be impossible to reduce the debt load and remain trapped at a very high level. Thus, much cash on hand, high liquidity, a drop in profitability, and minimization could all be contributing factors.

Despite the widespread belief that taxes is a significant source of funding for the growth of the economy and the provision of social services. However, the difficulties businesses in Nigeria encounter are related to the inverse relationship between taxes and the capacity of the business to survive and grow.

Contrary to popular assumption, taxes are a substantial source of finance for both social

service delivery and economic expansion. Nonetheless, the challenges faced by Nigerian enterprises stem from the adverse correlation between taxes and an organization's ability to endure and expand. Taxes must be minimized because they account for a large amount of corporate expenses and have the ability to reduce profits, particularly in the industrial sector of the economy. According to Ahrani (2021) companies that obtain tax advantages pay less tax and thus report higher return on equity (ROE) and return on assets (ROA) values. Additionally, Tax planning techniques attempt to improve the economic and financial performance of businesses in order to optimize return on owner's investment, much like any other business management activity (Akeem et.al, 2014). These companies should have lower effective tax rates (ETR) as a result of lower tax liabilities, which increase the companies' profitability. But has this strategy really been fully utilized by the industrial sector? According to a study by (De Simone et.al 2022) there is a direct link between higher investment levels and heavily indebted businesses having lower ETRs. Numerous research studies have been carried out in different countries to examine the effects of tax methods on the financial performance of listed manufacturing companies (Padachi, 2006; Oyedepo, 2014; Yorke et al., 2016; Wang et al., 2022; Muhammad, 2022). These studies specifically look at whether and how a firm's distinctive features like size, capital intensity, profitability rate, capital structure, and asset mix affect financial performance. However, they haven't been able to fully

identify the variables that affect tax planning strategies among consumer goods manufacturing companies.

Furthermore, a large body of research looked at corporate governance mechanisms as predictors of aggressive firm tax planning strategies, such as ownership structure, form of ownership, and board of director characteristics (Boussaidi & Hamed 2015). However, the necessity of the study grows as it empirically identifies the pertinent components of firm-level leverage tax planning strategies and research and development expenditure tax planning strategies that have the potential to significantly influence tax planning strategies and have an impact on financial performance among Nigeria's listed consumer goods companies. In order to accomplish research goals, the following research hypotheses were put forth:

Ho₁: research and development expenditure tax planning strategies has no significant effect on financial performance of listed consumer goods in Nigeria.

Ho₂ There is no significant relationship between firm's leverage tax planning strategies and financial performance of listed consumer goods in Nigeria.

Literature Review

Conceptual Review

Although tax planning is widespread in literature and defined by different author for example Graham et.al, (2014) defined tax planning as the process of developing tactics throughout the year to lower one's tax bill. One such strategy is to select the tax filing status that will benefit the taxpayer the best.

One way to achieve this kind of tax planning is to postpone selling an asset until the next tax year in order to avoid incurring capital gains. It is also view as the tax planning as the process of structuring one's affairs in order to defer, reduce or even eliminate the amount of taxes payable to the government (Valderrama et.al, 2018). It has also been found that tax planning is the best method of reducing taxes, as long as it stays within legal limitations. Taking into account all of these definitions, tax planning techniques are viewed as tools and concepts for financial plans that present a chance to reduce tax obligations and raise an organization's revenue. Thus, the utilization of research and development and firms' leverage to accomplish long-term tax planning techniques is how this study conceptualizes tax planning tactics.

Therefore, Ernst et.al, (2014) defined research and development as the cost related to firms' investment decisions which contribute to lower Effective Tax Rates and there are many fiscal incentives through multiple jurisdictions that promote the investment in R&D thus aiding R&D programs to be conditional on tax rates and incentives. Furthermore, the expenses on Input related R&D are allowed thereby creating tax incentives that decrease the price of R&D inputs faced by firms, which makes it more attractive to engage in R&D while output-related R&D tax incentives increase the returns from innovative products (Appelt et.al, 2016). It is pertinent and necessary to highlight in this study that research and development costs are the costs related to studying company products and

services with the goal of producing innovations and efficiency for higher returns. This is supported by these two definitions.

Also, Adenugba et.al (2016) opined that leverage in a business definition refers to the use of the asset and fund resource by a firm where the use of asset of fund is intended to increase the potential benefit for stakeholders of the firm. In addition, leverage means the extent to which companies uses fixed interest- bearing capital to finance its operations. Similarly, Sartono (2000) in (Kurniasih *et al.*, 2017; Irianto *et al.*, (2017), leverage refers to the utilization of debt to finance investments. In the same vein, Uniamikogbo *et al.*, (2018) posited that leverage is the extent to which a firm has been financed by outside or external funds which are purely debt obligations. Leverage could either be an operating or a financial leverage. Operating leverage is the use of assets which forced the company to bear the fixed costs such as depreciation. Similarly, Barakat (2014) states that operating leverage is defined as a firm's ability in utilizing fixed operating costs to enlarge the influence of sale volume changes on earnings before interest and taxes. The two financing options that businesses most frequently pursue are debt financing and equity financing. Debt financing is the borrowing of funds that must be repaid with interest, while equity financing is the raising of funds by selling shareholding interests in the company. Based on these definitions, this study examined the leverage of the firm and highlighted its relevance as the use of funds

that forced the company to bear the burden of a fixed rate of interest.

Theoretical Framework

Hoffman's 1961 publication, *Tax Planning Theory of Taxation*, provided the theoretical framework for the investigation. The Hoffman Tax Planning Theory of Taxation, which was created by Hoffman in 1961, states that a business should only consider tax planning when there is a potential to minimize taxable revenue while maintaining accounting income. This is so that the firm will be evaluated by the relevant tax authority using taxable income rather than accounting income. According to Graham et.al, (2014), companies should therefore concentrate more on tax planning techniques that lower taxable income than on accounting profit.

In light of this, the two objectives can be accomplished using this approach; nevertheless, tax planning objectives can only be accomplished in situations where there is a propensity to minimize taxable income while preventing a detrimental effect on accounting income. This is so because taxable income determines a company's tax responsibilities. Consequently, commercial organizations should concentrate on tax planning strategies that lower taxable income rather than accounting income (Mgammal, 2020). Hiring tax professionals to handle a company's tax issues would assist the organization by generating large tax savings through effective tax planning (McGuire, Omer & Wang 2012). The theory anticipates a positive correlation between

tax planning and the tax practitioner based on the aforementioned information.

Empirical Studies

This section encompasses supportive data derived from previous studies, including empirical research concerning Nigeria and its relation to emerging and industrialized nations. Kariuki (2017) examined tax planning practices and firm performance within the context of developed nations. The study concluded that a more favorable tax structure correlates positively with the enhanced market performance of businesses, drawing evidence from annual reports. Similarly, findings from Chen, Chen, and Chen's (2010) study parallel those of Kariuki (2017). In a related vein, Hidayat and Yuliah (2018) conducted an evaluation that factors in company performance, corporate governance, and tax planning, incorporating 4,492 observations from 862 firms over the study period. Consequently, the study concluded that the relationship between tax planning and firm performance is mediated by corporate governance, with the estimate of the independent variable indicating that corporate governance exerts a larger impact on business performance.

Furthermore, Kariuki (2017) explored whether corporate tax avoidance affects the financial performance of listed firms. The study discovered that business size presented a positive yet inconsequential predictor of financial performance through corporate planning, while corporate tax planning and liquidity displayed a positive and statistically significant association. Conversely, leverage exhibited a negative

and statistically significant value. Wang, Xu, et al. (2022) delved into a study on parent-subsidary common managers and corporate tax planning, ultimately finding a negative association between the indicator for firms with common managers and effective income tax rates in both univariate and multivariate analyses.

Blaufus & Zinowsky (2013) investigated the factors of experience and personality traits influencing tax aggression among experts from developing nations, revealing that personality factors exert both direct and indirect effects on tax aggression. This led to the conclusion that treatment-effects regressions bear relevance. With backing from the South African Institute of Chartered Accountants, Bahar, Bahri, and Zakaria (2022) conducted a study on tax planning among tax professionals. Data collected through a pilot survey aimed to identify varying levels of tax aggression among tax professionals in South Africa, adding to the knowledge base on tax-aggressive behavior and shedding light on the dynamics of tax compliance during transitional periods. Finally, using a sample of 300 S&P 500 US companies, Aliani (2014) explored the association between CEO traits and corporate tax planning evidence from US corporations over a 15-year period from 1996 to 2010, based on filings from the US Securities and Exchange Commission. The study's findings revealed the significant impact of the CEO's specialization and educational background on the company's tax plan, while no meaningful correlation was found between

tax planning and other researched variables such as age, seniority, and experience.

Amidu, Yorke, and Harvey (2016) utilized a sample of 119 non-financial firms listed on the Ghana Stock Exchange (GSE) and non-listed firms from the Ghana Revenue Authority (GRA) database to investigate the effects of adopting International Financial Reporting Standards (IFRS) on accounting information quality and tax avoidance. Their study, employing multiple regression analysis, indicated that the adoption of IFRS, alongside the interaction between firm size, equity capital, and debt financing strategy by Ghanaian firms, contributes to higher-quality earnings and a reduced incidence of tax avoidance among Ghanaian firms. Furthermore, their findings suggested that IFRS adoption reduces tax avoidance as earnings quality increases when firms use internal funding to enhance profitability levels.

In a similar vein, Jeong and Chae (2017) conducted a study using a sample of 18,954 audited enterprises, including those externally audited between 2011 and 2013, to explore the impact and determinants of small- and medium-sized entities engaging in tax avoidance. The study utilized the gap between accounting profit and taxable income as a proxy for tax avoidance and found that a variety of factors, including firm size, profitability, leverage, operating cash flow, capital intensity, R&D intensity, and growth rate, contribute to high levels of corporate tax avoidance among small and medium-sized enterprises.

Likewise, Masri et al. (2017) investigated the effect of tax-aggressive behavior on the cost of equity, using moderating family ownership for a sample of 224 manufacturing firms on the Indonesia Stock Exchange for the period 2010–2013. Their study revealed a negative influence of tax avoidance on the cost of equity, while discretionary behavior on book-tax differences (BTD) was considered positively by shareholders. Concurrently, Olajide (2017) explored the impact of tax planning on firms' performance as listed companies in Nigeria, concluding that tax planning has a negative impact on company performance and no discernible beneficial effect on reported earnings. The study recommended encouraging tax advisers to utilize their expertise, and raising awareness among taxpayers about the importance of voluntary compliance.

Moreover, Saidu (2018) employed regression analysis in assessing the impact of corporation income tax on the financial performance of listed consumer products businesses in Nigeria from 2006 to 2016. The study's findings indicated a negligible negative correlation between company tax and financial performance. Meanwhile, a positive yet insignificant correlation was observed between age, risk, and return on assets (ROA), with size demonstrating a significant positive correlation with performance, supporting earlier hypotheses. The study recommended the engagement of tax experts in legal tax planning, such as transfer pricing or structuring intra-company debt, to reduce net tax payment and boost

the financial sustainability of listed Nigerian consumer goods.

Methodology

This study uses the ex-post facto research methodology to collect data from Nigerian listed consumer items. As of December 31, 2020, empirical data from all listed consumer goods was collected on the floor of the Nigerian Stock Exchange. The fact that this industry makes the largest contribution to Nigeria's Gross Domestic Product (GDP) served as justification for the decision to choose all of the consumer goods listed. The representative sample for this study is twenty (20) companies, chosen using the sample size determination table created by Krejcie and Morgan in 1970. Due to a lack of data, two (2) companies were eliminated from the study's sample size, leaving a final sample size of 18 businesses. The study's sample was selected using a combination of the judgmental sampling methodology. The study's data came from the annual reports and accounts of Nigerian listed industrial companies from 2011 to 2020. This is corroborated by the fact that an extensive user base can readily obtain annual reports. The gathered data were quantitatively analyzed using both descriptive and inferential statistical approaches. The mean, standard deviation maximum, and minimum value are among the descriptive statistics that are used to summarize the sample companies' annual reports and accounts for the years 2011 through 2020. Robust Least Square Regression is the inferential statistical method used in this investigation. The following is the model use to achieve hypotheses above:

$$ROA = \beta_0 + \beta_1 CApINT_{it} + \beta_2 CApST_{it} + u_{it}$$

Where:

ROA = Return on asset
(Profit after tax/ total assets)

CApINT = Research and
Development

CApST = Firms' Leverage.

Results and Analysis

The descriptive statistics mean, minimum, maximum, and standard deviation were used to compile the study's data. Diagnostic tests such as serial correlation, normality, linearity, heteroskedasticity, and multicollinearity were performed to make sure the fundamentals of regression were met. However, the dependent variable in the study was the ROA mean, which was found to be 0.217 based on the outcomes of a descriptive statistical analysis of the variables. The two measures used in the study to assess the financial performance of Nigerian listed consumer products manufacturing companies had minimum and maximum values of -3.6008 and 11.793 for ROA, respectively, and -2.4918. Standard deviations for the firm's financial performance metrics were both less than the mean, indicating a notable degree of clustering around the mean. The firm's capital intensity had a mean of 0.5923 and a standard deviation of 0.2548; the average capital structure was 0.549 with a standard deviation of 0.4984; and the mean total assets had a range of -1.6 to 4.88.

Prior to evaluating hypotheses, preliminary tests were performed to confirm that the data collected was normal, this is because financial time series data are generally believed to be non-stationary (Bello, Maimako & Bala, 2016). Kurtosis and Skewness were used in the Normality Test, which was one of the first tests run. However, the early test result reveals that most variables are normally based on skewness, even though most of them are not typically dependent on kurtosis. This is because most of the kurtosis values, which are larger than the range of ± 1.96 , indicate that the data are not normally distributed. Panel Corrected Regression Error (PCRE) was the inferential statistic used in this investigation as a result. Before being subjected to inferential statistics, the data were additionally exposed to diagnostics using the Hausman test, auto and serial correlation test, heteroscedasticity test, normality test, and Shapiro-Wilk test. The Shapiro-Wilk test findings for the normality test indicate that the p-value is significant at 1%. Consequently, the null hypothesis—that is, that the residuals are not regularly distributed throughout the model—is found. However, the Gauss-Markov theorem states that if the sample size is greater than 15 observations, the best linear unbiased estimate (BLUE) can be derived without the residual distribution and data normality. The results of the inferential statistics are as follows after the initial and diagnostic examination:

Inferential statistics - Robust Least Square Regression Summary

Regressors	Coefficient	Std. Error	(Z-Statistic)	(Prob)
ROA(-1)	-0.348516	0.141636	-2.460638	(0.0139)
RESEARCH AND DEVELOPMENT	-0.008	0.0037	2.291076	(0.0220)
FIRMS' LEVERAGE	0.048980	0.013748	3.562715	(0.0004)**

Source: Authors' Computation, 2023

Note; ROA is the return on asset; RTPS is the research and development tax planning strategies; and FLTPS firm leverage tax planning strategies.

Discussions and Implications

Research and development as a tax planning strategy of financial performance among listed consumer goods companies in Nigeria - The study's findings also demonstrated that, among Nigeria's listed consumer goods companies, firms' research and development tax planning techniques have a negative and substantial impact on financial performance ($\beta_1 = -0.008$; SE = 0.0037, Z = 2.291076, $p > 0.05$). In other words, listed consumer goods companies in Nigeria would see an increase in financial performance if they reduce their research and development. This result supports the stakeholder theory, which contends that businesses being studied are subject to intense monitoring from numerous R&D departments and have limited chance to minimize their profits. Furthermore, as per Zakaria (2015) study, the existence of substantial investments in tangible assets signals the tax authorities to conduct more thorough asset verification in order to prevent the companies from

claiming a higher tax depreciation expense value, which could lower their assessable income and consequently result in higher income tax expenses. Also, the theory based on Hoffman's 1961 publication predicted that a business should only think about tax planning when there is a chance to reduce taxable revenue while maintaining accounting income. In light of this, the study's findings, which show that income or profit increases in areas with lower costs associated with research and development, are consistent with this theory. This result deviates from the study's initial hypothesis, which held that R&D would improve the financial performance of Nigerian listed consumer products companies and reduce income tax obligations. The results are consistent with past research by Pattiasina (2019), Innocent et al. (2018), and Ilaboya et al. (2016). The results also conflict with the research conducted by Nwaobia et al. (2016), Irianto et al. (2017), and Sonia et al. (2019).

Influence of Firm's Leverage on Financial Performance among Listed Consumer Goods Companies in Nigeria - In a similar vein, the research found that among Nigerian listed consumer goods companies, firms' leverage is considerable and positively impacts their financial performance ($\beta_2 = 0.048980$; $SE = 0.013748$, $Z = 3.562715$, $p < 0.05$). This result supports agency theory, which postulates that managers of highly leveraged companies are occasionally subject to the financing agreement discipline enforced by creditors through the insertion of restricting clauses in an effort to reduce agents' costs (Zakaria 2015). Leverage financing's interest component has a tax shield that helps to lower the income tax obligation Zaman et.al, (2018).

On the other hand, because interest expense is tax deductible, it usually results in higher financial performance and lower income tax obligations. This result is consistent with the study's a priori hypothesis, which holds that leverage capital utilization will improve listed consumer goods companies' financial performance and lower their income tax obligations. The results of this findings are in line with those of earlier studies by Kraft (2014), Lanis and Richardson (2012), and Boussaidi and Hamed (2015). The results also agree with Ilaboya et al. (2016), Oyeleke et al. (2017), and Chytis, Tasios, and Gerantonis (2018).

Conclusion and Recommendations

In summary, this study has highlighted crucial insights that merit attentive consideration by listed consumer goods

manufacturing firms in Nigeria. Initial observations indicate a negative and significant relationship between research and development (R&D) and the financial performance of these companies. Furthermore, the study underscores the limited impact of leverage financing as a determinant of financial performance. Specifically, it highlights the restrained utilization of debt financing to claim tax deductible expenses, resulting in lesser tax ayments.

To deepen tax planning techniques and foster improved financial performance, it is vital for listed consumer goods manufacturing entities in Nigeria to adopt key measures guided by the empirical findings of this study. These recommendations seek to leverage the study's outcomes to enhance operational strategies and fiscal prudence.

First and foremost, based on the study's empirical evidence, it is imperative for these firms to prioritize tax planning for R&D expenditures. Recognizing the significant influence of such tax planning on the financial performance of publicly traded consumer goods companies in Nigeria, it is suggested that companies proactively institute regular staff training seminars focusing on contemporary tax planning methodologies. By doing so, companies can amplify their proficiency in tax optimization, thereby bolstering their overall profitability.

Additionally, it is recommended that these firms explore tax-favored or tax-exempt investment avenues as part of their broader

tax planning initiatives. This exploration should be accompanied by a proactive engagement with pertinent tax authorities and ongoing alignment with legislative provisions, including pertinent court precedents. By harnessing such avenues, businesses can effectively optimize their tax planning strategies, potentially leading to heightened financial strength and long-term sustainability.

Furthermore, the study suggests that despite the identified adverse impact of leverage on the financial performance of Nigerian listed consumer goods companies, deliberate efforts should be made to increase leveraging as a financing source. Given the tax-deductible nature of interest paid on debt financing, heightened leverage can serve as a potent tax planning tool, amplifying tax deductions and fortifying financial performance.

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Foreign Direct Investment and Economic Growth: Empirical Evidence from Nigeria

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Abstract

The study investigates the effect of foreign direct investment (FDI) on the economic growth of Nigeria by examining the long run and the short run relationship between the variables over the period of 1978 to 2022 using the Auto-Regressive Distributed Lag approach (ARDL). The study finds that in the long run, FDI, gross fixed capital formation and labour force participation have positive effect on economic growth, while military expenditures have negative effect. However, gross fixed capital formation was indicative of having a significantly negative relationship with the economic growth in the short run, but variables such as FDI, military expenditures and labour force participation were found to have positive impact. Inflation shows negative significant relationship in both the short and long run whereas final consumption expenditure showed insignificant relationship in both the short and long run. The study recommends among other things, that Nigeria should strengthen R&D efforts to reduce dependence on imports and increase self-sufficiency, Nigeria should improve the power sector as it is crucial to alleviating Nigeria's energy crises and ensuring the smooth operation of industries across the country and that Nigeria should maintain macroeconomic stability in order to encourage savings and private investment, which will lead to high overall investment in the country.

Keywords: ARDL, Economic Growth, FDI, Nigeria

1. Introduction

Foreign direct investment (FDI) has long been heralded as a catalyst for economic growth, particularly in developing nations. In the context of Nigeria, Africa's most populous country and one of its largest economies, the role of FDI has been a subject of extensive analysis and debate. Nigeria's abundant natural resources, substantial market size, and strategic geographic location present significant opportunities for foreign investors. However, the relationship between FDI and economic growth in Nigeria is complex, influenced by a myriad of factors including

political stability, regulatory environment, infrastructure quality, and human capital development. This article seeks to explore the effect of FDI on the economic growth of Nigeria, examining how inflows of foreign capital impact various sectors of the economy and identifying the conditions under which FDI can most effectively contribute to sustainable development.

The Nigerian economy has experienced periods of significant growth as well as substantial challenges. FDI has played a pivotal role in shaping these economic dynamics, particularly in the oil and gas sector, which has traditionally been the main

recipient of foreign investments. However, the benefits of FDI are not limited to this sector alone. Other industries, such as telecommunications, manufacturing, agriculture, and services, have also attracted foreign investments, contributing to economic diversification and job creation. The impact of FDI on economic growth in Nigeria can be observed through various channels, including technology transfer, improvement in managerial skills, increased competition, and access to international markets.

Despite the potential benefits, the effectiveness of FDI in promoting economic growth in Nigeria is often hindered by several challenges. Political instability and insecurity, including insurgency and conflict in certain regions, can deter foreign investors. Additionally, regulatory uncertainties and bureaucratic hurdles can complicate the investment process, making it less attractive for foreign entities. Infrastructure deficiencies, particularly in power supply, transportation, and telecommunications, further constrain the ability of FDI to drive economic growth. Moreover, the quality of human capital, influenced by the education and health systems, affects the capacity of the local workforce to fully benefit from foreign investment.

Nigeria, a West African country with a population of more than 218 million people, won its independence in 1960. It is still based on an oil economy, but has faced huge challenges in its socio-economic settings. In the past six decades, Nigeria has been struggling to improve its poor economic

situation and to achieve economic development from the very day of independence. It has received an increased amount of inward foreign direct investment (FDI) over time. In the year 1978, Nigeria received an FDI of USD \$400 million, which went up to USD \$588 million in 1988. The amount gradually decreased to USD \$299.57 million in 1998. In 2008 FDI significantly increased to USD \$8.2 billion. Along with the increase of FDI, GDP per capita of Nigeria also continued to fluctuate over the years. It achieved USD 39.6 billion in 1978, USD 23.7 billion in 1988; this marks a 40percent decline within a decade and recorded a slight increase of approximately 5percent in 1998, when the GDP rose to USD \$23.83 billion and in 2008 the GDP significantly increased to USD \$212.1, which was an increase of approximately 895percent in a decade, while, in 2018 the GDP was USD \$397.3 billion, which was an increase of approximately 187percent (World Bank, 2019).

The growth of an economy is influenced by a variety of factors, including political stability, peace and security, infrastructure and communication systems, quality education, a skilled labor force, advanced technological frameworks, savings and investments, trade (exports and imports), inflation, advancements in agriculture and industry, military expenditure, the adoption of modern research and development practices, foreign investment, and various socio-economic factors.

A number of researches on the growth enhancing factors have been conducted

around the world. As a very recent study, Jehangir, Lee and Park (2020) investigate the effect of foreign direct investment on the economic growth of Pakistan. In another study, Švigir and Miloš (2017) investigated the relationship between inflation and economic growth. Furthermore, Yildirim, Sezgen, and Öcal (2005) investigated the effect of military expenditure on economic growth. The impact of FDI on economic growth was explored in details by Crespo and Fontoura (2007). FDI and its effect on economic growth have been of particular interest to researchers across countries. Given the rapid merging of production and monetary markets in the present economic activities, researchers are led to conclude that FDI is a crucial indicator regarding the development and an antidote for the economic hurdles in the emerging economies (Baliamoune-Lutz, 2004; Wong & Adams, 2002).

Literature on the relationship between FDI and economic growth indicate drastic variations in the findings of researchers from various economic backgrounds. Alexiou and Tsiliki (2007), for example, found no relationship whatsoever between FDI and economic growth and vice versa. Carbonell and Werner (2018) and Epaphra and Massawe (2016), on the other hand, reported a negative relationship between the two. Contrary to all, Jawaid and Saleem (2017), Nantwi and Erickson (2019), and Whyman and Petrescu (2017) reported a positive relationship between FDI and economic growth.

Literature particularly relevant to Nigeria, regarding the relationship between FDI and

economic growth, also reveal a great deal of contradiction among researchers. Nilofer and Qayyum (2018) and Saqib, Masnoon and Rafique (2013) identified a negative relationship between FDI and economic growth in Nigeria. The works of Ali and Hussain (2017) and Siddique et al. (2017), however, indicated a positive relationship between FDI and economic growth in Nigeria. The highly varied results reported by various scholars call for further investigation of the impact of FDI on the economic growth of Nigeria. The analysis presented here differs from most of the previous studies in terms of the incorporated variables as well as the time frame under observation in Nigeria. Most of the available literatures have used variables such as GDP, FDI, capital. Also the time frames under observation were mostly limited. In this analysis, however, we have incorporated inflation, military expenditure, labour force participation, gross fixed capital formation, and final consumption expenditure in addition to FDI and GDP.

Although an adequate amount of literature is available on FDI and growth for Nigeria, clear consensus is absent on theoretical relationship between FDI and economic growth. Almost all of the researchers have studied the link between FDI and economic growth in piecemeal. For instance, FDI can promote technological advancement and productivity through knowledge spillovers and technology transfer (Lucas, 1988); the effects of FDI on growth are more evident in the long run, especially when supported by favourable macroeconomic policies (Adeniyi et al., 2012); FDI had a significant positive impact on economic growth in

Nigeria (Akinlo, 2004); FDI contributed to economic expansion by increasing capital formation and providing access to advanced technology (Olokoyo, 2012); FDI's impact on growth may depend on factors such as the absorptive capacity of the economy, human capital development, and the quality of infrastructure (Nwankwo et al., 2021); increasing capital formation boosts economic growth or that higher economic growth results in higher capital formation (Uneze, 2013); positive and significant relationship between gross fixed capital formation and economic growth in Nigeria (Ugochukwu & Chinyere, 2013); negative insignificant relationship between GFCF and economic growth (Ajose and Oyedokun, 2018).

Therefore, there still remain chances to present concrete evidence on this subject. In this respect, this study attempts to look into the relationship between FDI and economic growth in Nigeria both in the long-run and the short-run, using the Auto-Regressive Distributed Lag (ARDL) approach. To the best of my knowledge, I have not come across any study that uses the ARDL model to investigate the impact of FDI on economic growth of Nigeria using GDP, government consumption expenditure, public investment, FDI, lending rate, military expenditure, labour force participation, final consumption expenditure, gross fixed capital formation, inflation, and FDI.

Although there is a study that analysed these variables by Jehangir, Lee and Park (2020) in the context of Pakistan, and this study is mostly based on their methodology, it is

crucial for the same type of research to be replicated in Nigeria for several reasons:

Nigeria and Pakistan while both developing countries; have distinct economic structures, industrial bases, and macroeconomic conditions. Nigeria's economy is highly dependent on oil exports, making it vulnerable to fluctuations in global oil prices, whereas Pakistan has a more diversified economy. This difference can lead to varying effects of FDI on economic growth.

The regulatory environment, governance structures, and economic policies concerning FDI in Nigeria are different from those in Pakistan. Nigeria's policies toward attracting FDI, including tax incentives, investment protections, and ease of doing business, might lead to different outcomes, requiring country-specific analysis.

FDI inflows to Nigeria may be concentrated in different sectors (e.g., oil and gas, telecommunications) compared to Pakistan. The sectorial distribution of FDI can have diverse impacts on economic growth depending on the industry and its role in the local economy.

Nigeria faces unique challenges such as exchange rate volatility, inflationary pressures, and macroeconomic instability, which may alter the relationship between FDI and economic growth. These factors may affect the effectiveness of FDI in spurring growth differently than in Pakistan.

Nigeria's geopolitical and regional position within Africa plays a critical role in shaping its trade relationships, foreign investments,

and regional economic integration, which may yield different results in comparison to Pakistan's situation in South Asia.

Economic conditions and FDI dynamics can shift over time, and findings from Pakistan may no longer reflect current realities in Nigeria. Conducting the research in Nigeria using the same methodology allows for up-to-date analysis that is relevant to its current economic context.

Thus, conducting this research in Nigeria is essential to generate country-specific insights into the relationship between FDI and economic growth, providing policymakers with targeted recommendations suited to Nigeria's unique environment.

2. Theoretical Perspectives on FDI and Economic Growth

Theoretically, FDI is seen as a crucial element of economic growth in many developing countries. The neoclassical growth model suggests that FDI supplements domestic savings, increases capital accumulation, and drives growth (Solow, 1956). On the other hand, endogenous growth theory argues that FDI can promote technological advancement and productivity through knowledge spillovers and technology transfer (Lucas, 1988). In the Nigerian context, this theoretical foundation underpins the expectation that FDI should enhance productivity and foster long-term economic growth (Adeniyi et al., 2012).

Since its independence, Nigeria, just like other developing countries has suffered from political instability, resulting from military

interventions, terrorism, high level of insecurity, like, banditry, Boko haram, kidnappings, insurgency, natural disasters like floods, and high population growth rates resulting in poverty, lower literacy rates and indeed lower economic growth compared to other developing countries.

Increase in capital formation is crucial for the economic development of all nations, and in order to achieve that, a high level of savings and investments are required but developing economies like Nigeria considerably lack the required amount of national savings. According to Ali et al. (2017) the gap that exists between the level of investment and the desired savings in a country can only be fulfilled through external capital inflows. Incoming FDI is one of the capital inflows from external sources which can play an important role in the economic development of a country (Jehangir, Lee and Park, 2020).

Consequent upon that, the Nigerian government initiated its economic liberalization program in the late 1980s, primarily through the SAP in 1986, by deregulating key sectors such as telecommunications, oil and gas, manufacturing, encouraging privatisation of state-owned enterprises, introduction of fiscal and monetary policies that would make the investment climate more attractive for foreign investors, liberalisation of the foreign exchange market and the adoption of market-determined interest rates. As a result of that, Nigeria saw a gradual increase in FDI, particularly in the oil and gas sector during the 1990s and early 2000s. By the early 2000s, Nigeria became one of the top

FDI destinations in Africa, attracting billions of dollars in investment from multinational companies (Bello, 2020).

3. Literature Review

Foreign Direct Investment (FDI) has been widely regarded as an essential driver of economic growth, particularly in developing economies like Nigeria. The relationship between FDI and economic growth is multifaceted, involving aspects such as capital formation, technology transfer, and employment generation. However, the extent to which FDI contributes to Nigeria's economic growth has been a subject of extensive academic debate. Economists are, in general, of the opinion that FDI is one of the major elements of economic growth in all countries, especially in countries that are on the track towards development.

Extant literature on the relationship between FDI and economic growth in Nigeria present mixed evidences. Several scholars have identified a positive correlation between FDI inflows and economic growth. Akinlo (2004) found that FDI had a significant positive impact on economic growth in Nigeria, particularly in sectors like oil and telecommunications, which receive substantial foreign investment. Similarly, Olokoyo (2012) reported that FDI contributed to economic expansion by increasing capital formation and providing access to advanced technology.

Adeniyi et al. (2012) emphasized that the effects of FDI on growth are more evident in the long run, especially when supported by favourable macroeconomic policies. The study highlighted that Nigeria's economic growth is positively impacted by FDI,

particularly in capital-intensive sectors such as manufacturing and telecommunications.

However, other scholars argue that the relationship between FDI and economic growth in Nigeria is more complex and conditional. Nwankwo et al. (2021) contend that FDI's impact on growth may depend on factors such as the absorptive capacity of the economy, human capital development, and the quality of infrastructure. They suggest that while FDI has the potential to boost growth, its benefits are often limited to specific sectors and regions, with unequal distribution of development gains.

Furthermore, extant literature on the relationship between FDI and economic growth in other countries around the world were also conducted. According to Li and Liu (2005) and Johnson (2006) FDI is not only considered as a major source of important capital formation but also as a primary channel to access the advanced technologies and intangible factors including managerial as well as organizational skills and marketing networks, indicating its positive impact on the economic development of a country.

In Nigeria, Uneze (2013) stated that causality between gross fixed capital formation and economic growth is bi-directional. This means that increasing capital formation boosts economic growth or that higher economic growth results in higher capital formation. In another study, Ugochukwu and Chinyere (2013) found a positive and significant relationship between gross fixed capital formation and economic growth in Nigeria, which is contrary to the results of Ajose and Oyedokun (2018) that

studied the impact of capital formation and growth in Nigeria and found negative insignificant relationship between GFCF and economic growth.

In Pakistan, Jehangir, Lee and Park (2020) finds that FDI, gross fixed capital formation and labour force participation have a positive effect on economic growth, whereas military expenditures have negative effect on economic growth in the long run. However, gross fixed capital formation indicates a significant negative relationship with the economic growth while variables such as FDI, military expenditures and labour force participation were found to have positive impact in the short run. Furthermore, Inflation shows a significant but negative impact in both models while, final consumption expenditure shows an insignificant relationship in both models.

The growth rate of FDI has been documented to be very fast in recent years, when compared to international trade (Jehangir, Lee & Park, 2020), most of which flows mainly to the developed countries. Buttressing the above findings, the developing countries according to UNCTAD (2019), recorded an FDI inflow of over 671 billion US dollars in 2018.

The extent that the FDI inflows affect the economic activities of a host county has been explored extensively in recent years. The FDI flow can ‘crowd in’ or “crowd out” the domestic investment and its effect on savings is very ambiguous (Jehangir, Lee and Park, 2020).

The causal relationship of FDI, economic growth and the gross domestic investment

was examined by Choe (2003) on 80 countries from 1971 to 1995 by using the panel vector autoregressive model. A bi-directional causality run was suggested between FDI and economic growth. Another study focusing the flows of FDI on the Mexican economy conducted by Ramirez (2006) reported a positive impact of the FDI on the labor productivity, implying that the superior technology of the foreign firms affects the productivity of the host country positively. However, some researchers reported negative influence of FDI on domestic economy (Crespo & Fontoura, 2007). For instance, when multinational firms enter the domestic market, the competition between the foreign firms and the local firms may get fierce, which may lead to the low volume production and reduced efficiency of the local firms. Thirlwall and Barton (1971) reported a positive relationship with the dataset collected from industrial countries while a negative relationship between inflation and economic growth was reported in a dataset of 7 developing countries. Fisher (1993) and Ghosh and Phillips (1998) showed a negative relationship between inflation and growth. In another study concerning four neighboring countries such as India, Pakistan, Sri-Lanka and Bangladesh, Mallik and Chowdhury (2001) concluded with a positive relationship in the long run between economic growth and inflation.

Estimating the threshold level of inflation in Pakistan, Mubarik (2005) concluded that above the threshold level, inflation negatively affects economic growth in Pakistan and below the level inflation is found to be conducive for the growth of the

economy. In another study in the USA Azar (2009) finds a statistical negative impact between inflation and economic growth. In Italy and Austria, Švigir and Miloš (2017) investigated the relationship between inflation and economic growth and the finding shows that inflation has no impact on economic growth. In their study of Korea and Japan, Prieto and Lee (2019) found that stock market index, economic growth and inflation have a long- term relationship.

On the relationship between military expenditure and economic growth, the literatures do not have any generalised relationship between them across the countries and over times. In a study on the relationship between military spending and economic growth in the United States, Atesoglu (2002) finds a significant positive relationship between military spending and economic growth. In another study by Yildirim, Sezgen, and Öcal (2005) it was established that military spending improves economic growth in Turkey and all of the countries in the Middle East, while Pradhan et al. (2013) found an equilibrium relationship between economic growth and military expenditure using dynamic multivariate-causality tests on a dataset of 22 countries for a period of 24 years. According to the Keynesian theory military spending enhances the aggregate demand by higher investment and the improved utilisation of capital stock, which boosts the economic growth (Khalid & Alsalam, 2015). According to Pacific, Shan and Ramadhan (2017) exports and military expenditure have a significant positive impact on the economic growth of Cameroon while FDI has shown no significant impact on the

economic growth of the country. However, Lim (1983) found that higher defense spending hurts economic growth, contrary Biswas and Ram (1986) whose finding shows that military spending does not significantly influence economic growth in the developing countries.

The study of Zareen and Qayyum (2014) on final consumption expenditure reveals that government size has a positive impact on the economic growth of Pakistan both in the long run and the short run. The ARDL approach was used by Rizeq (2015), and found that total government spending has a positive but insignificant impact on the economic growth of Palestine, which, according to him, is consistent to the neo-classical theory. In Namibia, Shafuda (2015) explored the relationship between government final expenditure and economic growth and concludes on the existence of unidirectional relationship between government expenditure and the economic growth of Namibia and that government expenditure carries a significantly positive impact on the growth of Namibian economy. In studies conducted by Alper and Verougstraete (2018) and Jeff-Anyeneh and Ibenta (2019), it was variously found that a 1percent increase in consumption increases growth by almost 0.41percent in the former and in the later, that government consumption has no impact on economic growth in Nigeria.

In Greece, Dritsakis, Varelas and Adamopoulos (2006) found that gross capital formation increases the economic growth of Greece and Gibescu (2010) concludes that there exists a strong

relationship between GFCF and GDP growth.

Skilled and learned labor force participation always plays a major role in the economic development of a country. In Pakistan, Asghar, Awan and Ur Rehman (2012) found a significant and positive relationship between labour force participation and the economic growth of Pakistan, while Tsani et al. (2013) and Lechman and Kaur (2015) found a “U” shaped reverse relationship between women workers’ participation and the economic growth. They further found that short-run deviations are close to long-run equilibrium figures. In Pakistan, Amir, Khan and Bilal (2015) found that there is a significant and positive relationship between labor force and the economic growth of Pakistan in the long run. In Turkey, Dogan and Akyuz (2017), while studying women workers’ participation and the growth of the economy in Turkey, concluded that there exists a “U” shaped reverse relationship between women workers’ participation and the economic growth. In another study the relationship between GDP and labour force participation in Sri Lanka, Pakistan, India and Bangladesh, Rahman and Saqui (2018) concludes that an increase in the labour force participation has a direct relationship with the economic growth of these countries.

Finally, we can see that some of the micro and macro level studies showed positive relationships between economic growth and the variables such as FDI, Inflation, military expenditure, final consumption expenditure, fixed capital formation, and labour force participation. FDI by MNEs, in general,

improves the level of experiences and knowledge, jobs and human development in the home country. However, if the home country has a lower absorptive capacity, FDI may show reverse effects. The related literatures conclude that FDI may have positive or negative effect on the growth of an economy.

4. Data and Empirical Model

4.1. Sample and Data Collection

The dependent variable, real GDP is used as proxy for the economic growth over the period from 1978-2022. Because the data for labour force participation is not available before 1978, the time period starts from 1978. All the other variables include foreign direct investment (FDI), inflation (INF), military expenditure (ME), final consumption expenditure (FCE), gross fixed capital formation (GFCF) and labour force participation (LFP). The data was taken from the World Bank Development Indicators. All of the variables (dependent and independent) used in this study are in real terms.

4.2. Empirical Model

Real GDP of Nigeria is used as the dependent variable and the in-bound FDI as the independent variable. Control variables were incorporated based on prior studies such as inflation, military expenditure, final consumption expenditure, gross fixed capital formation and labour force participation. All the variables, except for inflation and labour force participation, are in real terms.

The functional form of the model used is as follows:

$$Y_t = f(FDI_t, INF_t, ME_t, FCE_t, GFCF_t, LFP_t, \varepsilon_t) \quad (1)$$

Y_t : Real GDP

FDI_t : Foreign direct investment

INF_t : Inflation

ME_t : Military expenditure/GDP

FCE_t : Final consumption expenditure

$GFCF_t$: Gross fixed capital formation

LFP_t : Labour force participation

ε_t : Error term

The “t” in subscript stands for time “t” for each individual variable. GDP is not only depends theoretically upon FDI but also on other variables like FCE, GFCF, and LFP.

4.3. Auto-Regressive Distributed Lag (ARDL) Model

Among co-integration approaches, the autoregressive distributed lag model bears some advantages. Firstly, according to Pattichis (1999) and Mah (2000), the ARDL approach is relatively more robust in the case of finite or small samples.

Secondly, according to Harvey (1981) based on a single equation skeleton, the ARDL is more suitable to be utilised and the model clutches adequate number of lags and generates the data process in general to specific framework.

Thirdly, according to Yildirim, Sezgen, and Öcal (2005) the error correction model (ECM) can also be easily drawn from the ARDL approach. The ECM permits drawing outcome of long-run estimates while other traditional techniques of cointegration do

not allow such kinds of inferences. Without losing long-run information, ECM combines short-run adjustments with long-run equilibrium (Pesaran & Shin, 1996).

Fourthly, according to Akram and Afzal (2014) the ARDL approach estimates both the long-run and the short-run relationship simultaneously and gives efficient and unbiased estimates. Fifthly and sixthly, according to Jehangir, Lee and Park (2020) this approach can be used for regressors irrespective of their order of integration whether they are of $I(0)$ or $I(1)$, but none of them is of $I(2)$ or higher as in case of any of the regressors of $I(2)$ or higher order, the ARDL model will be inefficient and the model captures the data generating process from general-to-specific framework by incorporating sufficient number of lags.

Consistent with Jehangir, Lee and Park (2020), in order to get optimal length of lags for variables, the model estimates $(p+1)^k$ no. of regressions, where “p” indicates the maximum number of lags to be used and “k” denotes the number of variables. Other cointegration approaches may face the endogeneity problems, whereas the ARDL technique can differentiate between regressor and regressand, and solves the problems which may arise because of the presence of endogeneity and autocorrelation.

Bearing in mind the aforesaid merits of the ARDL model, the study utilised the model in the empirical analysis to find out the role of FDI in economic growth in Nigeria.

The generalised (p, q) model is specified below:

$$Y_t = a_{0i} + \sum_{i=1}^p \alpha_i Y_{t-i} + \sum_{i=1}^q \beta_i X_{t-i} + \varepsilon_{it} \quad (2)$$

Where:

“ Y_t ” is the dependent variable,

“ a_{0i} ” is the intercept or the constant in the model,

“ α_i ” is the coefficient of the dependent variable,

“ β_i ” is the coefficient of the regressors,

“ $i = 1, 2, \dots, k, p, \text{ and } q$ ” are the optimal lag orders,

“ ε_{it} ” represents the vector of error terms.

4.4. ARDL Model for Long and Short-run Estimation

The ARDL approach was used to test the cointegration. By incorporating sufficient lags, the ARDL model captures the data generating process in general to specific framework and assimilates the short-run dynamics through error correction model (ECM) without losing the long-run information (Laurenseson & Chai, 2003). The ECM can be conveniently obtained from ARDL by a simple linear transformation (Akram & Afzal, 2014). The dynamic ARDL model based on Pesaran & Shin (1996) is as follows:

$$\Delta \ln Y_t = \beta_0 + \sum_{i=1}^p \beta_{1i} \Delta \ln Y_{t-i} + \sum_{i=1}^{q_1} \beta_{2i} \Delta \ln FDI_{t-i} + \sum_{i=1}^{q_2} \beta_{3i} \Delta \ln INF_{t-i} + \sum_{i=1}^{q_3} \beta_{4i} \Delta \ln ME_{t-i} + \sum_{i=1}^{q_4} \beta_{5i} \Delta \ln FCE_{t-i} + \sum_{i=1}^{q_5} \beta_{6i} \Delta \ln GFCF_{t-i} + \sum_{i=1}^{q_6} \beta_{7i} \Delta \ln LFP_{t-i} + \lambda_1 \ln Y_{t-1} + \lambda_2 \ln FDI_{t-1} + \lambda_3 \ln INF_{t-1} + \lambda_4 \ln ME_{t-1} + \lambda_5 \ln FCE_{t-1} + \lambda_6 \ln GFCF_{t-1} + \lambda_7 \ln LFP_{t-1} + \varepsilon_t \quad (3)$$

In equation (3), the upper delta “ Δ ” is a first difference operator. The coefficients “ β_{1i} ” to “ β_{7i} ” in the first part of the equation represent the short-run dynamics, while “ λ_1 ” to “ λ_7 ” represent the long-run relationship among the selected variables, respectively. “ β_0 ” is the constant or the intercept, “ p ” is for the optimal lag length used for the dependent variable and q_1, q_2, q_3, q_4, q_5 and q_6 , respectively, are the lag lengths used for exogenous variables while ε_t is used for the error terms.

Following Jehangir, Lee and Park (2020), the hypothesis was tested by applying the Wald-coefficient test and the ARDL equation was estimated using the OLS technique.

$H_0: \lambda_1 = \lambda_2 = \lambda_3 = \lambda_4 = \lambda_5 = \lambda_6 = \lambda_7 = 0$
{Cointegration do not exist}

H_1 : At least one λ is not equals to zero
{Cointegration exists}

The estimated F-statistics was matched with the critical values of bounds to check the cointegration among the variables. The long and the short-term relationships among GDP, FDI, INF, ME, FCE, GFCF, and LFP are examined in the next part of the manuscript.

Once cointegration is established, we obtain the short-run dynamic parameters allied with long-run estimates by estimating an ECM of the form:

$$\Delta \ln Y_t = \omega_0 + \sum_{i=1}^n \omega_{1i} \Delta \ln Y_{t-i} + \sum_{i=1}^n \omega_{2i} \Delta \ln FDI_{t-i} + \sum_{i=1}^n \omega_{3i} \Delta \ln INF_{t-i} + \sum_{i=1}^n \omega_{4i} \Delta \ln ME_{t-i} + \sum_{i=1}^n \omega_{5i} \Delta \ln FCE_{t-i} +$$

$$\sum_{i=1}^n \omega_{6i} \Delta \ln \text{GFCF}_{t-1} + \sum_{i=1}^n \omega_{7i} \Delta \text{LFP}_{t-1} + \theta \text{ECM}_{t-1} \dots \dots \dots (3)$$

Where $\omega_0, \omega_{1i}, \dots \dots \omega_{7i}$ indicate the short run dynamics, θ represents the parameter for speed adjustment and ECM_{t-1} is the one period lagged error correction term. A change in the dependent variable does not depend on the past errors if this coefficient is insignificant. The coefficient of ECM_{t-1} ranges from -1 to 0, where 0 implies no convergence toward equilibrium and -1 implies perfect convergence. That is, any shock is perfectly adjusted the next period if the value is -1 (Sarker & Khan, 2020).

4.5. The ADF Unit Root Test

Table 1: Descriptive statistics

Statistics	LY	LFDI	INF	ME	LFCE	LGFCF	LFP
Mean	10.799000	8.750000	8.720000	5.254000	9.048000	10.178000	52.29943
Median	11.830000	8.905000	7.765000	5.255000	9.065000	10.165000	51.91400
Maximum	11.010000	9.950000	2.850000	6.270000	1.140000	10.260000	55.49900
Minimum	10.520000	6.110000	2.300000	3.230000	9.900000	9.140000	50.47000
Std. Dev.	0.269211	0.787789	4.158535	1.112649	0.271305	0.186148	1.387713

The Augmented Dickey and Fuller (1979) test of stationarity was used to check data series. This test comes with the augmentation for the error term which has the problem of autocorrelation and not white noise. It handles the issue of serial correlation of the error terms using the lagged dependent variable as additional repressors (Ahmad & Ahmed, 2002). In general, the ADF equation is given as below:

$$\Delta \ln Y_t = a + \beta T + \rho \ln Y_{t-1} + \sum_{i=1}^{p+1} \Delta \ln Y_{t-i} + \sum_{i=1}^{q+1} \gamma_t - 1 + \varepsilon_t \dots (5)$$

Where $i = 1, 2, 3 \dots n$

The null hypothesis for the ADF unit root tests the existence of unit root while the alternative hypothesis checks its nonexistence in the series. - H_0 : Unit root exists and H_1 : Unit root does not exist.

5. Results and Discussions

Table 1 shows the summary of statistics with mean, median, maximum, minimum and standard deviation using the ARDL approach of cointegration. The descriptive statistics show the logged values of GDP, FDI, FCE, and GFCF while the values of INF, ME and LFP are not logged. As shown in Table 2, the mean of log real GDP is 10.79, and the mean of log GFCF (private sector) is 10.19. Mean values of log FDI and

log FCE are 8.75 and 9.05, respectively. The mean values of inflation (consumer prices annual percent) stay at 8.72 while military expenditure carries its mean as 5.25 percent of GDP.

5.1. Results of the ADF Unit Root Test

The ADF unit root test was used for checking the stationarity of the variables in this study. The results showed that some of the variables are of order $I(0)$ and others of order $I(1)$. None of the variables were identified to be of order $I(2)$. Two models namely “the trend model” and “the trend and intercept model” were included in this analysis. The results are shown in Table 3.

Table 2: Results of ADF Unit Root Tests

ADF Test with Intercept		ADF Test with Intercept and Trend	
Variables	T-statistics	Variables	T-statistics
LY	-3.93128	LY	-4.62182
LFDI	-2.52418	LFDI	-3.18250
INF	5.31408*	INF	-5.03140*
ME	-1.33132	ME	-2.15133
LFCE	-2.93826	LFCE	-3.62130
LGFCF	-2.10627	LGFCF	-3.32671
LFP	0.33123	LFP	1.36823
Δ LY	-4.19615*	Δ LY	-4.51169*
Δ LFDI	-8.11723*	Δ LFDI	-7.12413*
Δ ME	-4.50021*	Δ ME	-4.22100*
Δ LFCE	-8.16230*	Δ LFCE	-7.33262*
Δ LGFCF	-4.27251*	Δ LGFCF	-3.88912*
Δ LFP	-6.15034*	Δ LFP	-7.41361*

Note; ** and * indicate significance at 5percent and 1percent level, respectively

Table 2 shows the variables and their corresponding t-statistics values at level and at first difference. Using the ADF unit root test, the values of Y, FDI, ME, FCE, GFCF and LFP were found to be of order the I(1) while INF turned out to be of order I(0). The ARDL approach was used, instead of Johansen cointegration and Engel Granger approaches, because of the variable's order of integration.

5.2. Lag Selection

Table 3 shows VAR lag order by the selection criteria. The obtained results from the AIC, SIC and HQ criteria suggested 4 lags as the optimal number of lags to be incorporated in this analysis. The optimum number of lags as suggested by the AIC and HQ criteria is 4 for the selected model.

Table 3: VAR Lag Order by the Selection Criteria

Lag	AIC	SC	HQ
0	0.97816	0.89453	0.78235
1	-8.79278	-8.74235*	-8.68020
2	-9.60398	-7.46405	-8.40592
3	-10.01935	-6.57201	-8.43591
4	-12.52859*	6.39374	-9.57867*

4.3. Cointegration: Bounds Test Result

The cointegration was tested using the bounds testing approach developed by Pesaran & Shin (1996). Table 4 shows the results of the Wald test of coefficient restriction applied on the estimated equation in order to check for cointegration among

the variables. The null hypothesis of no cointegration was rejected at both the 1percent and 5percent level, where the F-Statistics value 7.41 was found to be greater than I(1) bound at both 1percent and 5percent level.

Table 4: VAR Lag Order by the Selection Criteria

		Critical value 1%			Critical value 5%
Variables	F-statistics	I(0)	I(1)	I(0)	I(1)
LY: LFDI, INF, ME, LFCE, LGFCF, LFP	7.41	3.15	4.43	2.45	3.61

5.4. Results of ARDL Model of Cointegration

Table 5 shows the ultimate result of our ARDL cointegration. Both the long run and the short run coefficients of the respective variables are given in this table.

Table 5: Results of ARDL model

Long Run				Short Run				
Variables	Coefficients	T-statistics	P-value	Variables	Lags	Coefficients	T-statistics	P-value
				D(LY)	1	0.3477	2.6413	0.0132
				D(LY)	2	0.3182	2.3504	0.0258
				D(LFDI)	1	0.0283	3.7100	0.0009
LFDI	0.0267	2.6178	0.0133	D(LFDI)	3	0.0265	3.5113	0.0015
INF	-0.0016	-3.7793	0.0006	D(INF)	2	-0.0006	-2.2854	0.0298
ME	-0.0062	-2.9067	0.0065	D(ME)	2	0.0097	2.3118	0.0281
LFCE	-0.0145	-0.4196	0.6775	D(LFCE)	3	0.0070	0.3014	0.7652
LGFCF	0.1406	2.6535	0.0122	D(GFCF)	2	-0.1285	-2.9961	0.0056
LFP	0.0165	4.2934	0.0001	D(LFP)	3	0.0092	3.2538	0.0029
Constant	0.5541	2.9018	0.0066	Constant		0.5968	2.5715	0.0132
ECM (Derived from the residuals of long-run model)					1	-0.6947	-5.0939	0.0000
R2						0.7104		

The long run coefficient of the FDI in the model shows a positive significant impact on economic growth at 5percent level of significance. The long run relationship shows that a 1 percent increase of FDI is associated with higher GDP growth of about 0.027 percent, while the short run model shows that FDI has a significant positive effect on economic growth having coefficients, at lag (1) and (3), 0.0283 and 0.0265, respectively, at the 1percent level of significance. The finding is consistent with the findings of Jehangir, Lee and Park (2020), Ur Rehman (2015), Jawaid and Saleem (2017), and Ali and Hussain (2017). However, the result contradicts the findings of negative impact of FDI by Nilofer and Qayyum (2018).

The significant negative coefficients of inflation in both the long run and the short run, indicates symptoms of lack of commitment and discipline in monetary policy, and therefore, higher inflation hinders economic growth by hindering productivity growth and investment (Fisher, 1993; Onafowora & Owoye, 2018).

The negative and significant coefficient in military expenditure in the long term is consistent with the findings of Jehangir, Lee and Park (2020), Khalid and Alsalim (2015). However, it shows a positive and significant coefficient in the short, which is consistent with the findings of Jehangir, Lee and Park (2020) and Pacific, Shan and Ramadhan (2017). This indicates the adverse effects of ME on the economic growth in the long run, whereas in the short run, it supports the economic growth.

Furthermore, the coefficient of final consumption expenditure turned out to be insignificant both in the long and the short run, which is also consistent with the findings of Jehangir, Lee and Park (2020) and Rizeq (2015), but contradicts the findings of Zareen and Qayyum (2014) that reported a significantly negative impact of FCE in economic growth.

The significant positive coefficient of gross fixed capital formation in the long run and negative significant coefficient in the short run is consistent with the study findings of Jehangir, Lee and Park (2020) and Lach (2010). The implications of the findings is that gross fixed capital formation is an important factor in the economic growth in the long run, but may not appear so in the short run. The gross fixed capital formation covers four kinds of capital goods - equipment and machinery, furniture and fixture, structure, improvement of land and cultivated assets in orchard development and livestock sector. Given that Nigeria is a developing economy, it does not have sufficient resources to invest simultaneously in these sectors to yield enhanced productivity in the short run. Therefore, investment in these sectors appears to have negative effect on the economic growth of the country, even though, according to Arby and Batool (2007) it contributes to economic development in the long run.

The coefficient of labour force participation, like that of FDI, is also positive and significant in both the long run and the short run for economic growth. This result emphasizes the role the labor force plays in the economic development of Nigeria. This

result is consistent with that of Asghar, Awan & Rehman (2012) and Jehangir, Lee and Park (2020).

The coefficient of the ECM (-0.6947) is negative and statistically significant at 1 percent level of significance. ECM is one period lagged error correction model/term. The coefficient of ECM shows fast convergence of the variables to the equilibrium.

5.5. Results of Diagnostic Tests

The results of the diagnostic test show the stability test results. The values of F-Statistics and the corresponding P-values of the serial correlation LM test indicate that we cannot reject the null hypothesis of no serial correlation, meaning that this model has no serial correlation.

The Heteroskedasticity Test (Breush-Pagan-Godfrey, ARCH) reveals that the model does not suffer from Heteroskedasticity as the p-values of the F-Statistics are more than 5percent, implying that we cannot reject the null hypothesis of no Heteroskedasticity. Similarly, the results of the Jarque-Bera normality test indicate that the null hypothesis of normality cannot be rejected.

Additionally, the CUSUM and QUSUMSQ techniques have also been applied based on the ECM model which was estimated. The following figures reveal that both the series are lying inside their critical bounds at 5percent significance level. This verifies the stability of the ECM model with respect to all involved variables and also indicates that there are no structural breakpoints in the estimated model.

6.0. Conclusion

Concentrating on the effect of FDI on the economic growth of Nigeria, the study utilises time series data for a period of forty-five years from 1978 to 2023. As a result of the empirical analysis, inward FDI has shown positive and significant relationship with the GDP growth, both in the long and the short run. The significant coefficient of FDI in the long run model reveals that a 1percent change in FDI causes 0.015percent change in the economic growth. This implies that an increase in FDI inflow set the economy of the country on the route to development. In the long run model, inflation and military expenditure have shown significantly negative results while final consumption expenditure has shown insignificantly negative result. Both gross fixed capital formation and labor force participation are significant with positive signs. In the short run model, military expenditure and labor force participation have shown significantly positive results while inflation and gross fixed capital formation have shown significantly negative results.

6.1. Policy Recommendations

Nigeria has been under certain pressures regarding internal and external issues such as security, peace, law and order situations among others. The continued unrest and insecurity in the country as well as several other issues have deterred foreign investors from investing and doing business in Nigeria. The government of Nigeria along with its armed forces is trying to handle the situation of terrorism, banditry, kidnappings and all forms of insurgency across the country in a decent and organised way.

Based on the results obtained by this study, it is recommended that the government of Nigeria should maintain investment policies relaxed and easy in order to attract more foreign investors.

Our empirical analysis has also shown that while military expenditure has a significantly positive effect on the economic growth in the short term, it has a significantly negative impact in the long term. This means that while the increase in military expenditure contributes to the economic growth by increasing domestic demand and investment in the short term, it leads to the decrease of investment in technology and infrastructure, consequently weakening national competitiveness in the long term.

There is an intense need of promoting education with special focus on technical education in the country. Technical education leads to producing skilled labour which is an important part of the production cycle. Nigeria needs to undertake various reforms in multiple areas in order to improve labour productivity and capital formation.

Trust building measures may play a vital role in the development of a country. Nigeria needs to take measures to build up trust between public and private sectors. Problems faced by business community in Nigeria must be identified through mutual discussions and steps by the government in order to reduce their stress regarding business security and to ensure creating healthy business environment in the country.

Besides the above mentioned policy recommendations, there are some other important points which, if taken into consideration, can help Nigeria's economy to develop fast:

First, Nigeria's economy struggles to sustain high growth rates over extended periods. Recurrent issues, such as balance of payments deficits, have hindered the country's aspirations of achieving middle-income status. The brief periods of growth are largely driven by private and public consumption rather than increased investment, limiting the potential for long-term economic expansion.

Second, demand is growing at a much faster pace than the supply of goods and services, leading to a high reliance on imports. As shown in Table 2, data from the Central Bank of Nigeria highlights that the country is not investing enough in research and development (R&D) to boost domestic production. Strengthening R&D efforts is essential to reduce dependence on imports and increase self-sufficiency. For a lower-income economy, the heavy reliance on importing even basic goods and services is unsustainable, making local production a priority."

Third, improving the power sector is crucial to alleviating Nigeria's energy crises and ensuring the smooth operation of industries across the country. Power shortages in the industrial sector have led to the shutdown of production units, resulting in increased unemployment and a decline in overall productivity.

Fourth, persistent macroeconomic instability discourages savings and private investment, leading to low overall investment in the country. This instability has also contributed to Nigeria's relatively lower foreign direct investment (FDI) compared to neighboring countries at similar stages of economic development. In 2008, FDI inflows to Nigeria declined by 49 percent, amounting to USD \$299.57 while other developing countries recorded increases in FDI during the same period (UNCTAD, 2022).

Finally, strengthening public and private institutions, digitising revenue records, and fostering strong interconnections between public departments will help establish stability and build trust among foreign investors. These measures are essential for positioning Nigeria on the path toward becoming a prosperous, developed nation.

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Impact of Taxation on Wealth Creation in Nigeria: 2010-2023

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Abstract

The study examines the impact of taxation on wealth creation in Nigeria for a period of fourteen years (2010-2023). Data was collected from published reports of the Central Bank of Nigeria (CBN) and the Federal Inland Revenue Service (FIRS) and analyzed by means of descriptive statistics, correlation and multiple regressions. The study found that taxation (direct and indirect) is generally an instrument for sustainable revenue generation and collection, stabilization of the economy, controlling productive and consumption behaviors and narrowing of the gap between the rich and the poor. Individually, some taxes have more impact on wealth creation than others. For example, the impact of Petroleum Profit Tax (PPT) is higher than that of Companies Income Tax (CIT) or Value Added Tax (VAT) in Nigeria. The study recommends that government should intensify efforts at blocking all loopholes in the tax laws as well as bring more prospective tax payers (firms and individuals) into the tax net, especially those high net worth individuals and firms who do not pay tax properly. More so, Nigerian government should judiciously use the tax revenue collected for executing various developmental projects, including empowerment of micro, small and medium enterprises who could improve the quality of livelihood and infrastructures in the country, with a view to creating massive wealth needed to pave ways for the country to achieve sustainable development.

Keywords: Taxation, Tax Revenue, Wealth Creation, Infrastructure, Sustainable Development

1.0 Introduction

The nexus between taxation policies and wealth creation stands as a focal point of scholarly inquiries as taxation policies wield significant influence over a nation's economic landscape. Taxes contribute substantially to the national coffers. However, the impact of taxation extends beyond mere revenue collection. It shapes economic behavior, resource allocation, and wealth creation. Nigeria's tax system includes taxes such as personal income tax,

value added tax, capital gain tax, petroleum profit tax, companies' income tax, and customs and excise duties, which all contribute substantially to the national coffers.

The government of any nation is saddled with enormous responsibilities which are influenced greatly by the income generated by the government from different sources, one of which is taxation. To finance its operations, the Nigerian government is

primarily reliant on taxes. Individuals or companies must pay appropriate taxes to the government for public goods and services to be provided by the government. Taxation being a major source of funding developmental projects by all three tiers of government in Nigeria is highly important in articulating the macroeconomic policies in the country.

Wealth creation encompasses the multifaceted processes through which individuals, businesses, and nations generate value and accumulate assets over time. It extends beyond the accumulation of financial resources; to the broader enhancement of well-being, creation of employment opportunities, and the development of sustainable economic structures. Taxation plays a pivotal role in shaping the environment within which wealth creation occurs. As taxes influence the allocation of resources, individual incentives, and investment decisions, they become integral determinants of the pathways through which wealth is generated. The diverse array of taxes in Nigeria, (including personal income tax, profit gain tax, value-added tax, capital gain tax, Petroleum Profit Tax, Companies Income Tax, and Customs and Excise Duties), not only contribute significantly to the national coffers but also exert a profound impact on economic behavior and resource allocation (Onuoha & Akintoye, 2018).

This link between taxation and wealth creation is therefore a simple one: since higher taxation increases wealth creation, as wealth creation transcends individual

prosperity. This research therefore delves into the crucial effect of taxation on wealth creation.

Prior studies have examined impact of taxation on wealth creation in both developing and developed nations (Adefolake & Omodero, 2022; Victory et al., 2022; Onuoha & Akintoye, 2018; Saidu, 2014). There are few studies on the perspective of the relationship between taxation on wealth creation in Nigeria. The available study on relationship between taxation on wealth creation includes (Adefolake & Omodero, 2022; Onuoha & Akintoye, 2018). These studies concluded that taxation could be employed to stimulate economic growth through increased trade and economic activities. This study therefore, represents an attempt to bridge the research gaps by examine relationship between taxation and wealth creation in Nigeria. This study is for a period of fourteen years 2010 to 2023 thus fill the gap for the need for recent study. The remainder of this paper is structured as follows. Section two, is an overview of the relevant literature. Section three describes the research methodology of the study. The results and discussion are discussed in Section four while Section five is a conclusions and recommendations.

2.0 Literature Review

The Concept of Wealth Creation

The meaning of wealth has different connotations for different perspectives and people. In general, it means abundance of something which someone or entity possesses with embedded value. In business terms, wealth means products or services

generated by a given economic activity, and usually refer to the accumulation of resources by a certain society (Yelwa & Emmanuel, 2013). Wealth creation occurs through various channels: successful businesses, real estate investments, stock markets, and intellectual property. Entrepreneurship plays a pivotal role in this process. When entrepreneurs innovate, create jobs, and build successful enterprises, they contribute not only to their own wealth but also to the broader economy. Effective wealth creation strategies involve not only financial accumulation but also social impact on the nations' Gross domestic product as a whole.

The measurement of wealth creation has been discussed by scholars having different views. However, Otu and Adejumo (2013), Ibadin and Oladipupo (2015) opined that wealth creation is measured as economic growth that is normally measured by Gross Domestic Product (GDP). These scholars conclude that the GDP measures national production for a given period of time in a way that shows capital stock operations, technological advancements, quality of education and healthcare and security services. According to Onuoha and Akintoye (2018), for a nation, wealth creation is measured by its economic growth which is any kind of increase in production and service activities that sustain the national income for some period of time.

This shows that increased employment, capital stock improvement and technical advancement are taking place. An increase in labor force shows that there is an economic activity that generates

employment for the citizens; the investment climate is fair to all and resources are being equally allocated where there is also increase in production output of a nation and per family or head which is translated as improvement in citizens' welfare. Through capital stock, there is increase in investment opportunities since there is availability of finance from primary and secondary capital markets (Lee & Gordon, 2005). Thus, wealth creation requires the development and improvement of basic physical and social infrastructures that improves standard of living in the society. These include construction of schools for education, hospitals for quality healthcare, roads construction, bridges settings, railways, seaports and modern airports. These become facilities for wealth creation among the citizens of a nation (Afuberoh & Okoye, 2014; Adereti et al., 2011). The government's role should be the stabilization of the national economy, improvement of services provision to citizens and redistribution of income among the population in terms of public facilities (Ayuba, 2014).

Appah (2010) considered economic growth as a measurement of wealth creation for the nation that comes from the economic activities which are supported by the government's contribution to the business conduct and facilitation in terms of public goods creation. Lymer (2010) and Chigbu and Njoku (2015) are of the opinion that government should have a sound and fair fiscal policy which allows for economic stability, employment provision, externalities balance and sustained economy so that its nation should continually develop

and secure its future for the citizenry. Thus, the tax policy should be used to collect relevant tax revenues or income to government for government's capacity to generate public goods as indicators of wealth creation.

The Concept of Taxation

Taxation has been in use for centuries as a tool for collecting tax revenue or a weapon to generate revenues that would support the governmental expenses in terms of capital and recurrent expenditures that help in improving life conditions of the citizens. Taxation has been defined as a mechanism, process, procedures or a system set by government of a given nation with the main aim of collecting tax revenues or income from citizens such as individuals, entities or companies, in order to finance its public expenditures or utilities and fulfillment of other public duties and responsibilities (Farayola, 1987; Adams, 2001; Somorin, 2012). A sound Tax system is necessary to every nation (Ogbonna & Ebimobowei, 2012) as taxation was considered main source source of national income of nations by Afubero and Okoye (2014), used as a mechanism by the government to stabilize the economic growth, improving living standards, Creating and redistributing wealth (Afuberoh & Okoye, 2014) and a key support that enables officials to discharge their responsibilities in creating and enhancing the welfare of the citizens Azubike (2009).

Taxes can be Direct or indirect. Direct taxes are taxes paid directly by the individuals or companies from their direct income or revenues. These include personal tax, non-

oil tax, property, capital gain and income taxes (Somorin, 2012). Indirect taxes are impersonal taxes which are deducted or imposed on transactions, goods and services. They are not directly borne by individuals' incomes; rather consumers of goods and services pay often not knowing they do. These taxes are imposed on last line consumers. They include sales tax, services tax, value added tax, excise duties, customs (import/export) duties, expenditure tax, stamp duty, registration duty, transaction tax, entertainment tax and taxes on some hard drinks, tobacco and petrol, and they are also imposed on the manufacturers (Somorin, 2012).

Theoretical Review

Two theories are reviewed in this paper, namely: expediency and social political tax theories. Expediency theory was proposed by Musgrave in (1959). This theory is of the idea that just about every tax plan meets the practicality test, which is the government's single criterion for deciding on a tax policy (Otu & Adejumo, 2013). It must be the only factor taken into account by the authorities when deciding on a tax proposal. One should disregard the impact of a tax system as well as the state's social and economic goals (Ayuba, 2014). According to Kiabel (2009), the state's economic and social goal is to emplace an effective tax system that is relevant to a nation's economic growth. The concept of expediency is based on a link among both tax liabilities and government actions. The state is expected to levy generally the societal members for the amenities it provides (Anyanfo, 1996). More so, the socio political theory posits that states have political and social objectives as

major contributing factors in the taxes policies selection and establishments. This theory holds that the tax system should be established not to serve individuals but to solve the problems of society as a whole. Thus, all the politics around taxes setting and administration should focus on the social and economic objectives of a nation (Bakija, 2013). The result is a tax system that provides mutual benefits to the state and the people.

Empirical Review

Taxation and Wealth Creation

The seminal works of economists have laid the groundwork for understanding the direct impact of taxation on wealth creation. Becker and Murphy (2007) elucidated the fundamental role of tax policies in shaping individuals' incentives to engage in wealth-generating activities. Their comprehensive analysis highlighted the multifaceted ways in which tax structures influence investment decisions, savings patterns, and, consequently, the accumulation of wealth. Researches within the dynamics of Taxation and wealth creation have attempted to explain the relationship between these variables while Taxation is identified as a major source of revenue to the Government (Azubike, 2009). Tomljanovich (2004) defined tax as a mechanism for reducing income wealth inequalities between the poor and rich and inflation. Gentry and Hubbard (2005) also found taxation to be an effective tool for economic growth and wealth creation.

Further studies of McBride (2012) and identified taxation as an effective tool for wealth creation and distribution. Gentry and

Hubbard (2005) further prove taxation to be a veritable tool in the development of the economy, employment and income distribution among the citizens. This is in line with Ogbonna and Ebimobowei (2012) assertion that taxation plays a role as a wealth creation engine and helps to regulate economic activities by motivating some sectors considered important for more development opportunities. They also found tax reforms to have a significant effect on economic growth. Taxation plays an important role in wealth creation in Nigeria, Somorin (2011), Afuberoh and Okoye (2014) and Appah (2010) considered economic growth as a measurement of wealth creation for the nation that comes from the economic activities.

Okoye (2014) and Appah (2010) have corroborated that taxation plays an important role in wealth creation in Nigeria. Their list of the areas that are supported by tax revenues include: (i) stimulating growth in the economy, by increased trade and economic activities; (ii) stimulating domestic and foreign investment; (iii) revenue generated from taxes can also be applied directly to identify sectors of the Nigerian economy to stimulate more attractive sectors; (iv) revenue earned from taxes can be used to develop effective regulatory systems, strengthen financial and economic structures and address market imperfections and other distortions in the economic sector; and (v) redistribution of income. Worlu (2012) adds that tax revenue realized from high income earners is used to provide public infrastructure and utilities to the lowest income earners.

Inyiama et al. (2016) used regression analysis to examine the impact of VAT, customs, and excise levies on Nigeria's economic growth. The outcome demonstrated a beneficial effect of value added tax, customs tariffs, and excise taxes on economic growth. Also, Ojong et al. (2016) studied on the tax revenue and national economic growth in Nigeria find that petroleum profit tax contributes to the wealth creation of Nigerian economy. Also they found that non-oil tax revenue significantly affects economic growth and the low tax contributor to the tax revenue pool was found to be company income tax. The main challenge they asserted were the poor tax administration, tax evasion and tax avoidance levels which were too high.

Similarly, Ayeni et al. (2017) using the Paired sample T-test looked at the effects of oil revenue and non-oil revenue on Nigerian economic growth 1986 to 2015. Oil revenue and non-oil revenue were both positive and highly associated with real GDP but there was a considerable difference between the effects of oil revenue and non-oil income on economic growth. Non-oil revenues were estimated to have contributed 2.5% to GDP growth while oil revenues contributed 7.7%. Udofot and Etim (2017) from 1980 to 2015 looked into the relationship between SMEs' tax revenue and economic growth in Nigeria. The study's data came from several editions of the Central Bank of Nigeria (CBN) statistical reports and the Federal Inland Revenue Service (FIRS) yearly reports. Regression and correlation analyses were used to examine the data collected. The findings demonstrate that the variables are

positively and strongly related, and they suggest redesigning the entire tax administration system to increase revenues collection.

Abomaye-Nimenibo et al. (2018) conducted Multiple Regression Analysis to conduct an empirical assessment of the influence of tax revenue on economic growth from 1980 to 2015. The analysis indicated that, in the short run, petroleum profit tax and corporate income tax had no major impact on economic growth, although customs and excise tariffs did. However, it is recommended that the government ensure that all companies are registered in Nigeria, limiting the risk of tax evasion. Asaolu et al. (2018) investigated the relationship between tax revenue and economic growth in Nigeria from the year 1994 till 2015, the study employed a descriptive and historical research design and an Auto Regressive Distributed Lag (ARDL) Regression. The study revealed a significant relationship between CED and VAT with economic growth, a negative and significant relationship with economic growth and an insignificant relationship with economic growth.

In other study conducted by Dladla and Khobai (2018) used the Autoregressive Distribution Lag (ARDL) research method to look at the long- and short-term effects of taxation on economic development in South Africa from 1981 to 2016. The study's results revealed a large and negative long- and short-term impact of taxes on economic growth as well as a long- and short-term favorable association between trade

openness and economic growth. Similarly, Onuoha and Akintoye (2018) examined taxation as a veritable tool for wealth creation in Nigeria. The study adopted the *ex post facto* design. Data covering 16 years between 2001 and 2016 were collected and analyzed using inferential statistics and simple regression technique. The finding shows that total tax revenues have a significant effect on the GDP which was used as proxy for wealth creation. The implication of the conclusion is the strong need for more effective collection of the tax revenue and greater emphasis on efficient tax administration.

Yahaya and Bakare (2018) using data from the Federal Inland Revenue Service and the CBN statistical bulletin, analyzed the influence of petroleum profit tax and company income tax on Nigeria's economic growth from 1981 to 2014. The researchers employed a time series study approach and ordinary least square regression analysis. Petroleum profit tax and firm income tax have a favorable significant impact on economic growth in Nigeria, according to the study. It was suggested that the government use the revenue earned by these tariffs for economic development and infrastructure improvements. Adeusi et al. (2020) investigated the impact of non-oil revenue of the economic growth of Nigeria where company income tax, value added tax, personal income tax and custom and excise duties where the non-oil revenue for the period 1994–2018 with data gotten from Federal Inland Revenue Service and National Bureau of Statistics. Ordinary Least Square Regression Techniques was

used for data analysis. The study revealed that Value Added Tax and Custom and Excise duties have more significant positive impact on economic growth while Company Income Tax and Personal Income Tax have a negative but significant effect on economic growth. John and Dickson (2020) using Error Correction Models analyzed the influence of tax revenue on economic growth using both unadjusted and adjusted Gross Domestic Product from 1984 to 2018. When GDP was not adjusted for inflation, PPT had a minor but beneficial effect on economic growth, whereas VAT and CIT had a large but negative impact on GDP. PPT had a negative and insignificant impact on adjusted GDP, but VAT had a positive and considerable impact, and CIT had a negative and significant one.

Etim et al. (2021) Using a descriptive and inferential statistical technique, correlational and regression statistics, and an *ex post facto* research design, the study compared the effects of direct and indirect taxation on the growth of the Nigerian economy. The study demonstrated that indirect taxes have a greater detrimental impact on economic growth. Mukolu and Ogor's (2021) study examined the impact of VAT on the Nigerian economic growth for the year 1994 till 2018 using an Augmented Dickey Fuller analysis method. Data from Central Bank of Nigeria statistical bulletin and Federal Inland Revenue Service were used for analyze. The study showed that there is a positively significant impact of Value Added Tax on Gross Domestic Product. It also showed that VAT has to a great extent

given rise to the total revenue of the nation and has helped in tax evasion by taxpayers. Adefolake and Omodero (2022) assessed the effects of tax revenue on the economic growth of Nigeria utilizing time series data spanning from year 2000 till 2021. The study's specific goal is to evaluate the influence of hydrocarbon tax, corporation income tax and Value Added Tax on Nigeria's economic growth. The study employs secondary form of data which have been sourced from CBN statistical bulletin and published Federal Inland Revenue Statement. Ex-post facto research design is used for this study. The data collected are analyzed and tested for unit root using Augmented Dickey Fuller method. The study variables which comprise GDP, PPT, CIT & VAT are found to be stationary at first difference. Thus, a Johansen co-integration test is also conducted and it reveals a long-run relationship. Consequently, the study utilizes the Vector Error Correction Model to evaluate the effects of PPT, CIT and VAT on GDP. The findings revealed that PPT and VAT have positive and significant effects on GDP. It also reveals that CIT has a negative and significant effect on GDP.

Victory et al. (2022) investigated the impact of tax reforms on economic growth of Nigeria. This study adopted time series strategy basically concerned with how to perform impact analysis on already existing data. Secondary data were used in this study. However, relevant data for the study were obtained from Central Bank of Nigeria (CBN) Statistical Bulletins, Federal Inland Revenue Services Bulletins, and the World

Bank, using judgmental sampling technique, a sample of 21 years' period from 2000 to 2021. Regression analysis technique was used to measure the effects of the predictor variables on the criterion variables. This study used estimated technique of both descriptive statistics and Ordinary least square (OLS) regression analysis method with the help of Statistical Package for Social Sciences (SPSS 25). The results revealed that there is a positive significant impact of VAT, CIT & PPT on RGDP in Nigeria among other things. Therefore, the researcher established that there is a significant positive impact of tax reforms on Nigeria's economic growth.

Chenge and Oigbochie (2023) explained the unique political and economic nature of governance in resource-rich countries starting in the 1970s. The wealth in a renter state is usually accrued through extraction and selling of valuable natural resources under the full control of the government which is mainly directed by a ruling elite group. Nigeria is described as a 'rentier state' as a result of its mono-economy in which oil rents play a dominant part. The study examines the rentier state syndrome in Nigeria and how it affects tax revenues, which are largely based on non-oil sector development. A documentary research design was used for the study. Data collection was done using secondary sources while data analysis involved the use of descriptive statistics and content analysis. Findings of the study revealed that oil revenue has over the years surpassed tax revenue and remains the mainstay of the Nigerian economy. It also showed that the

imbalance between tax revenues and resource rents in Nigeria is due to quick profits from oil; opportunistic rent seeking and rent grabbing; weak private sector; and the desire by political elites to undermine transparency and accountability that comes with a functional tax system.

Adeyemi (2012) is of the opinion that taxation has a role to play in terms of attracting the domestic and foreign direct investment that all aim at providing the sustainable social and economic development and growth. Thus, tax incentives and exemptions are used in creating investment opportunities. This shows that the tax system of any given country is a tool for improved level of investment that creates wealth to the owners of the capital (investors) and citizens who get employment and earn income that helps them to solve their social and economic problems. As a result, tax experts agree that new investments bring new monetary flows within a nation where many people get involved and new business activities would be developed as small scale activities created by big investments. Thus, tax policies should be developed in such a way that maximizes value creation in terms of wealth that is distributed among the citizens and business partners who also develop themselves as a result of domestic and foreign direct investments attracted through those tax policies. This shows that taxation should be well structured so that it becomes a tool for increasing and improving the

economic sustainability of a nation as source of fostering the development in all economic and social endeavors of the population (Ogbonna & Ebimobowei, 2012 and Gale et al., 2015). Hence, the hypothesis is formulated as follow:

H0₁: Taxation has insignificant impact on wealth creation in Nigeria.

3.0 Methodology

This study adopted ex-post facto design. The data was collected from published reports by the Central Bank of Nigeria (CBN) and the Federal Inland Revenue Service (FIRS). The period covered by this study is 14 years ranging from the year 2010 to 2023, this period was considered appropriate because of the availability of data and its currency to the prevailing economic environment of the country. The study adopted Descriptive and inferential statistics which helped to test the econometric model of the study by using the simple regression statistics.

The variables for the study are categorized into two dimensions (presented in Table 1): Taxation (independent) and wealth creation (dependent). Taxation was measured as the yearly tax generated in Nigeria. Wealth creation is measured by economic growth which reflects increase in production activities and gross domestic products. This is obtained from data from the National Bureau for statistics (NBS) and the central Bank of Nigeria (CBN). The definitions and measurements of the variables are presented in Table 1 below:

Table 1: Variables of the Study and their Measurements

Variables	Symbol	Measurement	Source/Justification
Wealth Creation	GDP	Gross Domestic Product	Adefolake and Omodero (2022), Bello (2020), Asaolu et al. (2018), Onuoha and Akintoye (2018) and Udofot and Etim (2017)
Taxation	TT	Natural Logarithms of tax generated each year.	Adefolake and Omodero (2022), John and Dickson (2020) and Dladla and Khobai (2018).
	PPT	Natural Logarithms of petroleum profit tax generated each year.	Adefolake and Omodero (2022), Victory et al. (2022), Yahaya and Bakare (2018) and Abomaye-Nimenibo et al. (2018).
	NOT	Natural Logarithms of non-oil tax generated each year.	Adeusi et al. (2020) and Ayeni et al. (2017).
	CIT	Natural Logarithms of companies' income tax generated each year.	Adefolake and Omodero (2022), Victory et al. (2022), Adeusi et al. (2020), John and Dickson (2020 and Yahaya and Bakare (2018).
	VAT	Natural Logarithms of value added tax generated each year.	Adefolake and Omodero (2022), Victory et al. (2022), Etim et al. (2021), Mukolu and Ogodor's (2021), Adeusi et al. (2020), John and Dickson (2020) and Asaolu et al. (2018).
Exchange Rate	ER	Yearly exchange rate	Onuoha and Akintoye (2018).
Interest Rate	IR	Yearly interest rate	Asaolu et al. (2018) and Dladla and Khobai (2018).
Inflation Rate	INFI	Yearly inflation rate	Yadawananda and Achal (2020).

Model Specification

The models are presented as follows:

$GDP = f(TT, PPT, NOT, CIT, VAT, ER, IR \text{ \& } INFL)$

$$GDP = \beta_0 + \beta_1 TT + \beta_2 PPT + \beta_3 NOT + \beta_4 CIT + \beta_5 VAT + \beta_6 ER + \beta_7 IR + \beta_8 INFI + \varepsilon$$

Where:

GDP= Gross Domestic Product.

TT = Total tax

PPT = Petroleum profit tax

NOT = Non-oil tax

CIT = Companies' income tax

VAT = Value added tax

ENRT = Exchange Rate

INRT = Interest Rate

INFRI = Inflation Rate

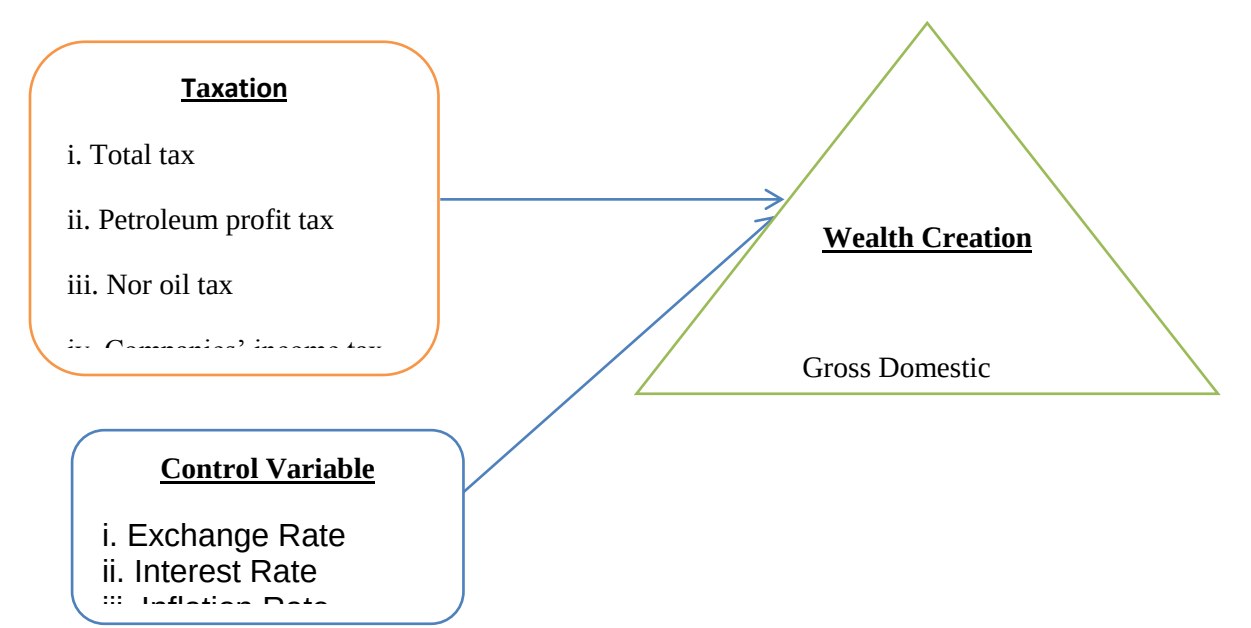
ε_{it} is the error term.

Techniques of Data Analysis

The study used three techniques in analyzing the data generated. They are descriptive statistics, correlation, and multiple regressions. Descriptive statistics involved the use of mean, standard deviation, minimum and maximum to evaluate degree of variability of the selected variables for the

study. At the same time, it is consistent with the studies of Adefolake and Omodero (2022), Adeusi et al. (2020), Asaolu et al. (2018) and Onuoha and Akintoye (2018). Correlation shows the strength and the degree of association among the variables. In other words, it is employed to determine the level of inter-relationship between the independent variables among themselves to

understand the degree of their association before conducting the regression analysis. This is consistent with the work of Adefolake and Omodero (2022) and Yahaya and Bakare (2018). Furthermore, multiple regression technique was used to examine the impact of taxation on wealth creation. Figure 1 below shows the relationship between the IV and DV.



Source: From Literature (2024).

4.0 RESULTS AND DISCUSSIONS

This section presents the result of data analysis that includes descriptive statistics, correlation matrix, and multiple regression technique approach.

Descriptive Statistics

Table 4 provides a summary of statistics for the variables of the study, such as mean, standard

deviation, minimum and the maximum of the study variables. The Table shows the summary statistics of the dependent and explanatory variables to appreciate the nature of the results adequately. The descriptive statistics analyzes the essential feature of taxation variables, entrepreneurship and wealth creation. It provides a necessary insight into the quality of the data upon which analysis was done.

Table 2: Descriptive Results

Variables	Obs.	Mean	Std. Dev.	Min	Max
GDP	14	3.2968	2.8957	-1.79	8.01
TT	14	2.7986	0.7521	1.03	3.25
PPT	14	3.3671	0.1925	3.06	3.74
NOT	14	3.4364	0.1951	3.16	3.78
CIT	14	3.0879	0.1997	2.75	3.44
VAT	14	3.0336	0.2232	2.74	3.44
ER	14	397.3114	247.4439	146.2	840
IR	14	7.8436	4.2243	1.07	17.59
INFL	14	14.0014	5.3976	8.05	28.92

Source: Generated using Stata Version 14.

From Table 2, it can be observed that the number of observations for each variable is 14. This is in line with the period of the study. The mean statistics implies that the average GDP growth of Nigeria economic have a value of 3.30% approximately during the period. The maximum value that can be reached is about 8.01. However, the minimum is -1.79. This may attribute to the less economic growth during the period. The low volatility of economic growth is indicated by the deviation from the mean of 2.8957 as indicated by standard deviation. Similarly, Table 2 shows that Total Taxation (TT) has a mean value of 2.7986 with minimum value of 1.03 and maximum value of approximately 3.25. The standard deviation of 0.7521 shows that there is fairly wide deviation in ETR within the sample

Additionally, the mean value Petroleum Profit Tax (PPT) is 3.3671 for the period of the study with minimum of 3.06 and maximum value of 3.74. The standard deviation of 0.1925 indicates that there is no wide variation in data. Also, the mean value Nor Oil Tax (NOT) is 3.4364 for the period of the study with minimum of 3.16 and

maximum value of 3.78. The standard deviation of 0.1951 indicates that there is no wide variation in data. In the same vein, the mean value Companies Income Tax (CIT) is 3.0879 for the period of the study with minimum of 2.75 and maximum value of 3.44. The standard deviation of 0.1997 implies that there is no wide variation in data.

More so, Value Added Tax has a mean value of 3.0336 with standard deviation of 0.2232, indicates that VAT data has wide diverse. The minimum is 2.74 and maximum of about 3.44 for the period of the study. Also, Table 2 shows that Exchange Rate (ER) has a mean value of 397.3114 with minimum value of 146.2 and maximum value of approximately 840. The standard deviation is 247.4439, this shows that there is a wide deviation in ER data for the period under study. The mean value Interest Rate (IT) is 7.8436 for the period of the study with minimum of 1.07 and maximum value of 17.59. The standard deviation of 4.2243 implies that there is no wide variation in data. Lastly, Table 2 shows that inflation rate has a mean value of 14.0014 with

minimum value of 8.05 and maximum value of approximately 28.92. The standard deviation is 5.3976, this shows that there is a wide deviation in inflation rate data for the

period under study. The correlation matrix as presented in Table 3 shows the association link between explanatory variables and the dependent variable

Table 3: Correlation Matrix

Variables	GDP	TT	PPT	NOT	CIT	VAT	ER	IR	INFL
GDP	1.0000								
TT	-0.2549	1.0000							
PPT	0.6463	-0.7816	1.0000						
NOT	-0.2839	-0.6241	0.3187	1.0000					
CIT	-0.2596	-0.5993	0.3041	0.5740	1.0000				
VAT	-0.2783	-0.6215	0.3583	0.4820	0.5243	1.0000			
ER	-0.4692	-0.3579	0.1494	0.3640	0.5954	0.3992	1.0000		
IR	0.1770	0.0300	-0.2510	-0.2672	-0.2467	-0.3342	-0.2927	1.0000	
INFL	-0.1403	-0.7138	0.4399	0.4817	0.5118	0.1264	0.4939	0.0009	1.0000

Source: Stata Version 14 Output

The correlation results illustrate the relationships between the explanatory variables (TT, PPT, NOT, CIT, VAT, ER, IR and INFL) and wealth creation as well as the relationship among the independent variable. The negative correlation coefficient of -0.2549, -0.2839, -0.2596, -0.2783, -0.0692, and -0.1403 between explanatory variables (TT, NOT, CIT, VAT, ER and INFL) and wealth creation indicate that as those variables increase, the level of wealth creation practice. Meanwhile, the positive correlation coefficients between wealth creation PPT (0.6463) and IR (0.1770) suggest that moderate petroleum profit tax and interest rate may have slightly low on wealth creation in Nigeria. The results of the correlation analysis indicated that the highest correlation coefficient between independent variables is -0.7816 for TT and PPT. Farrar and Gluabar (1967) as cited in Yildiz (2014) suggest that

correlation between independent variables should not be considered harmful until the correlation coefficients reach 0.8 or 0.9 and Emory (1982) considers more than 0.8 to be problematic. Furthermore, Emory (1982) concluded that correlation coefficients exceeding 0.8 can be considered problematic due to the potential for multicollinearity issues and the challenges they pose in statistical analysis. This cautionary approach towards high correlation coefficients is essential in research to ensure the robustness and reliability of statistical findings.

Regression Analysis

This sub-section presents the regression results of the effect of taxation on wealth creation in Nigeria using multiple regressions. The regression result showing the impact of the independent variable on dependent variables as shown in Table 4 below:

Table 4: Regression Result

Variables	Taxation and Wealth Creation			
	GDP	Coef.	T	P> t
TT		3.3999	1.29	0.254
PPT		19.1272	3.01	0.030
NOT		-0.7919	-0.01	0.989
CIT		-1.1895	-0.05	0.960
VAT		13.1806	0.39	0.713
ER		-0.0111	-1.52	0.189
IR		0.3400	1.75	0.141
INFL		-0.0368	-0.13	0.899
_Cons		-10.9337	-1.53	0.187
Prob > p			0.0009	
R-squared			0.0839	
Adj R-squared			0.0542	

Source: Stata Version 14 Output

Table 4 presents the regression estimates of the effect of taxation on wealth creation. The test reveals an R^2 of 0.0839 (8%) for the impact of taxation on f-value), which statistically is significant (0.0009) for the model, demonstrating that the models are statistically fit to explain the changes between the independent variable and the dependent variable in the model.

Table 4 shows that taxation (PPT) has positive and significant on wealth creation while other measurement of taxation (TT, NOT, CIT and VAT) individual shows insignificant impact on wealth creation in Nigeria. Therefore, the study proves that taxation (TT, NOT, CIT and VAT) does not significantly influence wealth creation in Nigeria while taxation (PPT) significantly influence wealth creation in Nigeria. Thus, the study provides evidence for rejecting Hypothesis two formulated but fail to reject hypothesis one, three, four and five formulated in the study.

5.0 Conclusions and Recommendations

This study explored the relationship between taxation and wealth creation in Nigeria. The regression analysis results show that petroleum profit tax influence wealth creation in Nigeria but Total tax, nor oil tax, companies' income tax and value added tax does not statistically affect wealth creation in Nigeria. More so, this study has demonstrated that total tax revenues from petroleum profit tax have a significant effect on wealth creation as measured by the GDP. This means that economic growth and development of Nigeria requires the contribution of every economic agent not only tax generated from petroleum profit tax.

Based on this finding, the study concluded that the relevance of tax revenue to an improved Nigerian economy cannot be over-emphasized. Therefore, tax revenue is an avenue for the government to source for funds to use and improve the workings of

the economy and this would lead to economic growth. Also, tax holidays or incentives should be given to companies and institutions and individuals who have been compliant to tax payment. This would encourage such institutions to keep paying tax as at when due and this will increase wealth creation. The Nigerian government should judiciously use the funds for the tax to improve the capital and recurrent expenditures and also improve on infrastructures. This would encourage the populace to benefit from the tax paid and continue to pay it.

Furthermore, government should make concerted efforts to put in place sustainable tax policies, more effective tax administration and stricter enforcement of tax laws in Nigeria. The Nigerian tax authorities should set up appropriate structures and strategies to cultivate more consistent, functional and efficient tax regimes. More so, policymakers should focus on boosting the productive capacity of the economy by reforming the tax code to prioritize economic growth and opportunity. However, government needs to expand the tax yield through improved tax administration system. This is because of the danger of over-reliance on crude oil export receipts to drive the economy among other things.

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The Mediating Role of Dividend Policy in the Relationship between Board Diversity and Firm Value: Evidence from Nigeria

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Abstract

This study investigates the mediating role of Dividend Policy in the relationship between Board Diversity (gender, age, educational, and ethnic diversity) and Firm Value (measured by Tobin's Q) among publicly listed firms in Nigeria. Using a sample of 636 firm-year observations, we analyze the direct and indirect effects of various dimensions of board diversity on firm value. The findings indicate that Board Gender Diversity and Educational Diversity have significant positive effects on firm value, while Age and Ethnic Diversity exhibit negative or insignificant impacts. However, the study finds no significant mediating effect of dividend policy in the diversity-firm value relationship. These results highlight the importance of fostering gender and educational diversity in corporate governance to enhance firm performance. The study concludes that dividend policy does not act as a critical channel through which board diversity influences firm value. Recommendations for future research include exploring other mediating factors and considering industry-specific and cross-country analyses to provide broader insights.

Keywords: Board Diversity, Dividend Policy, Firm Value, Tobin's Q, Gender Diversity, Educational Diversity, Corporate Governance, Nigeria

1. Introduction

In today's dynamic business environment, the composition of a company's board of directors is increasingly recognized as a pivotal factor influencing corporate governance and overall firm performance. Board diversity, defined as the inclusion of individuals from various backgrounds—including gender, ethnicity, age, and educational experiences—has been linked to improved decision-making, innovation, and risk management. As firms strive to enhance their competitiveness, the presence of diverse perspectives in boardrooms has become a strategic imperative (Adams & Ferreira, 2009; Gul et al., 2011).

Dividend policy attracts interest in financial literature since Joint Stock Companies came into existence. (Muhammad, Yadudu & Bello, 2023), simultaneously, dividend policy plays a crucial role in a firm's financial strategy, reflecting its approach to profit distribution among shareholders. Dividend decisions are not merely financial choices but are also influenced by governance practices and the perceived value of the firm in the eyes of investors (Miller & Rock, 1985). There have been a lot of controversies as to the right dividend policy that will impact positively on the market value added or share price of the firm (Adam, Bello, Adam & Ramalan,

2021). The relationship between board diversity and dividend policy has garnered significant attention in the literature, with evidence suggesting that diverse boards may adopt more favorable dividend policies, potentially impacting firm value (Uwuigbe, 2013).

Despite the growing body of research examining the interplay between board characteristics and financial performance, there remains a gap in understanding how these relationships manifest in the context of developing economies, particularly in Nigeria. Nigerian firms face unique challenges, including regulatory constraints, economic volatility, and governance issues, which may influence the dynamics between board diversity, dividend policy, and firm value. Preliminary studies indicate that many Nigerian firms still struggle with achieving adequate board diversity, often resulting in homogenous decision-making processes that may limit their growth potential (Eke & Ofoegbu, 2019). Additionally, the role of dividend policy as a potential mediator in this relationship has not been adequately explored in the Nigerian context, raising questions about how governance practices impact firm performance.

Conducting this research in Nigeria is essential for several reasons. First, Nigeria's unique socio-economic landscape presents a compelling backdrop for examining board diversity and its implications for corporate governance. With a rapidly growing economy and an increasing number of listed firms on the Nigerian Stock Exchange,

understanding how board composition affects financial strategies and firm valuation can provide valuable insights for policymakers and practitioners alike.

Second, there is a pressing need to address the underrepresentation of women and minority groups in corporate leadership positions in Nigeria. As the nation strives to meet international development goals, including gender equality and economic empowerment, this study contributes to the broader discourse on corporate governance reform and gender diversity in leadership roles.

Lastly, the findings of this research can offer empirical evidence that informs corporate governance practices, investor relations, and policy-making in Nigeria. By elucidating the mediating role of dividend policy in the relationship between board diversity and firm value, the study aims to contribute to the academic literature while providing actionable recommendations for firms seeking to enhance their governance structures and financial performance.

Therefore, this study seeks to explore the mediating role of dividend policy in the relationship between board diversity and firm value in Nigeria. By addressing the existing gaps in the literature and focusing on the unique challenges and opportunities within the Nigerian context, the research aims to contribute to a deeper understanding of corporate governance dynamics and their implications for firm performance.

2.0 Literature Review and Hypotheses

2.1 Board Characteristics and Firm Value

The relationship between board characteristics and firm value has been the subject of extensive academic inquiry across the globe. The role of the board of directors in corporate governance is seen as a critical determinant of firm performance, as boards are responsible for overseeing managerial decision-making, ensuring accountability, and steering strategic direction.

One of the most researched board characteristics is board size. Empirical studies suggest mixed results regarding the effect of board size on firm value. In the context of Nigeria, Ujunwa (2012) found that smaller boards are more effective in enhancing firm performance due to quicker decision-making and less bureaucracy. This is consistent with the findings of Yermack (1996), who, using U.S. data, also observed that smaller boards are associated with higher firm value. However, other studies propose that larger boards bring diversity in expertise and networks, which can enhance firm value. A study by Coles, Daniel, and Naveen (2008) indicates that for complex firms, larger boards may be beneficial, as they can provide a broader range of expertise and monitoring capabilities.

Another key characteristic is board independence, which refers to the presence of non-executive, independent directors on the board. Independent directors are expected to provide unbiased oversight and reduce agency problems between management and shareholders. Studies from Nigeria, such as Sanda, Mikailu, and Garba

(2010), reveal a positive relationship between board independence and firm value, as independent directors are perceived to improve governance and protect minority shareholders' interests. Similar findings are reported in studies from other countries. Bhagat and Black (2002) found a positive association between board independence and firm performance in the U.S., although they also caution that too much independence might sometimes hinder managerial decision-making.

Gender diversity on boards has gained attention due to the global push for more inclusive corporate governance. In Nigeria, Okike (2017) highlighted that firms with a higher proportion of female directors tend to exhibit better performance. The rationale is that gender-diverse boards contribute different perspectives and may engage in better decision-making processes. Internationally, Adams and Ferreira (2009) found a positive correlation between gender diversity and firm value, especially in firms where monitoring is a key concern.

CEO duality, which refers to the same individual holding both the CEO and chairperson roles, is often debated. In Nigeria, Ujunwa (2012) found that CEO duality tends to diminish firm value, as it weakens the board's ability to monitor management effectively. This view is supported by Jensen (1993) in his study of U.S. firms, where he argued that separating the roles enhances board independence and oversight. However, in some contexts, such as in Asian markets, duality is seen as necessary for decisive leadership,

particularly in family-owned businesses (Peng et al., 2007).

The expertise of board members in finance, law, and relevant industries is also critical. Studies from Nigeria suggest that boards with a higher proportion of financially literate directors tend to outperform those without such expertise (Sanda, Mikailu, & Garba, 2010). Similarly, in developed markets, such as the U.S. and Europe, the presence of directors with specific industry or financial expertise is positively associated with firm value (Hillman & Dalziel, 2003). Based on the above synthesis, it is evident that certain board characteristics, such as size, independence, diversity, and expertise, play crucial roles in shaping firm value across different markets, including Nigeria. However, the influence of these characteristics can vary depending on the firm's context, including its complexity, governance structure, and the market environment in which it operates.

Given this context, the following hypothesis can be formulated:

H₁: Board characteristics have a significant positive impact on firm value in Nigeria.

2.2 Board Characteristics and Dividend Policy

Board characteristics play a crucial role in shaping a firm's dividend policy, which is one of the key aspects of corporate financial management. Dividend policy refers to the decision-making process regarding the portion of earnings distributed to shareholders versus what is retained for reinvestment. The relationship between board characteristics and dividend policy

has been extensively studied in various contexts, with mixed results across different countries.

Board size has been linked to dividend payout decisions in various studies. In Nigeria, Uwuigbe (2013) found that firms with larger boards are more likely to have higher dividend payouts. The rationale behind this is that larger boards have more diverse expertise, which may result in better oversight of management and stronger shareholder protection. This finding is in line with research by Abor and Fiador (2013) in Ghana, which also suggests that larger boards are positively associated with higher dividend payouts due to enhanced monitoring.

Conversely, studies in developed economies often report a negative relationship between board size and dividend payout. Yermack (1996) argues that larger boards can lead to slower decision-making and more inefficiency, potentially leading to lower dividends as a result of managerial entrenchment. This reflects the complexity of balancing governance structures with firm performance outcomes.

Board independence, referring to the presence of non-executive or independent directors, has been shown to influence dividend policy significantly. In Nigeria, Musa (2009) found that board independence is positively correlated with dividend payout, suggesting that independent directors are more likely to advocate for higher dividends to mitigate agency conflicts between management and

shareholders. This is consistent with the agency theory, which posits that independent directors act as better monitors of management, ensuring that shareholders receive a fair return on their investments.

Similarly, in the U.S., La Porta et al. (2000) found that firms with more independent directors tend to pay higher dividends, as they are more likely to prevent managerial self-dealing and ensure that cash is returned to shareholders instead of being retained for unprofitable projects.

CEO duality, where the same individual holds both the CEO and chairperson roles, can weaken board independence and affect dividend policy. Studies in Nigeria, such as Uwuigbe (2013), suggest that firms with CEO duality tend to pay lower dividends, as duality reduces the board's effectiveness in monitoring the CEO's decisions, allowing management to retain earnings for discretionary use. This finding aligns with research by Farinha (2003) in the European context, where firms with CEO duality were found to have lower dividend payouts due to reduced board oversight and heightened agency costs.

Gender diversity is increasingly recognized as a significant factor in corporate governance, a study by Adams and Ferreira (2009) shows that gender-diverse boards are more likely to have robust governance structures, including dividend policies that favor shareholders. In Nigeria, Musa (2009) found that firms with higher gender diversity on the board tend to pay higher dividends, as female directors are more risk-averse and

conservative in financial decisions, leading to a preference for distributing excess cash to shareholders rather than investing in riskier ventures. This aligns with findings from Gul, Srinidhi, and Ng (2011), who also found that firms with female directors are more likely to implement shareholder-friendly policies, including higher dividend payouts.

The expertise of board members, especially in finance and accounting, is also crucial in shaping dividend policy. In Nigeria, studies have shown that boards with a higher proportion of financially literate members tend to adopt more stable and shareholder-friendly dividend policies (Musa, 2009). Internationally, Fama and Jensen (1983) also argued that boards with financial expertise are better able to assess a firm's capital needs and the potential benefits of dividend payments, resulting in a balanced and well-informed dividend policy.

Based on the literature synthesis, it is evident that board characteristics such as size, independence, gender diversity, and expertise influence dividend policy in various ways, both in Nigeria and other countries. Larger, more independent, and diverse boards generally favour higher dividend payouts, while CEO duality tends to reduce dividend payments.

Therefore, the following hypothesis can be proposed:

H₂: Board characteristics have a significant positive impact on the dividend policy of firms in Nigeria.

2.3 Dividend Policy and Firm Value

Dividend policy has long been considered a critical factor influencing firm value. The debate on whether dividends impact firm value remains central in corporate finance, often framed by different theoretical perspectives such as the dividend irrelevance theory, signaling theory, and agency theory. Several empirical studies, both from Nigeria and other countries, have explored the relationship between dividend policy and firm value, providing mixed but insightful findings.

Modigliani and Miller (1961) famously argued that dividend policy is irrelevant in a perfect market, meaning that whether a firm pays dividends or retains earnings does not affect its value. In their view, firm value is determined by the profitability of its investments, not its dividend policy. However, in real-world scenarios characterized by taxes, information asymmetry, and agency costs, the dividend policy is often observed to have a significant impact on firm value.

One widely accepted view is the signaling theory, which suggests that dividends convey important information to the market about a firm's future prospects. Firms that consistently pay dividends or increase them are perceived to have strong future earnings potential, leading to higher firm value. In Nigeria, studies like that of Adefila, Oladipo, and Adeoti (2013) support this view, finding that firms paying regular dividends tend to be valued higher by investors. Similar results have been observed in other countries. For instance,

Benartzi, Michaely, and Thaler (1997) argue that dividend changes often signal changes in future profitability, influencing stock prices and firm value.

Agency theory suggests that dividends help mitigate agency conflicts between management and shareholders. Managers, who often have more control over a firm's resources, may prefer to retain earnings for reinvestment, even in unprofitable ventures, rather than distribute them to shareholders. Dividends reduce the free cash flow available to managers, thereby limiting opportunities for managerial discretion and potential misuse of funds. Studies from Nigeria, such as Adelegan (2003), found that firms with higher dividend payouts generally experience higher firm value, as dividends serve as a mechanism to align the interests of managers and shareholders. This is consistent with international research. Jensen (1986) argues that dividends reduce agency costs by compelling managers to be more disciplined with the firm's finances, thus enhancing firm value.

Empirical studies on the relationship between dividend policy and firm value in Nigeria tend to support the positive association posited by agency theory and signaling theory. For instance, Amidu (2007) found that dividend payout ratios are positively related to firm value in Nigeria, suggesting that investors prefer firms that distribute a portion of their earnings in the form of dividends. The study highlights that dividends serve as a signal of financial health and profitability to shareholders, which is particularly relevant in markets

with high information asymmetry, such as Nigeria.

International evidence also supports the notion that dividend policy affects firm value, but results vary by market. In developed markets, such as the United States and the United Kingdom, Lintner (1956) showed that firms are reluctant to cut dividends, as such actions are perceived negatively by investors, potentially lowering firm value. This behavior indicates the importance of maintaining a stable dividend policy as a tool for value enhancement. Meanwhile, in emerging markets, such as India, research by Kumar (2003) revealed that firms with consistent dividend policies are associated with higher stock valuations, driven by investor preference for dividend certainty amidst market volatility.

Firm size also plays a critical role in how dividend policy influences firm value. Larger firms, often with more stable cash flows, are more likely to pay dividends and use them as a tool to signal stability and growth potential. In Nigeria, Adefila et al. (2013) found that large firms are more likely to have a consistent dividend policy, which enhances their value in the eyes of investors. Similarly, Fama and French (2001) argue that larger firms in developed markets tend to pay dividends more regularly, reinforcing the positive association between dividends and firm value.

Based on the literature review, it is evident that dividend policy plays an essential role in influencing firm value through signaling, agency cost reduction, and investor

perception, both in Nigeria and internationally. Thus, the following hypothesis can be proposed:

***H₃:** Dividend policy has a significant positive impact on firm value in Nigeria.*

2.4 Board Diversity, Dividend Policy, and Firm Value

Board diversity, encompassing gender, ethnicity, age, and educational background, is increasingly recognized as an essential element of corporate governance, influencing key financial decisions like dividend policy and firm value. A growing body of research, both from Nigeria and internationally, suggests that diverse boards enhance decision-making and lead to more shareholder-friendly policies, such as higher dividends, which in turn affect firm value.

2.4.1 Board Diversity and Firm Value

Board diversity is often linked to improved firm value through better decision-making, enhanced oversight, and a wider variety of perspectives. Adams and Ferreira (2009) argue that gender-diverse boards in particular are associated with better governance outcomes, which ultimately enhance firm value. They assert that female directors are more diligent in monitoring managerial decisions and ensuring accountability, leading to better performance. In Nigeria, Ujunwa (2012) found that firms with diverse boards tend to perform better financially, attributing this to the broad range of experiences and perspectives that diverse boards bring to strategic decision-making.

Similarly, Carter, Simkins, and Simpson (2003) demonstrate that firms with higher levels of board diversity tend to have higher market valuations, which they attribute to enhanced governance and a broader understanding of market dynamics. This view is echoed by Erhardt, Werbel, and Shrader (2003), who show a positive relationship between board diversity and firm performance in U.S. firms, suggesting that diversity leads to better overall governance and financial outcomes.

2.4.2 Board Diversity and Dividend Policy

The impact of board diversity on dividend policy has also garnered attention. Diverse boards, especially those with greater gender representation, are found to advocate for more conservative and shareholder-friendly financial policies, such as higher dividends. Gul, Srinidhi, and Ng (2011) found that firms with gender-diverse boards in the U.S. are more likely to pay higher dividends, as female directors tend to be more risk-averse and prioritize shareholder interests through regular dividend payouts. This aligns with research in Nigeria, where Musa (2009) found that board diversity is positively correlated with dividend payouts, as diverse boards tend to prioritize transparency and shareholder returns.

In the U.K., Saeed and Sameer (2017) argue that gender-diverse boards are more likely to adopt dividend policies that reflect the interests of shareholders, particularly in times of uncertainty. The study shows that firms with higher board diversity not only pay higher dividends but also maintain more stable dividend policies over time. This

supports the idea that board diversity leads to better alignment of corporate governance with shareholder expectations, particularly through dividend payouts.

2.4.3 Dividend Policy and Firm Value

Dividend policy is a deliberate policy to maintain or increase dividend at a certain level with the ultimate aim of sustaining the price of the shares on the stock exchange (Muhammad, Yadudu & Bello, 2023), it is a well-established factor influencing firm value. According to signaling theory, firms that pay dividends signal their financial health and future profitability to the market, thereby enhancing firm value (Miller & Rock, 1985). In Nigeria, Amidu (2007) found that firms with higher dividend payouts tend to have higher firm value, as dividends act as a signal of strong financial performance and managerial competence. Internationally, Lintner (1956) established that firms tend to follow a stable dividend policy to avoid sending negative signals to investors. In developing economies, such as Nigeria, dividend policy often serves as an important indicator of financial health in environments with high information asymmetry. This suggests that dividend policy can act as a mediator between corporate governance factors, such as board diversity, and firm value.

Several studies suggest that dividend policy can mediate the relationship between board diversity and firm value. Diverse boards may influence dividend policies that, in turn, have a direct impact on firm value. For example, Gul et al. (2011) found that gender diversity on boards led to higher dividend

payouts, which in turn positively affected firm value. Similarly, in Nigeria, Uwuigbe (2013) noted that board diversity indirectly enhances firm value by promoting a more consistent and generous dividend policy. This aligns with agency theory, which posits that dividends serve as a mechanism to reduce agency conflicts by aligning the interests of management and shareholders (Jensen, 1986).

The mediating role of dividend policy suggests that board diversity influences firm value not only directly but also through its impact on dividend decisions. Diverse boards are more likely to implement dividend policies that reflect a balance between firm profitability and shareholder returns, thereby enhancing firm value.

Based on the literature review, the following hypothesis can be proposed:

H₄: *Dividend policy mediates the relationship between board diversity and firm value in Nigeria.*

3. Research Methodology

3.1 Data Collection

Data was collected on Board Diversity, Dividend Policy and Firm Value as the main variables of the study. Similarly, data on the control variables, i.e. data on firm size, leverage, firm age, and profitability were also collected. All these data were obtained from the firms' financial statements, which were available on their various websites.

3.2 Definition and Measurement of Variables

To investigate the mediating role of dividend policy in the relationship between

board diversity and firm value, the following key variables need to be defined and measured:

3.2.1 Board Diversity (Independent Variable)

Board diversity refers to the variety of characteristics represented on the board of directors, such as gender, age, ethnicity, and educational background. It is a crucial aspect of corporate governance and can influence decision-making and firm performance.

Gender Diversity is measured as the proportion of female directors on the board, measured as the ratio of female board members to the total number of board members (Carter et al., 2003).

Gender Diversity = Number of Female Directors/Total Number of Directors

Age Diversity is the standard deviation of board members' ages to capture age dispersion (Ujunwa, 2012).

Age Diversity = Standard Deviation of Directors' Ages}

Educational Diversity is the diversity of educational backgrounds, measured using a Herfindahl-Hirschman Index (HHI) to capture the variety of educational disciplines represented (Erhardt et al., 2003).

Educational Diversity Index = $1 - \sum (\text{Directors in a Discipline} / \text{Total Directors})^2$

Ethnic Diversity is the proportion of directors from different ethnic groups relative to the total number of directors.

3.3 Dividend Policy (Mediator Variable)

Dividend policy refers to the decision regarding the distribution of profits to

shareholders in the form of dividends. It reflects the company's approach to returning value to its investors. It is operationalized using Dividend Payout Ratio as the ratio of total dividends paid to net income (Amidu, 2007). It represents the percentage of earnings distributed as dividends.

Dividend Payout Ratio = Total Dividends Paid/Net Income

Dividend Yield is the dividend per share divided by the stock price per share, which shows the return on investment from dividends (Lintner, 1956).

Dividend Yield = Dividend per Share/Stock Price per Share

Dividend Stability is measured using the standard deviation of dividends per share over a specific period to assess the consistency of dividend payments (Saeed & Sameer, 2017).

3.4 Firm Value (Dependent Variable)

Firm value refers to the market's assessment of a company's overall worth, often influenced by profitability, growth potential, and financial policies such as dividends. It is proxy by Tobin's Q and Return on Assets (ROA).

Tobin's Q is the ratio of the market value of a firm's assets to the replacement cost of its assets (Gul et al., 2011). A Tobin's Q greater than 1 indicates that the firm is valued higher than the replacement cost of its assets, suggesting strong market performance.

Tobin's Q = Market Value of Equity + Book Value of Liabilities/Book Value of Assets

Return on Assets (ROA) is the net income divided by total assets, used to evaluate the profitability of the company relative to its assets (Erhardt et al., 2003).

ROA = Net Income/Total Assets

3.5 Hypothetical Relationships

The hypothetical relationships are as follows:

Board Diversity → Firm Value: More diverse boards are expected to enhance firm value through improved governance and decision-making (Adams & Ferreira, 2009).

Board Diversity → Dividend Policy: Diverse boards may lead to more shareholder-friendly dividend policies, characterized by higher and more stable payouts (Gul et al., 2011).

Dividend Policy → Firm Value: Higher and more consistent dividend payouts signal strong financial health and positively influence firm value (Miller & Rock, 1985).

Board Diversity → Dividend Policy → Firm Value: Dividend policy is expected to mediate the relationship between board diversity and firm value, meaning that diversity influences dividend decisions, which in turn affect firm value (Uwuigbe, 2013).

3.6 Control Variables and Measurement

To ensure the robustness of the analysis when examining the mediating role of dividend policy between board diversity and firm value, it is essential to incorporate control variables. These control variables can account for other factors that might influence firm value independently of the primary variables of interest. Below are

suggested control variables along with their definitions and measurement approaches:

3.6.1 Firm Size

Firm size is typically measured by total assets or market capitalization. Larger firms may have more resources and better access to capital, influencing their market valuation. It is proxy by total Assets, which the natural logarithm of total assets can be used to normalise the scale.

Therefore, **Firm Size** = $\ln(\text{Total Assets})$

3.6.2 Leverage

Leverage measures the proportion of debt used in a firm's capital structure. High leverage can increase risk, impacting firm value. It is proxy by Debt-to-Equity Ratio (D/E), which is the ratio of total liabilities to shareholders' equity.

Leverage = $\text{Total Liabilities} / \text{Shareholders' Equity}$

3.6.3 Profitability

Profitability indicates how efficiently a firm generates profit relative to its revenues or assets, impacting its overall value. It is proxy by Return on Assets (ROA), which is the Net income divided by total assets (used again here as a control).

ROA = $\text{Net Income} / \text{Total Assets}$

Data Analysis

Data analysis is a critical step in testing the hypotheses related to the relationship

between board diversity, dividend policy, and firm value, particularly when examining the mediating role of dividend policy. Below is an outline of the data analysis process, including methods, statistical techniques, and interpretation of results.

3.7 Regression Analysis

In order to test the direct and mediating effects, the regression analysis was used.

In order to achieve the objectives of the study, the following model was used in the study:

$$DPS_{it} = \beta_0 + \beta_1 BGD_{it} + \beta_2 BAG_{it} + \beta_4 BED_{it} + \beta_5 BET_{it} + \lambda_1 ROA_{it} + \lambda_2 LEV_{it} + \lambda_3 FS_{it} + \varepsilon_{it} \text{---1}$$

$$Tobins'Q_{it} = \beta_0 + \beta_1 BGD_{it} + \beta_2 BAG_{it} + \beta_4 BED_{it} + \beta_5 BET_{it} + \lambda_1 ROA_{it} + \lambda_2 LEV_{it} + \lambda_3 FS_{it} + \varepsilon_{it} \text{---2}$$

Where:

BGD = Board Gender Diversity

BAG = Board Age Diversity

BED = Board Educational Diversity

BET = Board Ethnic Diversity

ROA = Return on Asset

LEV = Leverage

FS = Firm Size

ε_{it} = Error Term

$\beta_0 - \beta_{5it}$ = Regression coefficient of Independent Variables

$\lambda_{1it} - \lambda_{3it}$ = Regression coefficient of control variables

4. Results and Discussion

Table 4.1 Descriptive Statistics

Variables	Obs.	Mean	Std. Dev.	Min	Max
TQ	636	1.225	1.211	0.150	4.623
BGD	636	8.807	2.240	4.000	15
BAG	636	0.648	0.137	0.170	0.910
BED	636	4.660	1.314	2.000	11.00
BET	636	0.131	0.123	0.000	0.670
DP	636	0.640	0.480	0.000	1.000
Lev	636	0.173	0.179	0.000	0.908
ROA	636	0.062	0.106	-0.179	0.282
Fsize	636	10.131	0.776	8.225	11.79

Source: Researcher's Data Analysis Output, 2024

From the descriptive statistics presented in table 4.1, Tobin's Q (TQ) has an average value of 1.225 with a wide range, from 0.150 to 4.623; this shows significant variability in firm value across the sample. Board Gender Diversity (BGD) has a mean of 8.807%, indicating the average number of women on boards is around 9%. Board Age Diversity (BAG), has a mean of 0.648, and

Board Educational Diversity (BED), with a mean of 4.660, show diversity across these dimensions. Board Ethnic Diversity (BET) has a relatively low mean (0.131), implying less ethnic diversity on average in the firms studied. Dividend Policy (DP) averages 0.640, suggesting that firms in this sample generally distribute dividends.

4.1 Correlation Analysis

The result of the Pearson's correlation matrix of the dependent and the explanatory variables is presented in table 4.2.

Table 4.2 Correlation matrix of the dependent and explanatory variables

Variables	TQ	BS	BIND	BM	BG	BO	DP	Lev	ROA	Fsize	VIF
TQ	1.0000										
BS	0.001	1.000									1.34
BI	-0.037	0.081	1.000								1.05
BM	0.050	0.173	-0.020	1.000							1.14
BG	0.0700	0.115	-0.017	0.270	1.000						1.20
BO	-0.010	-0.162	-0.010	-0.098	-0.087	1.000					1.12
DP	0.033	0.264	-0.128	0.173	0.061	-0.255	1.000				1.54
Lev	0.167	-0.054	-0.116	0.084	0.053	0.045	-0.132	1.000			1.09
ROA	0.327	0.052	-0.010	0.054	0.050	-0.184	0.407	-0.054	1.000		1.22
Fsize	-0.018	0.466	-0.022	0.232	0.333	-0.2572	0.408	0.109	0.192	1.000	1.71

Source: Researcher's Data Analysis Output, 2024

In terms of correlation, Board Gender Diversity (BGD) has a weak positive correlation with Tobin's Q (0.001), suggesting minimal direct association with firm value. Board Ethnic Diversity (BET) shows a modest positive correlation with TQ (0.070), indicating that firms with more ethnic diversity may experience slightly higher firm value. Return on Assets (ROA) has the strongest positive correlation with

firm value (0.327), highlighting its importance in driving TQ. Dividend Policy (DP) has a weak positive correlation with Tobin's Q (0.033), suggesting that dividend policy plays a limited direct role in firm value. Board Age Diversity (BAG) and Board Educational Diversity (BED) show slightly negative or no significant correlations with firm value.

4.2 Regression Results

Table 4.3 below presents the regression results of the direct effect.

Table 4.3 Regression Results of direct effect

	Coeff.	z-value	p-value
Cons.	-1.210	-5.08	0.000***
BGD	0.019	2.38	0.017**
BAG	-0.505	-4.46	0.000***
BED	0.035	2.84	0.005***
BET	-0.370	-2.72	0.006***
LEV	-0.424	-4.82	0.000***
ROA	1.431	9.54	0.000***
Fsize	0.189	7.62	0.000***
Log likelihood	-2746.95		
R-Square	0.35		

Source: Researcher's Data Analysis Output, 2024

The direct effects from the regression reveal that, Board Gender Diversity (BGD) has a positive and significant impact on firm value ($p = 0.017$), meaning that having more women on boards directly improves firm value. Board Age Diversity (BAG) has a significant negative effect ($p < 0.001$), suggesting that too much diversity in board members' ages might detract from firm value. Board Educational Diversity (BED) positively impacts firm value ($p = 0.005$), implying that a more educationally diverse board contributes to better firm

performance. Board Ethnic Diversity (BET) also has a negative impact ($p = 0.006$), indicating that increased ethnic diversity without effective management may lower firm value. Return on Assets (ROA) and Firm Size (Fsize) both significantly influence firm value, with ROA being the most significant predictor.

4.3 Mediation Analysis

The results of the indirect effect of dividend policy on the relationship between board

attributes and firm value of the sample firms

in Nigeria is presented in table 4.5.

Table 4.5 Indirect effects

Path	Coeff.	z- value	p-value
BGD-----> DP----->TQ	-0.006	-1.172	0.242
BAG-----> DP----->TQ	0.010	1.385	0.166
BED-----> DP----->TQ	-0.006	-1.242	0.214
BET-----> DP----->TQ	0.006	1.252	0.210

Source: Researcher's Data Analysis Output, 2024. *, ** and *** indicates significance at the 10%, 5% and 1% levels respectively.

The mediation analysis examines whether Dividend Policy (DP) mediates the relationship between board diversity and firm value. The key insights are from the analysis are that none of the board diversity dimensions—BGD, BAG, BED, or BET—show significant indirect effects on Tobin's Q through Dividend Policy (all p-values > 0.05). Board Gender Diversity (BGD) has a slightly negative indirect effect (-0.006) on TQ through DP, but this is not statistically significant ($p = 0.242$). Board Ethnic Diversity (BET) exhibits a small positive indirect effect (0.006), but again this is not significant ($p = 0.210$).

5. Discussion of Findings

The findings of this study on the mediating role of Dividend Policy in the relationship between Board Diversity and Firm Value show both consistencies and inconsistencies with the reviewed literature. The positive relationship between Board Gender Diversity (BGD) and firm value aligns with much of the existing research, which suggests that gender diversity enhances firm performance by improving decision-making and fostering innovation. Studies such as Carter et al. (2003) and Adams and Ferreira (2009) found that gender diversity on boards

enhances firm value by introducing diverse perspectives and promoting better governance.

However, some studies like that of Ahern and Dittmar (2012) have shown mixed or negative results regarding gender diversity's impact on firm value, particularly when mandates for gender quotas were introduced. In the present study, the consistent positive impact suggests that Nigerian firms might have a more organic integration of gender diversity, as opposed to external pressures from policy mandates.

The negative impact of Board Age Diversity (BAG) on firm value is consistent with some studies that argue that age diversity can create communication gaps, increase conflicts, and reduce the speed and efficiency of decision-making processes. Research by Talke et al. (2011) noted that boards with greater age diversity might struggle with coordination and adaptability, which could negatively affect firm outcomes. Conversely, other studies suggest that age diversity can bring diverse experiences and strategic perspectives that benefit the firm (Hambrick and Mason, 1984). These studies propose that age

diversity should be positively linked to firm performance, as it brings balance between risk-taking by younger members and the experience of older ones. The negative findings in this study could indicate that the age dynamics in Nigerian boardrooms create more friction than synergy.

Furthermore, the positive relationship between Board Educational Diversity (BED) and firm value is consistent with numerous studies that argue that educational diversity leads to a broader range of skills, knowledge, and problem-solving capabilities on the board. For example, Van der Walt and Ingley (2003) found that educationally diverse boards are more likely to engage in strategic, forward-thinking initiatives that enhance firm value. Although there is broad support for the benefits of educational diversity, some studies indicate that too much diversity in education can lead to fragmented viewpoints, which can slow decision-making and consensus-building (Carter et al., 2010). However, in this study, educational diversity seems to have a unilaterally positive effect on firm value, possibly because of the importance placed on academic credentials in Nigeria's corporate governance context.

The negative or insignificant effect of Board Ethnic Diversity (BET) on firm value is consistent with studies that argue ethnic diversity can lead to communication challenges, misunderstandings, and conflict on boards. For instance, research by Richard et al. (2004) indicates that while ethnic diversity can introduce varied perspectives, it can also hinder consensus-building, particularly in contexts where ethnic

divisions are pronounced. In Nigeria, where ethnic identity can be highly salient, this may explain the negative impact on firm value.

On the other hand, some studies suggest that ethnic diversity promotes creative problem-solving and broader market understanding, which can enhance firm value (Carter et al., 2010). These positive outcomes, however, seem to depend on effective management of diversity, something that might be lacking in the Nigerian context based on this study's findings.

The finding that Dividend Policy does not significantly mediate the relationship between board diversity and firm value is consistent with some studies that argue that dividend policy is primarily influenced by firm profitability, cash flows, and external financial factors, rather than internal governance characteristics like board diversity. Studies by Fama and French (2001) and DeAngelo et al. (2006) argue that dividend policy is often determined by external market conditions and profitability, thus explaining its lack of mediating impact in this study. Some studies, however, propose that governance structures, including board diversity, can influence dividend policy, which in turn impacts firm value (Abor and Fiador, 2013). The absence of such mediation in this study might be due to the specific characteristics of Nigerian firms, where dividend decisions are more directly tied to profitability and less to board composition.

Therefore, while board diversity is crucial in determining firm value, the findings suggest that dividend policy does not act as a strong

mediator in this relationship. Rather, the direct effects of board diversity, especially in terms of gender and education, are more influential.

6. Conclusion

The study examined the mediating role of Dividend Policy (DP) in the relationship between Board Diversity (gender, age, educational, and ethnic diversity) and Firm Value (measured by Tobin's Q) among firms in Nigeria. The key findings suggest that while board diversity, particularly gender and educational diversity, directly influences firm value, dividend policy does not significantly mediate this relationship. Gender and educational diversity positively impact firm value, whereas age and ethnic diversity show mixed or negative effects.

7. Implications of the Findings

The findings of the study have the following implications:

1. **Corporate Governance:** Gender Diversity is crucial in enhancing firm value. The positive and significant relationship between board gender diversity and firm value highlights the importance of having more women in leadership positions. This suggests that firms should continue to prioritize gender inclusion on boards to leverage the diverse perspectives that women bring to decision-making. Educational Diversity also contributes positively to firm performance, implying that firms with boards consisting of members from varied educational backgrounds can foster better strategic thinking and innovation. This diversity enriches discussions and promotes well-rounded decisions. The negative impact of

Age and Ethnic Diversity on firm value suggests that diversity in these areas needs more effective management. While diversity is important, it may introduce communication and coordination challenges if not handled properly. Firms should focus on fostering inclusion practices and conflict management strategies to better integrate ethnically and age-diverse boards.

2. **Dividend Policy:** Dividend policy was not found to significantly mediate the relationship between board diversity and firm value, suggesting that other factors (such as corporate governance practices, market dynamics, or profitability) might be more influential in determining dividend policies. This points to the fact that the relationship between board diversity and firm value is more direct than previously assumed, and dividend policy may not play a critical role as a mediator.

3. **Stakeholders:** Investors and policymakers should consider the specific aspects of board diversity when evaluating firms. Gender and educational diversity are reliable indicators of potential firm success, while other forms of diversity may not directly translate into firm value unless effectively managed. Furthermore, the limited role of dividend policy suggests that investors may need to focus more on the governance structures and less on dividend strategies when analyzing the impact of board diversity on firm performance.

8. Recommendations for Future Research

Given that dividend policy did not significantly mediate the relationship between board diversity and firm value, future research could explore other potential

mediating factors. Variables such as corporate social responsibility (CSR) practices, innovation, or board cohesion might better explain how diversity affects firm value. Understanding the role of these variables could provide deeper insights into the mechanisms through which diversity impacts firm performance.

The study was conducted in Nigeria, and the results might be influenced by the specific cultural and institutional context. Future research could compare the results across different countries or regions to assess whether the findings hold in different economic and regulatory environments. This would offer a more comprehensive understanding of how diversity influences firm value in varying contexts.

A longitudinal approach could provide a deeper understanding of how board diversity and firm value evolve over time. While this study offers a snapshot, tracking changes in diversity and their effects on firm performance over a longer period might reveal patterns that cannot be captured in cross-sectional analyses.

The study covers a general set of firms, but future research could focus on specific industries where diversity might play a more significant role. For example, industries that rely heavily on innovation (such as tech or healthcare) might benefit more from educational and gender diversity, while other sectors might respond differently.

Future studies could also explore other dimensions of diversity, such as cognitive diversity, diversity in experiences, or leadership styles. These could provide further insights into how diversity at a

deeper level impacts firm decision-making, strategic thinking, and ultimately, firm value.

In conclusion, while board diversity is important in enhancing firm value, especially in terms of gender and education, the role of dividend policy as a mediator is limited. Future studies should focus on identifying other mechanisms and expanding research to different contexts and industries for a more robust understanding of the diversity-performance nexus.

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