Capital Structure, Board Size and Financial Performance of Listed Deposit Money Banks in Nigeria

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EDITOR-IN-CHIEF

It is with great pleasure that I introduce to you NDA Journal of Management Sciences (NDAJMSR), an official publication of the Faculty of Management Sciences, Nigerian Defence Academy, Kaduna. NDAJMSR is a scholarly double-blind peer-reviewed journal published bi-annually by the Faculty. The scope of the journal includes all aspects of management sciences such as Accounting, Banking, Finance, Investment, Entrepreneurship, Marketing, Business Management, Production/Operations Management, Logistics and Supply Chain Management.

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Finally, the views and interpretations expressed in this journal are those of the authors and do not represent the view of the Faculty of Management Sciences, Nigerian Defence Academy, Kaduna. The editorial board, therefore, accepts no responsibility whatsoever for any of the views of the authors. I commend the efforts of the managing editors who work tirelessly to actualize this collective dream.

Professor Joshua Okpanachi
Editor-in-Chief

EDITORIAL BOARD

The *NDA Journal of Management Sciences Research (NDAJMSR)* editorial board members are delighted to announce the publication of the Volume 2 Issue 1 of the *NDAJMSR*. We bring to you with great pleasure Volume 2 Issue 1 of *NDAJMSR*, casting the beam on Accounting, Economics, Entrepreneurship, Management, Logistic and Supply Chain, and the shades of contrair views they reflect. This journal resides in the Faculty of Management Sciences of the Nigerian Defence Academy, Kaduna. It was a natural outgrowth of the Faculty, which has four departments; Accounting, Economics, Logistics and Supply Chain, and Management Studies. It was felt by the Dean and senior members of the Faculty that a dedicated journal would be the ideal vehicle to build a multidiscipline bi-annual publication that will be able to capture the diverse scholarly interests of an ever more vibrant academic scholars both locally and internationally.

NDAJMSR is positioned to be an accessible, yet intellectually rigorous, journal that gives readers the conceptual apparatus necessary to deal with the range of topics that they are likely to encounter. It reframes the way issues in Management Sciences are presented to give students and researchers a more integrated, consistent, and conceptually intellectual introduction to the domain of the Management fields. We believe this journal will be appropriate for all categories of readers with or without any prior training in the management discipline – for example, graduate or undergraduate business students. Thus, *NDAJMSR* is for stakeholders who are interested in Management Sciences. Among these stakeholders are students, researchers, policy makers, and anyone who wish to understand the any aspect of the Management fields.

NDAJMSR brings together several perspectives on Management Sciences that are ordinarily treated separately in different disciplines such as accounting and finance, entrepreneurship, marketing, business management, strategic management, economics, and logistics and supply chain management. Contributors to this maiden edition submitted papers in these areas, providing examples of management, learning, and research. Many papers in this maiden edition present questions for discussion and suggest activities for practice. This inaugural issue contains a collection of twenty papers. Some of the narratives occasionally involve specialised language, as they would in any field, the substance is easily within the grasp of students and researchers. By and large, in *NDAJMSR*, we aim to present many perspectives that emerge from distinct fields and all kinds of methodology with subjects that embody the past, the present and the future.

Consequently, the papers in this issue of *NDAJMSR* undoubtedly unravel the dynamic processes of management from the contextual lenses of accounting, entrepreneurship, strategy, human resources, economics, and supply chain. The papers demonstrate a broad range of intellectual purposes and practice approaches. In many ways, they stretch theoretical and discursive aspects of contemporary forms of management. Justifiably varied, the papers collectively advance appreciation of inter-subjective discourses and situated practices. Paradoxically, they also show that much more learning/understanding is required to fully grasp the temporal and spatial dimensions of Management Sciences in Nigeria. The approach we adopted in *NDAJMSR*, in its simplicity, de-reifies, re-enacts and repositions the syncretism of Management Sciences in a contemporary setting. In doing so, novel directions and agendas are introduced to bring into focus some potently emergent themes. Although, we cannot hope to cover every possible topic in the Management Sciences, but we strive to develop a clear way of approaching any topic in accomplishing our objectives. Broadly, this journal will provide essential reading for serious researchers, students, senior managers and policy makers. Hopefully, readers will equally find the papers in this journal interesting and useful.

With this remit, we are pleased and even privileged to invite scholars and practitioners to read this journal, confident that papers in it offer valuable insights and serve as a source of inspiration for future work. Thank you. We hope you find the contents of the maiden issue insightful, and we look forward to your thoughts and feedback.

Editorial Board

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This section may cover overall background and description of the study, narrow down to research objectives, motivation of the topic, importance/significance, proposed tasks and novelty. Abbreviations should be described in parentheses when first time they appear in the text.

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Data analysis
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It may be broken into meaningful sections, i.e. hypotheses supported/rejected, alternative explanations, conclusion, theoretical/methodological contribution, practical implications, recommendations, future study directions and limitations.

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Present them in order (suitable heading and specific number; Arabic numerals) wherever appropriate in the text. High-resolution (black and white only) graphs must be provided in the main text of the paper.

Tables
Present tables with suitable heading and specific number (Arabic numerals) at the appropriate place of the article. Use the Table option of Microsoft Word to create tables. Ensure that the data presented in tables do not duplicate results described elsewhere in the article. Refer to table number wherever appropriate in the text of the paper.

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Citations in the text should follow the referencing style used by the American Psychological Association (APA) 7th Edition.

Appendix
Background information, list of respondents, list of companies or questionnaire may be described in this section if required by the editor/reviewer.

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Effect Of Earnings Persistence On Investors' Expected Returns In Nigeria

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Abstract: *This study investigates the effect of earnings persistence on expected returns of manufacturing companies listed on the Nigerian Exchange Group (NGX) from 2016 to 2017. The sample size employed in this study is forty-two (42) out of the seventy-five (75) listed manufacturing companies in Nigeria using filtering criteria. Results from the analysis using descriptive statistics and linear multiple regression revealed that earnings persistence has a negative but insignificant effect on expected returns of listed manufacturing companies in Nigeria. The finding implies that investors in Nigeria do not pay attention to earnings history (earnings persistence) in demanding for returns on their equity. The study recommends that further research should be carried out using cross-country data especially among the African countries which at the moment is sparsely investigated.*

Keywords: earnings persistence, earnings quality, expected returns, cost of equity, Nigeria

Introduction

Earnings persistence also called earnings sustainability has received a lot of attention in accounting literature over the years (Eliwa et al., 2016; Beisland & Hamberg, 2013; Athanasakou et al., 2010). Earnings persistence just like other accounting information such as book value and dividend has been acknowledged as an important input for firm valuation (Ohlson, 1995; Beisland, 2009). Of particular importance in accounting discussion is the effect of earnings persistence on cost of capital or investors' expected returns (Francis et al., 2004). The effect of earnings persistence on expected returns is predicted based on the assumption that there is market fixation (overconcentration) on earnings figures as the premier accounting information (Penman, 2013).

An understanding of market fixation on earnings by managers is a motivation for them to prefer stable earnings with the hope that such stability in profits will be rewarded with lower required rate of returns. Both analytical studies (e.g., Easley & O'Hara, 2004; Leuz & Verrecchia, 2004; O'Hara, 2003) and empirical studies (e.g., Ibiamke & Jim-Suleiman, in press; Frisenna, 2021; Eliwa et al., 2016; Ezat, 2019; Francis et al., 2004) support the argument that earnings quality (earnings persistence) leads to lower expected returns because investors viewed it as low risk.

Earnings persistence is an attribute of earnings that connotes the degree of earnings sustainability or continuity. It is an attribute of earnings quality computed using the time-series parameter that quantifies permanent earnings. Persistence simply shows the level of earnings endurance. High persistence depicts that earnings are sustainable where as low persistence shows transitory earnings, therefore, persistence is seen as a desirable characteristic of earnings. Since it is a desirable characteristic of earnings, it is expected that persistent earnings should be associated with lower cost of equity.

The main purpose of this paper was to investigate the effect of earnings persistence on expected returns of manufacturing companies listed on the Nigerian Exchange Group (NGX). This was motivated by the scarcity of empirical evidence in the developing markets especially the manufacturing sector. Furthermore, earnings persistence can occur either due to managerial opportunistic actions (earnings management) or by natural fundamental factors within a firm yet existing study did not separate persistence into discretionary and fundamental innate components. By embarking on this study this research void was filled as well.

The paper is structured into five sections. The first section is introduction where the background of the paper was laid. Section 2 looked at the review of related literature starting with the conceptual review followed by a theoretical foundation of the analysis and concluded with the review of empirical literature. Section 3 presented the methodology adopted to achieve the research objective. Section 4 presented the analysis and discuss the findings bringing out the implications to different stakeholders. The last section stated the conclusion and recommendations.

Conceptual Framework

The key terms employed in this study are earnings persistence and investors' expected returns. The other concepts serving as determinants of expected returns include market risk, book-to-market ratio, and firm size. The conceptual framework of the study is shown in Figure 1 and a detailed conceptualisation follows

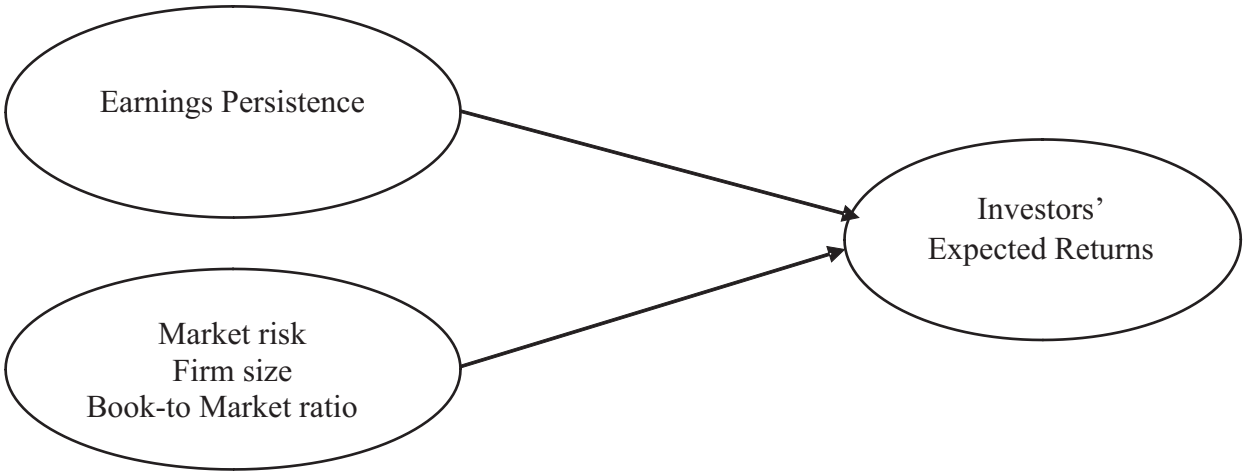

Figure 1: Conceptual Framework of the Study
Source: Researchers' Compilation (2021).

The term earnings persistence connotes the degree of sustainability of earnings. It is a construct that is defined in the context of sustainable, continuity, or core earnings. According to Atashband, Moienadin and Tabatabaenasab (2014), earnings persistence is defined as the continuity and durability of the current earnings. Earnings persistence is affected by the magnitude of the accruals. Higher persistent earnings suggest the ability to maintain the current earnings and thus a symbol of higher earnings quality (Lipe, 1990). Generally speaking, earnings persistence reflects the quality of accounting because higher persistence of earnings induces higher predictability (lower forecasting errors) of earnings.
According to Lipe (1990), persistence is the autocorrelation in earnings regardless of the magnitude and sign of an earnings innovation; persistence captures the extent to which the current period earnings innovation becomes a permanent part of the earnings series (a random walk is highly persistent and a mean-reverting series has no persistence). Earnings persistence answers the question: how far are current earnings embodied permanently in future earnings? (Ahrens, 2010). Earnings persistence helps investors in equity valuation by measuring the extent to which current earnings persist or recur in the future (Perotti & Wagenhofer, 2014). Investors regard high persistence as a desirable earnings attribute and a measure of high earnings quality since it suggests a stable, sustainable, and low-risk (low-volatile) earnings generation process.

Persistence is commonly estimated by the slope coefficient from a regression of current earnings on lagged earnings (or, sometimes, components of lagged earnings, such as cash flows and accruals). The persistence of reported earnings has been shown empirically to be associated with larger investor responses to reported earnings (Kormendi & Lipe, 1987). This larger response, in turn, is attributed to a larger valuation multiple attached to persistent (i.e., recurring) earnings. A highly persistent earnings number is viewed by investors as sustainable, that is, more permanent and less transitory, so a given realization from a persistent earnings series is a more readily usable shortcut to valuation.
Persistence as an earnings quality construct is situated in two general streams of research. The first stream is driven by the assumption that more earnings persistence is likely to be better input to equity valuation models. Value estimates will be more accurate for firms with higher earnings persistence than those with lower earnings persistence, and hence a more persistent earnings number is of higher quality than a less persistent earnings number (Dechow et al., 2010; Pimentel & DeAguiar, 2016).

The second stream of research focuses on addressing the wider case of using earnings to improve equity valuation outcomes (Dechow et al., 2010). This stream argues that studies in the first are limited in their contribution to evaluating persistence as a proxy for earnings quality because of the maintained assumption that more persistent earnings are more decision-useful for equity valuation. A quagmire for researchers is that predicting the next period's earnings is not equivalent to predicting the stream of future cash flows. Ultimately, for earnings to be of high quality, it should reflect future cash flow stream, rather than just next period's earnings. Thus, the second stream suggests that it is important to know whether earnings are more value relevant than cash flows. An example of a study that takes a very direct approach to evaluate the role of fundamental performance on persistence is Lev (1983), who associates persistence with a firm's

fundamental factors. The overall conclusion is that earnings are of high quality if they are more persistent (sustainable) and predictable.

In summary, there is an existing literature gap on whether earnings persistence is a reasonable proxy for the earnings quality. The issue of concern is that current earnings could be a good indicator of next period's earnings, which is what the persistence parameters measure, but that understanding next period's earnings is not decision-useful because it does not adequately reflect the future stream of cash flows that the firm will generate. In addition, current cash flows may better predict the expected future cash flow stream even though they may not predict the next period's earnings as well as do current earnings. Therefore, validation of earnings usefulness in predicting expected future cash flows helps us better understand the benefits and costs of using persistence as a quality proxy. The results from the literature are a little more mixed than one might expect. As noted above, while earnings, in general, appear to be a reasonable proxy for expected future cash flows, the relation depends on the type of accruals included in earnings.

In combining these two approaches, persistence is defined in this study as the coefficient from the autoregressive model of earnings against previous earnings over a ten-year rolling window. The approach is similar to Francis et al. (2004) who measure earning persistence as the slope coefficient from regressing current earnings on preceding earnings. However, the total earnings persistence measure is decomposed into innate components and discretionary components in this study.

Bloomfield, Libby and Nelson (2000) developed and experimentally test a model showing that investors have noisy signals of the reliability of the information. Bloomfield et al. (2000) show that if investors are Bayesian rational, the noise in evaluating information's reliability leads investors to assign a certain probability for the reliability being high or low. When the probability of earnings reliability (measured by high persistence) is high, investors' expectations (expected returns) are adjusted downward. Conversely, when the earnings persistence (reliability) is low, investors' expectations are adjusted upward. Furthermore, the relationship between earnings persistence and investors' expected returns is proposed to hinge on two main implications of earnings persistence to the investors: first higher persistent earnings are likely to be better input to valuation models used in financial analysis, and secondly, more persistent earnings serve as a proxy for long-term market and managerial orientation (Pimentel & DeAguiar, 2016).

Following the above discussions, the a *priori* expectation is that high earnings persistence is associated with low expected returns and vice versa because investors regard high persistence as a stable, sustainable, and low-risk (low-volatile) earnings generation process; hence a desirable earnings attribute or a measure of high earnings quality.

An expected return or cost of equity as alternatively called is the *ex-ante* return demanded by suppliers of equity capital. Equivalently, it is the discount rate which when applied to expected cash flows, yields the current stock price. Expected returns is a reward, an investor is willing to receive on average for bearing risk. This return depends on the information that investors have about the stock, and it is based on the market's understanding today of the important factors including earnings history that can influence the stock in the coming years.

Two competing approaches emerge to evaluate the association between earnings persistence and expected returns. According to Perotti and Wagenhofer (2014) one approach is to use the hedge portfolio approach also called the sorting approach (i.e., assess the profitability of hedge strategy and market mispricing); while the other approach is to run linear regression analysis of earnings persistence on expected returns. Fama and French (2008) use the two approaches and find analogous results. Using an empirical design based on Aboody, Hughes and Liu (2005), Francis et al. (2004), Core et al. (2008), Francis, Huang, Rajgopal and Zang (2008), and McInnis (2010), this study linear regression analysis method to assess the influence of earnings persistence on expected returns. According to Francis et al. (2006: 55) the effect is expected to be linear high earnings persistence is associated with low expected returns and vice versa. On this backdrop, this study expects a negative relationship between earnings persistence and expected returns.

Empirical Studies

Extant accounting, finance and related literature document the influences of earnings persistence especially on expected returns. However, there is no systematic framework for studying the effect of earnings persistence on expected returns. Kormendi and Lipe (1987) were one of the earliest to test whether the magnitude of the relation between stock returns and earnings depends on earnings persistence. For each of the 145 firms using 32 years of annual data (1947–1980), the study jointly estimates the time-series properties of each firm's earnings series and the relation between earnings innovations and stock returns. Kormendi and Lipe found that there is a significant positive stock returns reaction to earnings persistence in America.

Collins and Kothari (1989) examined whether stock price change associated with a given unexpected earnings change (the earnings response coefficient) exhibits cross-sectional and temporal variation. A key question they seek to address was whether time-series persistence estimates fully and accurately capture economic growth opportunities. The study used pooled time-series and cross-sectional regression for data analysis and a sample of 9776 firm-year observations from companies listed on the NYSE over the period from 1968 to 1982. They found a positive relationship between

earnings persistence and earnings response coefficient.

Francis et al. (2004) examined the association between earnings persistence and the expected returns using data from listed firms in the U.S. from 1975 to 2001. The findings indicate that persistence has a statistically significant positive relation with expected returns. They reported that firms with transitory earnings have high expected returns while firms with sustainable earnings have low expected returns.

Eliwa et al. (2016) also examined the association between earnings quality attributes including earnings persistence and the cost of equity in the U.K. The study replicated the methodology in Francis et al. (2004) while the sample size includes 4,214 firm observations from 2005 to 2011. They found that in the U.K. there is a significant negative association between earnings persistence and the expected cost of equity. This implies that firm with high earnings persistence have low expected returns and vice versa.

Gschwandtner and Hauser (2016) investigated whether persistent profits have a significant impact on the stock returns using a sample of 2000 firms listed on NASDAQ, AMEX, and NYSE from 1950 to 2006. Regression analysis was employed and findings indicated a positive significant relationship between the long-run profit persistence and stock returns and the negative relationship between long-run profitability and the volatility of the stock return. They concluded that contrary to risk theory which suggests that more risky firms would be more profitable, firms with higher historical profit persistence have on average both a higher stock return and lower volatility of the stock returns.

In Nigeria, direct literature on the influence of persistence on expected return is rare. In a related study, Salawu (2017) examined the trend of earnings quality of listed companies in Nigeria. A sample of 65 financial and non-financial firms quoted on the Nigerian Stock Exchange (NSE) was selected. Data was hand-picked from the audited financial accounts and the NSE factbooks. Using content analysis, mean, percentages, graphs, and tables for data analysis, the study found that previous earnings quality of companies listed in Nigeria has a positive impact on their current and subsequent earnings quality. The quality of earnings improved between 2006 and 2007 but declined in 2008. However, there was a consistent improvement in the earnings quality in year 2009, 2010 and 2012 and then decline in 2013. The result further revealed that IT Services sector had the best average earnings quality, followed by packaging and containers, construction and chemical while agriculture/agro-allied and food beverages had the least earnings quality in Nigeria.

Adegbie et al. (2019) investigated the effect of audit quality on earnings persistence of Nigerian listed manufacturing firms between 2008 and 2017. The study employed a sample of 30 firms and sourced data from the audited annual reports and publications of the Nigerian Stock Exchange. Analysis of data was using mean, percentages, and multiple linear regression method. The results showed that audit firm size, audit tenure, and audit committee expertise had an insignificant positive influence on earnings persistence, sector-based specialization had a significant negative effect on earnings persistence, while age and size exerted a significant negative and positive influence on earnings persistence. Based on findings the study recommended that to achieve financial reports of better quality, consideration should be given to the proxies of audit quality jointly since all the factors are important and need to be critically considered in taking decision by the shareholders and management towards the achievement of a qualitative financial report.

Aguguom et al. (2019) empirically examined the potency and value relevance of earnings persistence and its effect on firm performance and the implications of the analysts' accurate forecast ability from the emerging market of Nigeria. The study adopted the *ex-post facto* research design and sampled 51 companies listed on the Nigerian Stock Exchange using stratified random sampling techniques from all the sectors from the 2000-2016 periods. Descriptive and Panel data regression statistics were employed in the analysis of the effect of earnings persistence on firm performance. Panel robust standard error was employed to control the heteroscedasticity. The study revealed that earnings persistence had a negative insignificant effect on firm performance proxy by Tobin's Q. The study thus stated that earnings persistence resulting from discretionary and opportunistic earnings could give inaccurate forecasting ability. Consequently, the study recommended that analysts should be watchful of the stable occurrence of earnings when evaluating reported financial statements, without which, predictions made from them could have negative and misleading implications.

Methodology

The sample size employed in this study is forty-two (42) out of the seventy-five (75) listed manufacturing companies in Nigeria using filtering criteria. The sampling filter used in this study is presented in Table 1.

Table 1

Sample Size Selection Criteria

S/No.	Criteria	Number
(i)	Listed manufacturing companies on NSE as at 31st December, 2018	75
(ii)	Listed manufacturing companies on the NSE after 31st December, 1995	(23)
(iii)	Companies with incomplete reports	(3)
(iv)	Companies with negative book values	(6)
(v)	Companies with unchanged return for more than 36 consecutive months	(1)
	Total surviving companies	**42**

Source: Researcher's Compilation (2021).

Variables Definition and Measurement

The variables employed in this study are operationalized in this section. The dependent variable is investors' expected returns, while earnings persistence is the independent variable. Other variables used as control variables include the market risk, book-to-market ratio, and firm size.

Dependent variable

Investors' Expected returns (*E[Rt]*): investors' expected returns is defined as the minimum rate of return that investors require for providing capital to the firm. That is the required rate o`f return expected by investors at the time of making investment decisions. It is an *ex-ante* returns rather than an *ex-post* returns. It comprises the risk-free rate of interest and a premium for the firm's *non-diversifiable risk (Botosan, 2006).* This study adopted the Fama and French 3-factor model similar to Landsman et al. (2011) and Perotti and Wagenhofer (2014) to calculate the investors' expected returns. The regressions are based on a time series of returns and are estimated separately for each stock. For each firm and month, this study estimates the factor betas using 36-months rolling data.

$$R_t - R_{f,t} = \alpha + \beta^{MKT}(R_{m,t} - R_{f,t}) + \beta^{S}(SMB_t) + \beta^{BM}(HML_t) + \varepsilon_t \quad (1)$$

R_t	=	is the actual monthly return of the firm
$R_{f,t}$	=	is the monthly risk-free rate of return,
$R_{m,t}$	=	is the monthly market return,
SMB_t	=	is the monthly return on the size factor mimicking portfolio,
HML_t	=	the monthly return on the book-to-market factor mimicking portfolio
$\beta^{MKT}, \beta^{S}, \beta^{BM}$	=	the coefficients or betas of the three risk factors.
α	=	Intercept.

Taking the estimated beta factors ($\beta^{MKT}, \beta^{S}, \beta^{BM}$) for month *t* as expected *Betas* for month *t+1*, the investors' expected return is calculated as:

$$E[R_t] = R_{f,t} + \beta^{MKT}(R_{m,t} - R_{f,t}) + \beta^{S}(SMB_t) + \beta^{BM}(HML_t) \quad (2)$$

where

E [R_t] = The expected returns for the month,

All other variables are as earlier defined.

Expected returns calculated in year *t* is the average monthly return over the period of 12-months ending 3-months after the financial year-end date.

Independent Variable

Earnings Persistence (*PERS*): refers to the degree of sustainability or continuity of reported earnings. It also connotes the autocorrelation in earnings regardless of the magnitude and sign of an earnings innovation (Lipe, 1990). It captures the extent to which the current period earnings becomes a permanent part of the earnings series. Adopting Francis et al. (2004) and Dechow et al. (2010), a time series equation using maximum likelihood estimation procedure was used to

$$X_t = \alpha + \beta(X_{t-1}) + \varepsilon_t$$

where

X	=	Profit attributable to ordinary shareholders divided by the number of outstanding shares,
α	=	Intercept,
β	=	Earnings persistence (coefficient), and
ε	=	error term

Persistence is the coefficient (β) from a regression of current earnings on lagged earnings in Equation 3. Values of β close to 1 imply highly persistent (i.e., high quality) earnings, while values of β close to 0 imply highly transitory (i.e., low quality) earnings Investors regard high persistence as a desirable earnings attribute and a measure of high earnings quality since it suggests a stable, sustainable, and low-risk (low-volatile) earnings generation process. Following the above discussions, the study expected that firms with high persistence earnings attract low investors expected returns and vice versa.

Control Variables

This study control for other known risk factors that affect investors' expected returns. These risk factors include market risk (betas), firm size and book-to-market ratios. The factors are explained below:

Market risk (***Beta***): The market beta of an asset is the covariance of its return with the market return divided by the variance of the market returns. Beta is the slope coefficient from a regression of a firm's monthly excess returns on the market excess returns over a rolling 12-month rolling window. Under CAPM, beta risk is assumed to be a risk factor priced by the capital market. Black, Jensen and Scholes (1972) showed that market beta is linearly and positively related to expected returns. Fama and MacBeth (1973) also showed that market beta is a risk factor that relates to expected returns. In line with prior studies (Francis et al., 2004; Garcia-Lara et al., 2011; Li, 2015), this study predicts that beta and expected returns will be positively related.

Firm size (lnSiz): Size of the firm is measured by the natural logarithm of the market value of the firm at the end of the fiscal year. The larger a firm size is the more stable is its profitability (Whittington, 1971). On one hand, this might be due to a greater degree of diversification that larger firms possess (Lev, 1983). Similarly, the market power of a firm rises with its size (Martin, 1988). In terms of disclosure cost, Lang and Lundholm (1993) argue that the cost of disclosure for larger firms is lower due to economies of scale. Following these arguments, Lev (1983) posits that earnings quality of larger firms is higher than that of smaller ones. Thus, the study assumes that larger firms will have lower investors expected returns and vice versa.

Book-to-market ratio (lnBM)*:* The book-to-market ratio is the book value of a firm's equity divided by its market value. Basically, the market value for each stock is collected daily. The market value of a firm on a particular day is the product of the closing price of that firm's shares on a particular day and the number of firm's shares outstanding on that day. However, the book value of equity is not available on a daily basis. The book value of a firm is the book value contained in the most recent annual financial statements. Following Francis et al. (2004) book-to-market ratio is measured as the natural logarithm of the firm's book value of equity divided by its market value of equity. Chan and Chen (1991), Fama and French (1996), and Vassalou and Xing (2004) emphasize the rationale of financial distress in using the book-to-market ratio as a control variable in studies using expected returns as a dependent variable. They posit that firms having a higher book-to-market ratio are more likely to experience distress and consequently have higher expected returns. Berk, Green and Naik (1999), however, stress the rationale of growth options. They argue that the book-to-market ratio indicates the extent to which growth options figure in the total equity value. Following these arguments, the study expects firms with a

Table 4
Summary of Study Variables

Variables	Acronym	*A prori*	Variable Measurement
Dependent:			
(i) Expected Return	***E[R]***		Expected returns is measured using Fama and French 3-Factor model $E[R_t] = R_{f,t} + \beta^M(R_{m,t} - R_{f,t}) + \beta^S(SMB_t) + \beta^{B/M}(HML_t)$
Independents:			
(i) Earnings Persistence	***PERS***	-	Slope coefficient (β) from a regression of current earnings on lagged earnings: $X_t = \alpha + \beta(X_{t-1}) + \varepsilon_t$
Control Variables			
(i) Beta	***Beta***	+	It is measured using CAPM over a rolling 36-month rolling window.
(ii) Firm Size	***lnSiz***	-	It is measured by the natural logarithm of the market value of the firm at the end of the fiscal year
(iii) Book-to-Market Ratio	***lnBM***	+	It is measured by the natural logarithm of the firm's book value of equity divided by the market value of equity.

Source: Researcher's Compilation (2021)

Techniques of Data Analysis

Both descriptive statistics and multiple regression were employed for data analysis in this study. The descriptive statistics include mean, minimum, maximum, and standard deviation. These statistics were used to describe the data in terms of central tendency and variability. Multiple regression analysis was also employed for the analysis. It allows not only the examination of the effect of all earnings persistence on investors, expected returns but, also, determines the variable(s) that best explain the variations in investors' expected returns (Gujarati & Porter, 2009).

Model Specification

The study model is expressed in Equation 1:

$$E[R_{i,t+3}] = \alpha_t + \lambda\beta_{1,t}PERS_{i,t} + \lambda_{1,t}Beta_{i,t} + \lambda_{2,t}InSiz_{i,t} + \lambda_{3,t}InBM_{i,t} + \varepsilon_{i,t} \quad (1)$$

where

$E[R_{i,t}]$	=	12 months average expected returns of firm *i* ending 3 months after financial year-end date.
$Beta_{i,t}$	=	Market beta of firm *i* at time *t,*
$InSiz_{i,t}$	=	Size of firm *i* at time *t,*
$InBM_{i,t}$	=	Book-to-market ratio of firm *i* at time *t,*
α	=	Intercept
$\lambda_{1,t}, \dots, \lambda_{4,t}$	=	Coefficients of the control variables
β_t	=	Coefficients of independent variable $PERS_{i,t}$,]
$PERS_{i,t}$	=	Earnings persistence of firm *i* at time *t,*
i =1 …N	=	Cross-sectional observations
t=1 …T	=	Years

Results and Discussions

The data extracted from the annual financial statements of sampled companies and share prices obtained is presented in this section. The results are divided into descriptive statistics and multiple regression results.

Descriptive Statistics

Table 3 reports the descriptive statistics for all the variables used in the study. Results in Table 3 reveal that the pooled sample mean value of *E(R)* is 31.18%, with a standard deviation of 23.7%. Comparative to other jurisdictions, Eliwa *et al.* (2016) report the mean investor expected returns *of* 3.6% in the U.K for the period between 2005 and 2011, while Ogneva (2012) reports the mean expected return of 20.83% in the US. This high average *E[R]* in the sampled manufacturing firms in Nigeria indicates that the cost of equity is almost 9 times the cost of equity of companies in the U.K. and about 1.50 times the cost of equity in the U.S.

Table 3

Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
Returns				
Expected returns (ER_FF3M)	0.3118	0.2370	0.0021	0.9836
Independent Variable				
Persistence (PERS)	0.3599	0.3305	-0.9214	0.9835
Control variables				
BETA (Market risk)	0.3516	0.2844	-0.9298	1.2892
InSiz	8.8665	0.5212	7.3938	10.0945
Book-to-Market (B/M)	9.1801	16.9033	-17.6010	95.9775

Source: Stata 4.2 SE Output (2021).

The results in Table 3 also indicated that the mean earnings persistence of the 42 sampled listed manufacturing companies in Nigeria over 12 years from 2006 to 2017 is 0.3599 (SD = 0.3305). The earnings persistence (*PERS*) ranges from a minimum of -0.9214 to 0.9835, this is an indication that the series sparingly spread around the mean. This is quite different from the comparative value of earnings persistence (*PERS*) reported by Francis et al. (2004) who reported negative persistence value in the U.S. Furthermore, the average earnings persistence parameter reported by L. Chen (2013) was 0.42. Similar results are reported by Perotti and Wagenhofer (2014) where the average persistence score was reported as 0.3655, with 0.3660 standard deviations using a sample of 27,589 U.S non-financial firms over the period 1988–2007. Finally, Yao (2015) also found a mean earnings persistence of 0.50 in Canada. Persistence measures the extent that current earnings persist in the future. High persistence depicts high earnings quality since it indicates a sustainable earnings generation to investors.

Regression Analysis

The inferential statistic (linear multiple regression analysis) aim at predicting the effect of earnings persistence on investors' expected returns and also for testing the formulated hypothesis is presented and discussed in this section. To do this the results of Driscoll-Kraay standard errors regression is reported in Table 4 and the discussion is ensued.

Table 4

Regressions of Persistence and Control Variables on Investors' Expected Returns (N=504)

Variables	Expected sign	Coefficients	t-statistics
Market risk (*BETA*)	+	0.495	8.61***
Size (*InSiz*)	-	-0.0904	-2.16**
Book-to-Market (*BM*)	+	0.0057	11.31***
Persistence (*PERS*)	-	-0.00955	-0.28
Constant		0.890	2.42**
F		612.86***	
R-squared		0.4034	
Firms		42	
Firm FE		YES	

*** p<0.01, ** p<0.05, * p<0.1

Source: STATA 14.2 Output (2021).

Table 4 reports the regression results for the effect of earnings persistence and other control factors as predictors on investors' expected returns. The value of *F*-statistics indicates the model fitness ($F(4,499) = 612.86$, $p < 0.001$). R^2 indicates that the model explains the variation in investors expected rate of return (cost of equity) by 40.34%. This suggests also that more than half of the variation in expected returns is not accounted for by the study model indicating that there is room for future research in this area.

Table 4 shows that there is a negative relationship between earnings p*ersistence* (*PERS*) and investors' expected returns with the coefficient estimate of *PERS* as -0.0096 (*t*-statistic = -0.28, $p = 0.787$) suggesting that investors expect higher returns from firms with transitory earnings relative to firms with persistent earnings streams.

Given that the calculated value of $t(499) = -0.28$, $p = 0.787$ this study support the null hypothesis. This result is contrary to Francis et al. (2004) who found that firms in the U.S with high earnings persistence have a higher implied cost of equity than firms with transitory earnings. This study employed persistence to captures earnings sustainability; persistent earnings are viewed as desirable because they are recurring. Thus, the direction of the coefficient is in tandem with the researcher's prediction. The finding is similar to Collins and Kothari (1989) who found that investors react more to earnings news from firms with persistent earnings than those transitory earnings. The findings also agree with Gschwandtner and Hauser (2016) who found that firm-specific long-run profit persistence after controlling for other additional risk factors has a significant positive impact on expected returns.

Using earnings persistence as a measure information risk, the study does not find any evidence that information risk can be priced. Since information quality risk is firm specific, it will be eliminated through a well-diversified portfolio as suggested by the capital assets pricing model (CAPM) significant effect of earnings quality on the investors' expected returns. This finding agrees with the *CAPM* which assumes that except for the market risk, all other firms' specific risks can be eliminated through diversification. The finding, therefore, contradicts the market microstructure theories.

The implication of this finding is that investors in Nigeria do not pay attention to earnings history (earnings persistence) in demanding on returns on their equity. In other words, earnings persistence has an insignificant negative effect on expected returns which is an indication that investors in Nigeria pay little or no attention to earnings stability or sustainability. Investors' expected returns are higher on average for companies with transitory earnings than companies with sustainable earnings, however, the difference is not statistically significant.

Results from Table 4 provide validation to the study's *a priori.* That is, the study expects a positive relationship with the *BETA* (firms with higher market risk have higher investor expected returns), negatively related to *Size* (smaller firms have larger investor expected returns), positively related to *BM* (firms with larger book-to-market ratios have higher investor expected returns) and negative relationship with earnings persistence (transitory earnings streams have higher cost of equity the sustainable earnings streams).

The results reveal a coefficient of *BETA* as 0.495 implying that a unit increase in market risk will lead to a 0.495 increase in expected returns of listed manufacturing companies in Nigeria assuming that all other factors are held constant. The estimated coefficient is positively significant and conforms to the researcher's expectation (*t*-statistic = 8.61, $p < 0.001$) indicating that market risk and investors expected returns goes in the same direction, the higher the market risk the higher the investors expected returns.

Similarly, the study estimates that an increase in firm size holding all other variables constant will lead to a 0.0904 decrease in expected returns. The regression coefficient according to Table 4 is reliable within the 95% confidence interval (λ_2 = -0.0904, *t*-statistic = -2.16). In other words, as manufacturing companies grow bigger in size in Nigeria, they become less risky thus experience a significant decline in the cost of equity. The coefficient estimate on the *B/M* is also positive and statistically significant at 95% confidence level (λ_3 = 0.0057, *t*-statistic = 11.31, $p < 0.001$) indicating that growth stocks have more expected than value stocks.

Conclusion and Recommendations

This paper investigates the influence of earnings persistence on investors' expected returns using a sample of 42 listed manufacturing companies in Nigeria from 2006 to 2017. Results from the analysis revealed that earnings persistence has a negative but insignificant effect on expected returns of listed manufacturing companies in Nigeria. The finding implies that investors' expected returns are higher on average for companies with transitory earnings than companies with sustainable earnings, however, the difference is not statistically significant.

Based on the finding, it was concluded in this paper that investors in Nigeria do not pay attention to earnings history (earnings persistence) in demanding on returns on their equity. The finding which indicates that earnings persistence has an insignificant negative effect on expected returns is indeed an indication that investors in Nigeria pay little or no attention to earnings stability or sustainability.

he study recommends that further research should be carried out using cross-country data especially among the African countries which at the moment is sparsely investigated. In particular, an investigation of the association between earnings persistence and expected returns in countries with different governance and enforcement regimes would shed further light on the factors which affect the overall quality of earnings.

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Environmental Sustainability Disclosure and Value of Listed Manufacturing Firms in Nigeria: The Moderating Effect of Ownership Structure

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***Abstract*:** *Environmental sustainability is increasingly becoming part of business strategy, operations and priority on the agenda of firms, investors and regulators globally. As part of value-creation process, firms ought to disclose analysis of their environmental risks and opportunities, which facilitate investment appraisal by analysts. Thus, this paper investigates the relationship between environmental performance disclosure and value of listed manufacturing firms in Nigeria, taking ownership structure as a moderator factor. The study obtains panel data from annual reports and accounts of the sampled firms and daily price listing of the Nigerian Stock Exchange from 2013 to 2020 and industry dummies are introduced to estimate industry-based influence on the dependent variable. The study analyses data using descriptive statistics, correlation, Panel Corrected Standard Error and hierarchical regression techniques. Findings show, among others, that environmental performance disclosure significantly and positively affects the value of listed manufacturing firms in Nigeria and the relationship is significantly moderated by ownership structure of the firms. Consequently, the study recommends that firms should prioritize accountability and transparency on their engagements and performance in environmental issues through the establishment of dedicated environmental sustainability units; in addition, the ownership of firms should intensify monitoring efforts on ensuring improvement on and adequate communication of environmental performance in order to sustain value maximization. Furthermore, regulatory agencies in Nigeria should collaborate with the Global Reporting Initiative, localize and encourage adoption of industry-based sustainability disclosure frameworks so as to eliminate the selective or non-adoption of 4th generation environmental reporting guidelines, on grounds of generality.*

Keywords: Environmental Sustainability Disclosure, Firm Value, Ownership Structure, Nigeria.

Introduction

Firm value reflects a summary of all decisions made by stakeholders particularly investors and communicated through a process called financial reporting. Environmental sustainability disclosure is one of the decisions that plays a major role in determining firm value (Sucuahi & Cambarihan, 2016). In an efficient stock market, the value of a firm's stock reflects all relevant financial and non- financial information disclosures. This gives both existing and potential investors the basis for investment decisions. Value maximization is the fundamental reason for their investments. The global community has developed interest in sustainable socio-economic development that respects the environment. The steady growth in world population implies steady increase in raw material consumption and expansion in production technology. This unsustainable nature of the environment culminates into the unstable quality of our social and economic life. Environmental performance has become part of corporate information that affect investors' decisions to invest in the shares of a firm. To achieve long-term value, firms are expected to engage in and adequately disclose environmental commitments - which demonstrates they are accountable for their impacts on the environment in which they operate (Horn, Klerk, & Villiers, 2018). Low level of environmental disclosure among firms led to emergence of institutions such as Carbon Disclosure Project (CDP), Global Reporting Initiative (GRI), Sustainability Accounting Standards Board (SASB) and World Business Council for Sustainable Development (Hales et al., 2016). Poor or non-disclosure sends a signal that such companies are environmentally-unfriendly, which makes them unappealing to investors.

The main objective of this study is to investigate the moderating effect of ownership structure on the relationship between environmental performance disclosure and value of listed manufacturing firms in Nigeria. It aims to address the questions of whether ownership structure can affect the nexus between environmental performance disclosure and firm value. Sequel to the objective, the research hypothesis was formulated in the null form as:

Ho: ownership structure has no significant moderating effect on the relationship between environmental sustainability disclosure and the value of listed manufacturing firms in Nigeria.

The importance of environmental sustainability practices cannot be over-emphasized. The outcome of this study will enhance the scope of knowledge and understanding of scholars and practitioners. This paper would serve as a call on regulatory agencies in developing economies to enforce the adoption of globally recognized standards.

The paper is structured into five sections with section one been the introduction. In section two, the paper reviews related literature and section three presents the methodology adopted by the study. Moreover, results and discussion of data analysis is contained in section four, while conclusion and recommendations are presented in section five.

Literature Review

This study is anchored on the agency, stakeholder and signaling theories, which acknowledge the divergence of interests among ownership, other stakeholders and management as well as the existence of information asymmetry problem. The board of directors has a duty to communicate material financial, environmental, social and governance information about the firm to shareholders. Management may prioritize personal interests, which may affect the extent to which the firm's primary interest of value maximization is achieved. This requires the harmonization of interests via control mechanisms. According to the shareholders' approach, the primary objective of a firm is value maximization for the shareholders (Friedman, 1970). This means the maximization of a firm's equity, which is, the present value of expected cash flows that shareholders expect from the firm. Thus, maximizing the value of a firm is feasible only when there is the maximization of scheduled benefits, such as revenue growth and profitability, in the (Stubelj, 2010). Dimensions of value include the nominal value, market value, intrinsic value, book value, and liquidation value. However, the most representative concept to determine the market performance is intrinsic value (Christiawan & Tarin, 2007), which is however very difficult to estimate. The difficulty is because the determination of intrinsic value requires the ability to identify significant variables that determine the market performance of the firm, which vary among firms (Moeljadi, 2014).

Value refers to benefits that accrue to the management of financial markets and corporate organizations as they continue to grow (Brigham et al., 1999). According to this definition, value is an economic term used to describe the worth of a business organization at a given point in time. Theoretically, it is the amount that is payable if an entity is to be bought or taken over. It can be based on either book value or market value. Generally, firm value refers to the market value of the firm (Wahyudi & Pawestri, 2006). It means the interest of investors is often in the return that accrue to investments in the form of embedded capital gains and dividends; hence, the higher the return to shareholders, the higher the market value of their shares (Qomariah, 2015). Thus, the value of a firm is the unit price that a share of the firm attracts. It is a function of the perceptions of existing and potential investors, among other factors. Hence, such judgments are based on financial and non-financial information made available, which is a prerequisite of investors' decisions to invest in or divest from the firm (Ghorbel & Triki, 2016).

Nevertheless, since firms obtain inputs from and their production activities that result to garbage to the environment, their commitments to salvaging the environment is becoming a factor to valuation. During the 19th century, the general behaviour of companies towards ecological problems was passive (United Nations, 1972). From the 20th century, attention has shifted from compliance approach towards environmental regulation (United Nations Global Compact, 2008). Environmental sustainability is regarded as the ability to yield renewable resources and the simultaneous monitoring of the depletion of non-renewables (Giovannoni & Fabietti, 2014). According to the Global Reporting Initiative (GRI), environmental sustainability is concerned about a firm's impact on living and non-living natural systems, including land, air, water and ecosystems. Specifically, the ecological dimension of sustainability intends to deal with issues relating to materials, energy, water, biodiversity, emissions, effluents and waste, products and services, compliance, transport, overall supplier environmental assessment, and ecological grievance mechanisms (GRI, 2013).

Besides, ownership structure refers to the distribution of equity concerning votes and capital, including the identity of the equity owners (Jensen & Meckling, 1976). This structure is of significant importance in governance because it determines the incentives of managers (Phan & Tran, 2019). The ownership structure is the fraction of shares, which are owned by a firm's shareholders (Suk, 2008). Similarly, ownership structure is the proportion of units of ownership and voting rights held by different individuals or groups of individuals in a firm, based on amounts of capital contribution (Holderness et al., 1999). It is the distribution manner of the equity of a firm in terms of votes and degree of capital concentration. Thus, the nature of the property and the identity of controlling shareholders is significant to influencing the overall firm's sustainable growth as a result of the dependence on strategic positioning about the alignment of interests between the parties (Qui, 2013). In the extant literature, two approaches address issues of ownership structure, namely, ownership identity and ownership concentration Generally, ownership identity refers to the type of owners on the ownership structure of a firm and it is further classified into internal and external investors, whereby internal owners include managers and employees, and external owners constitute individuals, organisations and the state (Repei, 2000; Carvalhal-da-Silva, 2004; Almeida et al., 2015). On the other hand, ownership concentration means a situation where a firm is owned by one or a few large owners (concentrated) or by multiple smaller owners (dispersed/diffused) (Thomsen & Conyon, 2012). It is the portion of shares held by the top investors (Adenikinju & Ayorinde, 2001). Thus, when ownership concentration is large, it has potential to influence performance, having strong incentives to closely monitor and influence management (Atmaja, 2008). Empirically, Burnett et al. (2011) found a significant relationship between eco-effective environmental management and the value of a sample of 336 Fortune 500 companies across the globe from 2007 to 2008. Similarly, Perez-Calderon et al. (2012) found that environmental performance has a significant relationship with the value of environmentally sensitive as against non-environmentally sensitive firms from 2007 to 2009, based on a census sample of 157 European firms. However, both the former and latter studies are limited in scope, that is two and three years respectively, which if expanded may give a varying result. Moreover, Fodio et al. (2013) found that environmental performance has an insignificant impact on the value of quoted non-financial services firms in Nigeria. On the contrary,

Akinlo and Iredele (2014) reveal that corporate environmental disclosure has a significant and positive impact on the market value of 50 firms quoted in Nigeria for a period of 9 years from 2003 to 2011. However, the study measures environmental disclosure via environmental pollution and control policy, energy policy, impact on biodiversity, waste management cost, award received for installing environmental management system, environmental research and development cost, and cost of compliance with environmental laws, which are based on local environmental standards in Nigeria as against the GRI framework. Although, this is consistent with the studies by Husser and Evraert-Bardinet (2014) and Nguyen et al. (2015), which also revealed a significant relationship between environmental performance disclosure and the value of French firms listed on the NYSE – Euronext SBF 120 index (2007 to 2008) and listed firms in Vietnam in a study conducted, covering four years (2010 to 2013), respectively.

Furthermore, Hossain et al. (2015) found that environmental disclosure has a significant effect on the market-based performance of listed firms in Bangladesh. This result was similar to the outcome of Han et al. (2016) that environmental disclosure negatively and significantly affects the market-based financial performance of listed firms in Korea in their study conducted, which covers seven years from 2008 to 2014. Kristyanto and Sanjaya (2017), based on GRI G3.1 index, find that environmental disclosure has an insignificant effect on the value of a sample of 74 listed manufacturing companies in Indonesia from 2012 to 2013. Though the study measures environmental disclosure based on the GRI G3.1 index, the updated G4 index incorporates more environmental issues, and when applied may yield a varying result. In the same vein, a more than 2-year scope may yield a better regression output.

Moreover, the study by Setiadi et al. (2017) revealed, among others, that environmental reporting has an insignificant but positive effect on the value of firms in a study examining the relationship between board independence, environmental disclosure and value of a sample of 134 industrial and essential chemical firms in Indonesia from 2009 to 2013. Similarly, based on path analysis, Ratri and Dewi (2017) finds, among others, that environmental performance has an insignificant and adverse effect on the value of a sample of 60 firms listed on the Jakarta Islamic Index (JII) in Indonesia from 2012 to 2014 and that Islamic Social Reporting (ISR) index mediates the relationship. However, Caesaria and Basuki (2017) opined that environmental sustainability disclosure has a significant and positive effect on performance (Tobin's Q) among firms quoted on the Indonesia Stock Exchange from 2013 to 2014. However, both studies use the Indonesia Ministry of Environment PROPER Ranks as the basis to proxy environmental disclosure, which may vary with environmental protection requirements across countries.

In addition, Li et al. (2018) found a significant and positive association between environmental disclosure and value of firms in the UK from 2004 to 2013, which is consistent with the study of Kurniawan et al. (2018), which examined the effect of sustainability reporting on the value of 116 listed firms (74 in Indonesia and 42 in Singapore Stock Exchanges) from 2014 to 2016. The study measured environmental performance via GRI G4 index and findings revealed that environmental information disclosure has a significant but negative effect on the value of firms in Indonesia and Singapore. On the contrary, Egbunike and Okoro (2018) uses the canonical correlation technique for data analysis, which reveal that green accounting has an insignificant relationship with Tobin's Q of a sample of 10 non-consumer goods firms listed in Nigeria from 2012 to 2016. Nevertheless, the measure of green accounting is concentrated on the costs incurred on environmental protection and community involvement, which may be the reason for the insignificance of the outcome.

Similarly, Amiolemen et al. (2018) revealed that reporting of environmental issues insignificantly affect stock prices of listed firms in Nigeria from 2011 to 2015. However, these findings contradicted that of Emeka-Nwokeji and Osisioma (2019), who found that environmental sustainability reporting has a significant and positive effect on the value of listed non-financial firms in Nigeria over the period 2006 to 2015. The contradiction may be traced to difference in the scope of study and choice of firms, which may have varying extent of sustainability disclosure. Furthermore, the study by Abdi et al. (2020) showed a significant positive relationship between environmental disclosures and value of 27 airline companies worldwide from 2013 to 2019. This implies that enhancing the level of environmental sustainability disclosure by these firms will lead to higher market value and financial efficiency. On the contrary, Syder et al. (2020), who investigated the effect of sustainability accounting report on shareholder value of quoted oil and gas companies in Nigeria from 2009 to 2018 found, among others, that environmental compliance cost has insignificant effect on shareholder value added of the sampled firms.

Methodology

The study adopts descriptive-correlational research design to determine the direction of relationship between dependent and independent variables, which is either direct, negative or zero. The population comprise of fifty-six (56) manufacturing firms listed on the Nigerian Stock Exchange (NSE) as at 31st December, 2021. However, delisting and technical suspension applied as filters on the population eliminate ten (10) firms, resulting to a sample frame of 46 firms (see Appendix), which is wholly applied as the sample of the study. Data is obtained from annual report and accounts of the sampled firms as well as daily price listings of the NSE from 2013 to 2020, and descriptive statistics, correlation, and multiple regression techniques are used for analysis. The scope from 2013 is justified by the fact that the GRI G4 sustainability reporting guideline, which is the basis of determining environmental performance disclosure was

introduced in May, 2013.

Variables of the Study

The dependent variable of the study is firm value, proxied by Tobin's Q, market to book value of equity and share price, while the independent variable is environmental performance disclosure measured in terms of environmental disclosure index. Moreover, the study is multi-industry in nature; hence, industry dummy is introduced to estimate the explanation of industries to firm value based on the disclosure of environmental performance (D1=Agriculture, D2=Conglomerate, D3=Consumer Goods, D4=Healthcare, D5=Industrial Goods, D6=Natural Resources and D7=Oil and Gas). In addition, moderator variable of the study, ownership structure is proxied in terms of institutional ownership and block-holder ownership. Thus, the study generates ownership structure index (OSI), combining the individual effect of the two categories of ownership. Furthermore, the study introduces the size of total assets and leverage of the sampled listed

Table 1
Definition and Measurement of Variables

Variable Name	Proxy	Measurement	Source
Dependent Variable:			
Firm Value	Tobin's Q (TQ)	Book Value of Debt + Market Value of Equity / Total Assets.	Kurniawan et al. (2018).
	Market to Book Value (MTBV)	Market Value per Share / Book Value per Share.	Perez-Calderon et al. (2012).
	Share Price (SP)	(Opening + Closing Market Price per Share) / 2.	Sutopo et al. (2018).
Explanatory Variables:			
Environmental Sustainability Disclosure	Environmental Disclosure Index (EVDI)	(Number of GRI G4 Environmental Items Disclosed / Total Items Disclosable).	Emeka-Nwokeji & Osisioma (2019).
Industry Dummy	D1 – D7	"1" for Belonging to an Industry; "0" for Not Belonging to an Industry.	Crisostomo et al. (2011).
Ownership Structure	Institutional Ownership (INST)	Value of Shares owned by Institutions / Value of Total Outstanding Shares * 100%.	Buchanan et al. (2018).
	Block-Holder Ownership (BLCK)	Value of Shares owned by Shareholders with ≥5% Shares /Value of Total Outstanding Shares * 100%.	Kim et al. (2018).
Control Variables	Firm Size (FSIZ)	Logarithm of Total Assets.	Emeka-Nwokeji & Osisioma (2019).
	Leverage (LEV)	Total Liabilities / Total Equity.	Utami (2015).

Note: From Field Survey, 2021.

Model Specification

This study adapts the (Feltham & Ohlson, 1995) linear information model, which is mostly used in firm value related studies in existing literature (Loh et al., 2017). The model is stated, thus:

$$\mathbf{FV_{i,t} = \beta_0 + \beta_1 BE_{i,t} + \beta_2 AE_{i,t} + \beta_3 TE_{i,t} + \varepsilon_{i,t}}$$

Where:

$FV_{i,t}$ = Value of firm i for time period t;

$BE_{i,t}$ = Opening book value of equity of firm i for time period t;

$AE_{i,t}$ = Abnormal earning (net income less 12% cost of equity) of firm i for time period t; and

$TE_{i,t}$ = Transitory earning of firm i for time period t.

According to the model, transitory earning is any other non-financial or extra-financial variable that may affect the value of a firm directly or indirectly (Feltham & Ohlson, 1995). Therefore, Model-1 expressing the relationship between firm value and independent as well as control variables are presented, thus:

$$\mathbf{FV_{i,t} = \beta_0 + \beta_1 BE_{i,t} + \beta_2 AE_{i,t} + \beta_3 EVDI_{i,t} + \beta_4 FSIZ_{i,t} + \beta_5 LEV_{i,t} + \beta_6 D1 + \beta_7 D2 + \beta_8 D3 + \beta_9 D4 + \beta_{10} D5 + \beta_{11} D6 + \beta_{12} D7 + \varepsilon_{i,t} \quad \ldots\ldots(1)}$$

Moreover, the introduction of the moderating variable, proxied by OSI results in Model-2, expressing the relationship between proxies of firm value and independent, control and moderating variables, thus:

$$\mathbf{FV_{i,t} = \beta_0 + \beta_1 BE_{i,t} + \beta_2 AE_{i,t} + \beta_3 EVDI_{i,t} + \beta_4 FSIZ_{i,t} + \beta_5 LEV_{i,t} + \beta_6 D1 + \beta_7 D2 + \beta_8 D3 + \beta_9 D4 + \beta_{10} D5 + \beta_{11} D6 + \beta_{12} D7 + \beta_{13} OSI_{i,t} + \varepsilon_{i,t} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)}$$

Furthermore, Model-3 introduces the interaction between independent and moderating variables. It is used to determine the moderating effect or otherwise of ownership structure on the relationship between environmental disclosure and firm value and stated thus:

$$\mathbf{FV_{i,t} = \beta_0 + \beta_1 BE_{i,t} + \beta_2 AE_{i,t} + \beta_3 EVDI_{i,t} + \beta_4 FSIZ_{i,t} + \beta_5 LEV_{i,t} + \beta_6 D1 + \beta_7 D2 + \beta_8 D3 + \beta_9 D4 + \beta_{10} D5 + \beta_{11} D6 + \beta_{12} D7 + \beta_{13} OSI_{i,t} + \beta_{14} EVDI{*}OSI_{i,t} + \varepsilon_{i,t} \ldots\ldots\ldots\ldots\ldots\ldots\ldots (3)}$$

FV is a function of TQ, MTBV and SP. Hence, a total of 9 models are analyzed.

Results and Discussion

The study presents and discusses the outcome of data analysis in this section. It includes results of descriptive statistics, pairwise correlation analysis, post-estimation diagnostic tests, panel corrected standard errors (PCSE) regression, hierarchical regression results.

1

The summary of descriptive statistics presented in Table 2 contains the mean, standard deviation, minimum and maximum values of the data variables. Table 2 shows that the first proxy of firm value (TQ) has a mean of 1.436 with a standard deviation of 1.291, which implies that the data for TQ of sampled firms is not widely dispersed from the mean as supported by the minimum and maximum values of 0.124 and 8.993 respectively. Moreover, the results show a mean value of 2.436 in respect of data for the second proxy of firm value, MTBV, which deviate from the mean at the standard deviation value of 7.006. This signifies that the data is widely spread from its mean as supported by the minimum and maximum values of -26.467 and 75.572 respectively. In addition, data for SP of the sampled firms, the third measure of value, appear to have a very wide dispersion from it mean value of 58.12 based on the standard deviation value of 193.16. This is because some of the sampled firms have remarkably lower price of shares in the stock market as demonstrated by the minimum share price of 0.20, while the price of shares of other sampled firms are as high as up to 1,530.75, been the maximum value.

Table 2

Results of Descriptive Analysis

Variable	Obs.	Mean	Std. Dev.	Min.	Max.
Dependent Variables:					
Tobin's Q (TQ)	318	1.436	1.291	0.124	8.993
Market to Book Value (MTBV)	321	2.436	7.006	-26.467	75.57
Market Price of Shares (SP)	356	58.12	193.16	0.2	1530.8
Explanatory Variables:					
Book Value of Equity (BE)	366	16.219	21.265	-5.12	110.045
Abnormal Earnings (AE)	368	2.503	6.665	-6.442	50.714
Environmental Disclosure Index (EVDI)	368	0.109	0.22	0	1
Institutional Ownership (INST)	368	0.567	0.226	0	0.91
Block-holder Ownership (BLCK)	368	0.502	0.216	0	0.91
Leverage (LEV)	367	1.745	18.722	-253.83	202.90
Firm Size (FSIZ)	367	7.222	0.891	5.239	9.306
D1	368	0.087	0.282	0	1
D2	368	0.065	0.247	0	1
D3	368	0.348	0.477	0	1
D4	368	0.13	0.337	0	1
D5	368	0.196	0.397	0	1
D6	368	0.065	0.247	0	1
D7	**368**	**0.109**	**0.312**	**0**	**1**

Note: From STATA 13.0 Output, 202 2.

In addition, data for BE, which is expressed on per share basis, reveal an average value of 16.22 and deviation from this mean value stands at 21.27. This implies a wide dispersion evidenced by a negative minimum value of 5.12 and maximum value of 110.05. Similarly, the negative minimum value of 6.44 and maximum value of 50.71 in respect of data for AE supports the considerable spread of the data from the mean value of 2.50 and the standard deviation of 6.67. Moreover, Table 2 presents an average EVDI of 0.109 and standard deviation of 0.22, meaning that the data is not widely dispersed from the mean value. This is proven by the minimum and maximum values of 0 and 1 respectively. This means that though, one of the sampled firms achieved a 100% disclosure of selected environmental disclosures, the quality of disclosure of environmental sustainability information among the sampled manufacturing firms in Nigeria has wide variations since majority of the firms fail to disclose environmental engagements.

Furthermore, Table 2 shows that, on average, about 56.7% of units of ownership among the sampled manufacturing firms is owned by institutions (INST). The standard deviation of 0.226 in this case indicates that the firms have normal variations in the proportion of their equity shares held by institutions. This is evidenced in the fact that at least one of the firms appear to have no institutional ownership in a given time period (minimum value of 0), while at least one firm has as high as 91% of its shares held by institutions (maximum value of 0.91). Similarly, BLCK measured as the proportion of shares of the sampled firms held in blocks of 5% an above, results to a mean value 50.2% with a standard deviation of 0.216, which indicate there is a normal dispersion of data for BLCK from it mean. The minimum and maximum values of BLCK is 0 and 0.91 respectively, implies that the block-holder ownership do not significantly vary among sampled manufacturing firms in Nigeria.

In the same vein, Table 2 reports the maximum LEV value of 202.9, which means some of the sampled firms utilize a significant amount of debt capital to finance operations, while the negative minimum LEV value of 253.8 implies that other firms resort to equity capital as the source of financing; yet some of the firms report negative book value of equity, which is the reason behind the negativity. The data for LEV averages 1.75 with a standard deviation of 18.72, which indicate a wide spread of the data from it mean. Moreover, FSIZ has a mean value of 7.22 and standard deviation of 0.89. This shows the dispersion of the data for FSIZ is not widely dispersed from it mean as supported by the minimum and maximum FSIZ values of 5.24 and 9.31 respectively. Finally, the industry dummies (D1 – D7) represent the seven (07) industries that make up the sample of listed manufacturing firms in Nigeria, which is the domain of the study. All the dummies have a minimum and maximum values of 0 and 1 respectively, resulting to both mean values and standard deviations of less than 1. This affirms the fact that the dummies are time-invariants hence, vary only by the proportion of members of each particular industry that make up the sample of the study.

4.2 Correlation Coefficients

The result of correlation coefficients explaining the degree of association between pairs of variables among firm value (TQ, MTBV and SP), environmental performance disclosure (EVDI), ownership structure (INST and BLCK) and control variables (FSIZ and LEV) is presented in Table 3.

Table 3

Correlation Matrix of Firm Value and Time-Variant Explanatory Variables

	TQ	MTBV	SP	BE	AE	EVDI	INST	BLCK	LEV	FSIZ	VIF
TQ	1.000										
MTBV		1.000									
SP			1.000								
BE	0.089	0.137*	0.405*	1.000							2.18
AE	0.428*	0.382*	0.835*	0.601*	1.000						1.72
EVDI	0.122*	0.071	0.112*	0.129*	0.105*	1.000					1.43
INST	0.163*	0.121*	0.161*	0.241*	0.193*	0.060	1.000				2.97
BLCK	0.200*	0.114*	0.187*	0.277*	0.241*	-0.060	0.797*	1.000			3.25
LEV	-0.157*	-0.272*	0.012	0.003	0.005	-0.010	0.005	-0.016	1.000		1.03
FSIZ	0.043	0.170*	0.296*	0.571*	0.382*	0.431*	0.355*	0.326*	0.094	1.000	2.06

Note: From STATA 13.0 Output, 202 2.

In Table 3, the coefficients, ranging between -1 and +1, with the diagonal values of 1.0 indicating perfect association each variable has with itself. These coefficients measure the strength of association among variables, while the signs depict the direction of association. Table 3 also reveals that TQ has positive association with BE and AE at the coefficients of 0.089 and 0.428 respectively. The direct association of BE and AE also apply to MTBV at the coefficients of 0.137 and 0.382 as well as SP at the coefficients of 0.404 and 0.835 respectively. These coefficients imply that as BE and AE increase by a unit, it results to a positive improvement of firm value measured in terms of TQ, MTBV and SP. Although the coefficient between AE and SP is 0.835, the typical cut-off value of 0.8 (Gujarati, 2004) apply to correlation among explanatory variables. It therefore means that there are no statistical restrictions of the correlation between dependent and independent

variables (Akinwande et al., 2015). In addition, there is also a direct association between EVDI and firm value (TQ, MTBV and SP) at the coefficients of 0.122, 0.071 and 0.112 respectively. These coefficients indicate that as more environmental performance information are disclosed, the value of the firms improves positively.

On the part of moderator variables, both INST and BLCK demonstrate a direct correlation with TQ, MTBV and SP at the coefficients of 0.163, 0.121 and 0.161 as well as 0.200, 0.114 and 0.187 respectively. In addition, the control variable LEV demonstrate an inconsistent correlation with measures of firm value. While it reports a negative association with TQ and MTBV at the coefficients of -0.157 and -0.272 respectively, it relationship with SP is positive at the coefficient of 0.012. this means that as the firms finance their operations with more debt capital, it improves the price of shares in the stock market, while TQ and MTBV are affected inversely. Moreover, FSIZ reports a positive correlation with TQ, MTBV and SP at the coefficients of 0.043, 0.170 and 0.296 respectively, implying that as the firms grow in size of assets, it amounts to an increase in firm value.

The coefficients among all the study variables fall within the threshold of 0.8 (Hockings & Pendelton, 1983), except for the 0.813 between AE and SP as well as the 0.797 between BLCK and INST, which is approximately 0.8, which nurse some trace of perfect multicollinearity among the variables. To verify this, the variance inflation factor (VIF) for multicollinearity is conducted based on the suggestion that the cut-off for large VIF of 5 are based on the associated R^2 of 0.80 (Cohen et al., 2013). The VIF presented in Table 3 for each explanatory variable is less than 5, implying that there is absence of perfect multicollinearity among the variables.

Post-Estimation Diagnostic Tests

This study is multi-industry in nature, with seven industry dummies to estimate industrial influence on the dependent variables of the study. Thus, the fixed effect (FE) model is not feasible since it makes the drawing of inferences from time-invariant effects impossible. Hence, the paper adopts the random effect (RE) model. Consequently, the residuals from the RE regressions are used to conduct tests for normality (Skewness/Kurtosis and Shapiro-Wilk), multicollinearity, Breusch and Pagan Lagrange Multiplier, contemporaneous correlation, panel serial correlation, unit root (Fisher-Type) and group-wise heteroscedasticity. The summary of results of these tests is presented in Table 4.

The results presented in Table 4 indicate that the data for the study is skewed and it is not normally distributed based on the skewness/kurtosis alpha values for each joint adjusted Chi^2 and z-scores less than 0.05. The alpha of 0.000 for Breusch and Pagan langrage multiplier Chi^2 in respect of fitted values of TQ, MTBV and SP indicate that the RE model is suitable for the study. In addition, the results show absence of multicollinearity and unit root within the panels as a result of the mean VIF of 2.09 and the z-value of the Fisher-type test, which is significant at less 1%. However, Table 4 reports presence of group-wise heteroscedasticity, contemporaneous correlation and panel serial correlation, which justify the adoption of Panel Corrected Standard Errors (PCSE) regression for the study

Table 4

Results of Diagnostic Tests

Test	Statistic	P-value	Interpretation
Normality Test:			
Skewness/Kurtosis (Adj. Chi^2)		0.000	Skewed
Shapiro-Wilk (Z-Score)	>1.96	0.000	Not Normally Distributed
Multicollinearity (Mean VIF)	2.09		Absent
Breusch-Pagan LM:			
TQ	241.59	0.000	Random Effect
MTBV	19.29	0.000	Random Effect
SP	259.50	0.000	Random Effect
Contemporaneous Correlation	6.498	0.000	Present
Panel Serial Correlation	37.65	0.000	Present
Fisher-Type Unit Root	-1.9032	0.029	Absent
Group-wise Heteroscedasticity	80429.7	0.000	Present

Note: From STATA 13.0 Output, 202 2.

Regression of Environmental Performance Disclosure and Firm Value

The results of Prais and Winsten PCSE regression between measures of firm value (TQ, MTBV and SP) and explanatory (time-variant & time-invariant) variables of the study is presented in Table 5. Model-1 returns the R^2 of 34.42% as against a RE overall R^2 of 14.04%, which indicates a notable improvement by 20.38%. Table 5 further reveals that out of the 34.42% of variations in TQ explained by the joint effect of the independent and control variables, D2, D3, and D5 positively and significantly contribute 2.93, 0.56 and 0.34 units respectively, while the D4 and D7 appear to have a significant but adverse contribution to fitted values of TQ by -0.25 and -0.41 units respectively. However, the influence of the D1 and D6 is insignificant, contributing 0.09 and -0.21 unit in that order. In spite of this result, Table 5 presents the Wald Chi^2 of 3521.96

with a significant p-value of 0.000, indicating that the model is fit for the data and the joint contribution of firms from all sectors significantly explain variations in TQ.

In the same vein, Model-2 reports the PCSE regression R^2 of 30.47%, which is slightly above the RE regression's overall R^2 of 30.42%. Though the 0.05% improvement appear to be insignificant, the Wald Chi^2 of 163.09 at the p-value of 0.000 means that Model-2 is fit for the data of the study, which is evident enough to say the joint effect of predictors account for 30.47% changes in MTBV. Based on industry influence, agriculture, conglomerates, consumer goods and healthcare positively and significantly contribute 1.8, 1.51, 3.75 and 1.17 units in a relative manner, while natural resources firms positively but insignificantly account for 0.01 unit of the changes in MTBV. On the contrary, industrial goods and oil and gas sectors adversely and insignificantly contribute -0.59 and -0.62 units relatively to the predictive power of the time-variant independent variables. The joint influence of all these sectors is responsible for the significant Wald Chi^2 hence, the elimination of insignificant contributing sectors may adversely affect the fitness of the model.

Table 5

Regression of Environmental Performance Disclosure and Firm Value

Variable	TQ (Model-1)	MTBV (Model-2)	SP (Model-3)
BE	-1.80*	-1.64	-0.32
	(0.005)	(0.023)	(0.845)
AE	4.23***	5.72***	7.27***
	(0.027)	(0.085)	(3.560)
EVDI	3.38***	1.70*	1.65*
	(0.185)	(0.726)	(17.54)
LEV	-1.14	-1.78*	0.40
	(0.008)	(0.059)	(0.082)
FSIZ	-2.78***	0.06	-1.87**
	(0.093)	(0.740)	(7.50)
D1	0.84	2.28**	-0.98
	(0.112)	(0.790)	(17.98)
D2	4.38***	1.18*	2.61***
	(0.669)	(0.816)	(11.33)
D3	3.96***	2.45**	7.81***
	(0.141)	(1.531)	(5.98)
D4	-1.83*	2.17**	1.34
	(0.134)	(0.542)	(3.574)
D5	42.54**	-0.55	-3.55***
	(0.136)	(1.078)	(5.193)
D6	-1.60	0.00	1.93*
	(0.132)	(4.574)	(45.49)
D7	-2.22**	-0.55	-2.37**
	(0.185)	(1.132)	(27.6)
R^2	0.3442	0.3047	0.7384
Wald Chi^2	3521.96	163.09	716.12
Wald Chi^2-Sig.	0.000	0.000	0.000

Note: From STATA 13.0 Output, 202 2.

Legend: Z-scores without parenthesis; PCSE-values are within parenthesis *** P-value < 0.01; ** P-value < 0.05; and * P-value < 0.1.

Moreover, Model-3 PCSE regression result shows the R^2 is 73.84%. It means there is a considerable improvement by 13.46% as compared to a RE regression overall R^2 of 60.38%. For fitted values of SP, though the conglomerate, consumer goods, healthcare and natural resources firms positively contribute 29.6, 46.7, 4.78 and 87.7 units respectively, their contributions are significant, except that of healthcare industry. However, agriculture sector is insignificantly responsible for -17.5 units of variations in SP, while the influence of industrial goods and oil and gas sectors are significant but negative at the coefficients of -18.42 and -65.4 in a relative manner. Although only conglomerate, consumer goods, industrial goods, natural resources and oil and gas sectors significantly influence SP, the collective contribution of all sectors accounts for the Wald Chi^2 of 716.12, which is significant at the p-value of 0.000. This implies that Model-3 is fit for the data of the study and isolation of insignificantly contributing sectors may affect the fitness of the model unfavorably. These results show that Model-3 has the highest R^2, followed by Model-1 and Model-2.

Also, Table 5 reports that BE negatively affect firm value (TQ, MTBV & SP). Only the effect on TQ is significant at the p-value less than 0.1, which is consistent with Burnett et al. (2011) as well as Loh et al. (2017) who also find a significant relationship between BE and firm value among global Fortune 500 firms and in Singapore respectively. The effect of BE on MTBV and SP is insignificant and coincide with Narullia and Subroto (2018) among firms in Indonesia.

However, AE significantly and favorably affects all the proxies of firm value (TQ, MTBV and SP) at p-values less than 0.01 in relative manner. These findings agree with the position of Schadewitz and Niskala (2010) among firms in Finland and Loh et al. (2017) in Singapore.

In addition, EVDI in Model-1 reports a positive and significant influence on firm value measured by TQ at the p-value less than 0.01. These findings are in agreement with Li et al. (2018), Emeka-Nwokeji and Osisioma (2019) and Abdi et al. (2020), who also find a positive and significant relationship between environmental disclosures and firm value. Moreover, the impact of LEV on firm value measured by TQ is negative and insignificant in consistency with Diantimala (2018), while FSIZ exhibit a negative but significant effect (p-value < 0.01). This position collaborates with Emeka-Nwokeji and Osisioma (2019), who also find a significant effect between size and value of firms. Thus, the results in Model-1 imply that as more environmental information are disclosed by the firms, it will favorably improve value.

Similarly, the results in Model-2 reveal that EVDI positively impact firm value as measured by MTBV and the effect is significant at the p-value less than 0.1. It implies that EVDI has a direct relationship with firm value and improvement on their quantum of disclosure will cause firm value to improve in the same direction. Like in Model-1, LEV negatively and significantly contributes to firm value (MTBV) at p-value less than 0.1; however, the contribution of FSIZ is positive but insignificant.

Furthermore, Table 5 reveals EVDI exhibits a positive and significant effect on SP as a measure of firm value (p-value less than 0.1). The position is in contradiction with Kristyanto and Sanjaya (2017), Setiadi et al. (2017), Ratri and Dewi (2017) and Amiolemen et al. (2018), who found an insignificant relationship between environmental disclosure and firm value. Moreover, LEV positively and insignificantly affect SP. This is in agreement with Li et al. (2018) that leverage is an insignificant determinant of firm value. In addition, there is a negative but significant effect of FSIZ on SP, which disagrees with Diantimala (2018) whose study revealed that firm size is not a significant value determinant.

Comparatively, Model-1, Model-2 and Model-3 report that EVDI has a significant influence on firm value (TQ, MTBV & SP). Based these results, the paper has evidence to reject the null hypothesis and conclude that EVDI significantly affects firm value. This finding supports the position of Schadewitz and Niskala (2010), Loh et al. (2017), Li et al. (2018), Emeka-Nwokeji and Osisioma (2019) and Nguyen (2020) that environmental performance disclosure is value relevant. Furthermore, the signaling and stakeholder theories are supportive of this finding in that disclosing environmental engagements signals a firm's environmental consciousness, which facilitate stakeholders' value maximization.

Moderation of Ownership Structure on Environmental Performance Disclosure and Firm Value

The regression results of the moderating effect of ownership structure on the relationship between environmental performance disclosure and firm value is discussed hereunder. Table 6 presents the summary of the moderation results in three stages.

Table 6

Ownership Structure Moderating Environmental Sustainability Disclosure and Firm Value

Variable	TQ (Models 4 & 7)			MTBV (Models 5 & 8)			SP (Models 6 & 9)		
	IV	MV	IV*MV	IV	MV	IV*MV	IV	MV	IV*MV
BE	-1.80*	-1.86*	-1.83*	-1.64	-1.66*	-1.67*	-0.32	-0.31	-0.32
	(0.072)	(0.063)	(0.068)	(0.101)	(0.096)	(0.094)	(0.751)	(0.753)	(0.749)
AE	4.23***	4.20***	4.20***	5.72***	5.69***	5.67***	7.27***	7.26***	7.25***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
EVDI	3.38*	4.63***	0.04	1.70*	1.59	3.80***	1.65*	1.61	1.60
	(0.001)	(0.000)	(0.969)	(0.090)	(0.112)	(0.000)	(0.099)	(0.107)	(0.110)
LEV	-1.14	-1.13	-1.14	-1.78*	-1.77*	-1.77*	0.40	0.37	0.36
	(0.253)	(0.259)	(0.256)	(0.075)	(0.076)	(0.076)	(0.689)	(0.708)	(0.722)
FSIZ	-2.78***	-3.95***	-3.90***	0.06	-0.06	0.04	-1.87*	-1.85*	-1.76*
	(0.005)	(0.000)	(0.000)	(0.950)	(0.954)	(0.971)	(0.061)	(0.065)	(0.078)
D1	0.84	0.12	-0.15	2.28**	2.15**	2.13**	-0.98	-0.95	0.95
	(0.402)	(0.906)	(0.878)	(0.023)	(0.032)	(0.033)	(0.329)	(0.340)	(0.340)
D2	4.38***	4.95***	4.75***	1.84*	1.48	1.36	2.61***	2.49**	2.42**
	(0.000)	(0.000)	(0.000)	(0.065)	(0.138)	(0.173)	(0.009)	(0.013)	(0.015)
D3	3.96***	2.89***	2.65***	2.45**	2.25**	2.19**	7.81***	8.37***	8.34***
	(0.000)	(0.004)	(0.008)	(0.014)	(0.024)	(0.028)	(0.000)	(0.000)	(0.000)
D4	-1.83*	-1.49	-1.90*	2.17**	1.53	1.58	1.34	0.72	0.82
	(0.067)	(0.135)	(0.058)	(0.030)	(0.127)	(0.113)	(0.181)	(0.473)	(0.411)
D5	2.54**	1.17	0.91	-0.55	-0.40	-0.39	-3.55***	-3.93***	-3.91***
	(0.011)	(0.241)	(0.365)	(0.586)	(0.692)	(0.699)	(0.000)	(0.002)	(0.000)
D6	-1.60	-3.29***	-3.27***	0.00	0.01	-0.15	1.93*	1.94*	1.82*
	(0.110)	(0.001)	(0.001)	(0.999)	(0.989)	(0.882)	(0.054)	(0.053)	(0.069)
D7	-2.22**	-2.56**	-2.59***	-0.55	-0.34	-0.43	-2.37***	-2.36***	-2.40**
	(0.026)	(0.010)	(0.009)	(0.584)	(0.731)	(0.664)	(0.018)	(0.018)	(0.016)
OSI		5.48***	5.90***		0.54	0.87		-0.40	-0.02
		(0.000)	(0.000)		(0.592)	(0.387)		(0.692)	(0.983)
EVDI_OSI			2.05**			-1.56			-0.69
			(0.040)			(0.118)			(0.492)
R^2	0.3442	0.3617	0.3726	0.3047	0.3052	0.3061	0.7384	0.7384	0.7385
R^2 Change		0.018***	0.011**		0.000	0.001		0.000	0.001
F-Value	14.60	14.40	13.47	12.31	11.28	10.42	88.26	80.68	74.31
F-Sig.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Note: From STATA 13.0 Output , 2022.

Legend: P-values are in parenthesis; *** P-value < 0.01; ** P-value < 0.05; and * P-value < 0.1.

In Table 6, the first stage of moderation in respect of TQ (Model-1) returns an R^2 of 34.42%, which is jointly explained by BE, AE, EVDI, FSIZ and LEV and industry dummies. The F-value of the model is 14.60, which is significant at p-value less than 0.01. Upon the introduction of the moderator variable (OSI) in Model-4, the R^2 then changed significantly by 1.8% (? R^2 = 0.018) to 36.17% at p-value < 0.01. This result implies that OSI significantly contributes in explaining TQ. Moreover, the R^2 further changed to 37.26% when the interaction variable (EVDI_OSI) is included in Model-7. That is a change of 1.1% (? R^2 = 0.011), which is significant at p-value < 0.05. Model-4 and Model-7 are both significant, given the reported F-value of 14.40 and 13.47 (p-value < 0.01) respectively.

Invariably, only the contribution by D2 and D3 are positive and significant in explaining the 37.26% of variations in firm value (TQ) at the coefficients of 3.641 and 0.402 respectively (p-values < 0.01). This implies that, all things been equal, the conglomerate and consumer goods firms directly account for changes in TQ by 3.6 and 0.4 units in the respective manner. Although the influences of D4, D6 and D7 are also significant at p-value less than 0.1 and 0.01 respectively, they are negative at the coefficients of -1.90, -3.27 and -2.59 in that manner. This means that disclosures in the healthcare, natural resources as well as oil and gas sectors inversely affect TQ by 1.9, 3.3 and 2.6 units. While D5 has a positive influence to the extent of 0.91 units, D1 estimates a negative contribution of 0.15 units in explaining changes in firm value (TQ), which are all insignificant (p-value > 0.1). However, the F-statistic of 13.47, which is significant (p-value < 0.01) indicates that the dummies jointly contribute to the fitness of the model.

The moderation result in Model-7 is traced to the z-score of EVDI_OSI (2.05), which is significant at 5%. Consequently, the study rejects Ho which proposes that ownership structure does not have a significant moderating effect on the relationship between environmental performance disclosure and firm value proxied by TQ. It indicates that the interference of substantial ownership via board monitoring enhances the quality of environmental performance disclosure and improves firm value. The agency theory further supports this finding in that ownership structure, in monitoring and curtailing the excesses of chief executive officers and ensuring the presence of high number of non-executive independent directors on the board, would minimize the information asymmetry problem via adequate disclosure of all material information such as firms' engagements with the environment.

In addition, Table 6 contains the three-stage summary result of the moderating effect of ownership structure on the association between sustainability disclosure and firm value, measured in terms of MTBV. In Model-2 (stage one), which is significant at the F-value of 12.31 and p-value less than 0.01, the inclusion of the Ohlson model's constants, measures of sustainability disclosure, control variables and industry dummies collectively account for 30.47% of variations in MTBV (R^2 = 0.3047). However, the introduction of OSI giving rise to Model-5 (stage two) results to an insignificant less than 0.1% change in R^2 (? R^2 = 0.000). Similarly, as the interaction variables are introduced in Model-8 (stage three), it slightly increases the explanatory power of the regressors to 30.61%, resulting to a change in R^2 of 0.1% (? R^2 = 0.001), which is also insignificant (p-value > 0.1). In spite of the insignificant changes in R^2 of Model-5 and Model-8, the models are fit, given the F-value of 11.28 and 10.42 (p-values < 0.01) respectively.

The moderation result in Model-8 is affirmed by the estimation of the interaction variable in Table 6. The EVDI*OSI returns a negative z-score of 1.56, which is insignificant at p-values greater than 10%. Based on this finding, the study supports Ho_2 that ownership structure has no significant moderating effect on firm value proxied by MTBV. Furthermore, the moderating effect of OSI on environmental performance disclosure and the last proxy of firm value (SP) in Table 6 is based on Model-3, Model-6 and Model-9, the estimates of which are to some extent similar with Model-2, Model-5 and Model-8 in respect of fitted values of MTBV. In the first moderation stage (Model-3), the same regressors included in Model-1 and Model-2 jointly account for 73.84% (R^2 = 0.7384) of changes in SP and the model is fit since the F-statistic of 88.26 is significant at 1% level of significance. Like Model-5, the inclusion of OSI (Model-6) returns the z-score of -0.69 which is insignificant (p-value > 0.1) and the same R^2 (? R^2 = 0.0%). Based on the F-score of 53.8 and p-value < 0.01, Model-6 is fit.

Similarly, in Model-9 the interaction variable is introduced resulting in the R^2 of 73.85% and an insignificant difference in R^2 of 0.001 (? R^2 = 0.1%) at p-value greater than 0.1. The fitness of Model-9 is demonstrated by the estimated F-scores of 74.31, which is significant at less than 1% level of significance. This means that, in spite the insignificant contribution of some of the dummies in explaining variations in firm value (SP), their collective influence is a factor to the fitness of the model. For instance, like in Model-7, two industries (conglomerates and consumer goods) estimate significant influence in explaining firm value (SP) at p-value less than 0.05 and 0.01 respectively. While conglomerate, consumer goods and natural resources firms positively and significantly affect firm value (SP), the influence of industrial goods and oil and gas firms are significant but negative at -3.32 and -3.35 units respectively. In the same vein, agriculture and healthcare firms demonstrate an insignificant but positive contribution to firm value (0.33 & 1.21 units), all of which are insignificant (p-value > 0.1). Similar to the moderation result in Model-8, the reason behind the insignificant contribution of the regressors in defining variations in SP is traceable to the nature of the data. EVDI*OSI estimates an insignificant negative z-values of -0.69 at p-value greater than 0.1. This result gives the paper evidence to accept the Ho that ownership structure has no significant moderating effect on the association between environmental sustainability disclosure and firm value

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Conclusion and Recommendations

Environmental performance disclosure has the capacity to directly improve value creation. Therefore, the study concludes that enhanced engagements and transparency in environmental engagements gives firms an edge to compete favorably and achieve value maximization. In addition, although there is mixed findings regarding the moderating effect of ownership structure on the relationship between environmental performance disclosure and proxies of firm value, based on the argument of Yermack (1996) that Tobin's Q is the most appropriate measure of firm value as it incorporates both the book and market values of equity, the study concludes that ownership structure of listed manufacturing firms in Nigeria significantly moderate the positive effect of environmental performance disclosure on firm value. It means that the association between environmental disclosure and firm value is directly improved by the interactive role of ownership structure. Hence, the study concludes that the monitoring role of ownership structure improves the potential of environmental performance disclosure to enhance long-run value maximization. Furthermore, there are variations in the rate at which each industry adopts and discloses environmental performance. Therefore, the study concludes that deploying industry-based guidelines that would mandate disclosure would improve the quality of environmental performance disclosure among firms in the manufacturing sector.

Sequel to the conclusion reached, the paper recommends that:

i. The firms should prioritize accountability and transparency on their engagements and performance in environmental issues through the establishment of dedicated environmental sustainability units or committees, charged with the responsibility of enforcing continued compliance with environmental standards and disclosure of same in all ramifications. By so doing, the environmental-sensitivity of the firms will be exposed, thereby favorably inducing investors' decisions;

ii. Ownership of firms should intensify and concentrate monitoring efforts on ensuring improvement on and adequate communication of environmental performance (materials, energy and water consumption; biodiversity; emissions; among others) in order to sustain value maximization; and

iii. Regulatory agencies in Nigeria should collaborate with the GRI, localize and encourage adoption of industry-based sustainability disclosure frameworks. This will deal with the selective or non-adoption of environmental guidelines in the GRI G4, on grounds of generality.

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Appendix

Sampling Frame and Sample of the Study

S/N	FIRM	SECTOR/INDUSTRY	YEAR OF LISTING
1	11 Plc (Mobil Oil Nigeria Plc)	Oil & Gas	1978
2	Aluminium Extrusion Industries Plc	Natural Resources	1986
3	B.O.C. Gases Nigeria Plc	Natural Resources	1979
4	Berger Paints Nigeria Plc	Industrial Goods	1974
5	Beta Glass Plc	Industrial Goods	1986
6	Cadbury Nigeria Plc	Consumer Goods	1976
7	Champion Breweries Plc	Consumer Goods	1983
8	Chellarams Plc	Conglomerates	1974
9	Conoil Plc	Oil & Gas	1989
10	Cutix Plc	Industrial Goods	1987
11	Dangote Cement Plc	Industrial Goods	2010
12	Dangote Sugar Refinery Plc	Consumer Goods	2007
13	Eterna Plc	Oil & Gas	1998
14	Fidson Healthcare Plc	Healthcare	2008
15	Flour Mills of Nigeria Plc	Consumer Goods	1979
16	FTN Cocoa Processors Plc	Agriculture	2008
17	GlaxoSmithkline Consumer Nigeria Plc	Healthcare	1977
18	Greif Nigeria Plc	Industrial Goods	1969
19	Guinness Nigeria Plc	Consumer Goods	1965
20	Honeywell Flour Mills Plc	Consumer Goods	2009
21	International Breweries Plc	Consumer Goods	1995
22	Lafarge Africa Plc	Industrial Goods	1979
23	Livestock Feeds Plc	Agriculture	1978
24	May & Baker Nigeria Plc	Healthcare	1994
25	McNichols Consolidated Plc	Consumer Goods	2009
26	Meyer Plc	Industrial Goods	1979
27	Morison Industries Plc	Healthcare	1978
28	MRS Oil Nigeria Plc	Oil & Gas	1978
29	NASCON Allied Industries Plc	Consumer Goods	1992
30	Neimeth International Pharmaceuticals Plc	Healthcare	1979
31	Nestle Nigeria Plc	Consumer Goods	1979
32	Nigerian Breweries Plc	Consumer Goods	1973
33	Nigerian Enamelware Plc	Consumer Goods	1979
34	Northern Nigeria Flour Mills Plc	Consumer Goods	1978
35	Okomu Oil Palm Company Plc	Agriculture	1991
36	Pharma-Deko Plc	Healthcare	1979
37	Portland Paints and Products Nigeria Plc	Industrial Goods	2009
38	Premier Paints Plc	Industrial Goods	1995
39	Presco Plc	Agriculture	2002
40	PZ Cussons Nigeria Plc	Consumer Goods	1974
41	SCOA Nigeria Plc	Conglomerates	1977
42	Thomas Wyatt Nigeria Plc	Natural Resources	1978
43	Total Nigeria Plc	Oil & Gas	1979
44	UAC Nigeria Plc	Conglomerates	1974
45	Unilever Nigeria Plc	Consumer Goods	1973
46	Vitafoam Nigeria Plc	Consumer Goods	1978

Note: From NSE Website (www.nse.com.ng/issuers/listed-securities/listed-companies), 2021.

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Effect of Financial Leverage on Profitability of Listed Healthcare Companies in Nigeria

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Abstract: *The aim of this paper is to examine the effect of financial leverage on profitability of listed healthcare companies in Nigeria. The population of the study was ten out of which six adjusted population was arrived. Data was sourced from the annual reports and accounts of six sample size of healthcare companies from 2010 to 2019. The data for the study was analyzed using descriptive statistics, correlation* analysis *and OLS multiple regression analysis. It was found that long-term debt has positive and significant effect on financial performance of listed healthcare companies in Nigeria. However, the short-term debt and total debt have insignificant effect on profitability of listed healthcare companies in Nigeria. On the whole, long-term debt is shown as the best option for financing the operation of healthcare companies. Therefore, in order to ensure and sustain high financial performance of these companies, the study recommends that management of the healthcare companies in Nigeria should not go for short-term debt in financing their operation looking at the nature of their operation or mixing both rather they should go for long-term debt finance which offered more yield and better performance.*

Keywords: Short-term debt, Long-term debt, and Total debt, Financial Leverage, profitability.

Introduction

There are several issues in corporate finance that have sparked up debate in recent times. Among is problem of leverage which is one of the most contentious issues in corporate finance today. Is there a link between leverage and performance, which is a subject of contention? This discussion began with Miller and Modigliani's renowned irrelevance theorem, which revolutionized corporate finance in 1958.

The aim of financing decisions is all about wealth maximization, effective and efficient use of financing decision has an effect on the profitability of the firm (Syed et al. 2013). Therefore, one of the most important decisions made by the financial management to assure the firm's profitability is financial judgments. Short-term debt financing, long-term debt financing, or total debt financing are some of the financial options available. Long-term financing decisions include capital sourcing and dividend considerations, whereas short-term financing decisions include liquidity decisions, and total debt financing is a combination of the two. Furthermore, financial managers are in charge of determining the best debt-equity mix to maximize shareholder wealth (Obonyo, 2015).

In addition, the firm's financing activities are linked to financial leverage. When fixed-cost funds (debt or preferred capital) are incorporated into a firm's capital structure and demand a fixed interest rate or fixed preferred dividend payments, the company is said to be using financial leverage (Kapil, 2011). Meanwhile, because the use of debt is more common than the use of preferred capital in actuality, the term "financial leverage" refers to the use of debt in the capital structure. As a result, companies with debt on their balance sheet are leveraged, whereas those with only equity financing are unleveraged (Graham & Smart, 2011).

Furthermore, financial leverage is described as an alternate method of funding a company's operations, which many companies employ without considering the implications for the financial firm's performance or the impact on its shareholders' returns. The lack of financial managers' awareness in making this decision raises questions about how or what source is used to fund the firm's operations, and what influence it will have on the firm's profitability. There is definitely a need for more research into company leverage and profitability. Hence, this study is to examine the effect of financial leverage on profitability of listed healthcare companies in Nigeria.

Lastly, the remainder of the study is divided into the following sections: the foregoing introduction, review of empirical literature, theoretical framework, methodology, model specification, results and discussion, conclusion and suggestions, and list of references.

Statement of the problem

Stakeholders, creditors, regulators, practitioners, and accounting researchers are all concerned with a company's financial performance because it is the result of every choice made by management during the course of the business. The need for capital to run a commercial operation arose, posing the question of debt or equity financing. There are several studies that

have investigated the effect of financial leverage and financial performance (Ali, 2020; Megawati, 2020; Ilyukhin 2018; Ibhagui, & Olokoyo, 2018; Omollo, Muturi, & Wanjare, 2018; Krishna, & Kumar, 2018; Shahar, & Shahar, 2015; Inam, 2014; Raza, 2013; Jasinthan, & Achchuthan, 2012;) and most of these studies were conducted in developed countries such as United State, UK, Malaysia, Sri-Lanka, etc. other than developing country like Nigeria. Even thought, the results obtained from both developed and developing economies may have mixed outcome due to difference in economic system, market structure, geographical location and financial regulations that indirectly affect the outcome of such studies.

Though a few studies have been undertaken in Nigeria (Innocent, Charles, & Eziedo, 2014; Jeleel, & Olayiwola, 2017), they have been conducted in different sectors other than healthcare. As a result, taking into account the unique characteristics of healthcare companies in terms of their operations facilities, some of which must be installed, research programs, and so on, all of these necessitated a diversified financial source to form an optimal capital structure in order to ensure profitability over time, create or maximize shareholder wealth, and create or increase the company's value. Therefore, it is not advisable for companies to dwell more on only internal financing sources. This implied the need for debt, which is a type of external finance. But what kind of funding is the issue?

This indicates the pressing need for developing country, especially Nigeria to engage on studies of this nature. To this end, this study examines the effect of financial leverage on profitability of listed healthcare companies in Nigeria.

Objective of the Study

The main objective of this study is to examine the effect of financial leverage on profitability of listed healthcare companies in Nigeria. Other specific objectives are to:

i. To examine the effect of short-term debt on profitability of listed healthcare companies in Nigeria.
ii. To ascertain the effect of long-term debt on profitability of listed healthcare companies in Nigeria.
iii. To investigate the effect of total debt on profitability of listed healthcare companies in Nigeria.

Hypotheses

In line with the objectives of this study, the hypotheses tested are stated in null-form and they are as follows:

Ho_1: Short-term debt has no significant effect on the profitability of listed healthcare companies in Nigeria.

Ho_2: Long-term debt has no significant effect on the profitability of listed healthcare companies in Nigeria.

Ho_3: Total debt does not have significant effect on the profitability of listed healthcare companies in Nigeria.

The study's time frame is 2010 to 2019, with the premise that the country's foreign debt climbed by a specified proportion during both Godluck's and Buhari's first four years in power. The study will be of benefits to existing and potential investors. Existing and potential investors, as well as financial experts, would benefit from the study since it will show how debt can be used to fund operations and how it may help companies perform better.

Literature Review

Under this section, related and relevant literature were empirically examined to establish the relationship between the variables of the study.

Financial Leverage and Profitability

Finance is the provision of money at the time it was needed. Therefore, finance is the basis foundations of all kinds of economic activities (Ganga et al., 2015). Prachi (2019), Financial leverage refers to the use of borrowed money to acquire new assets which are presumed to generate an advanced capital gain or income in relation to the cost of borrowing. Lawler, (2020), depicts that financial Leverage aids traders to regulate market positions that are much larger than their initial investment and financial leverage takes the form of a loan that a trader takes from their broken.

A full review of a company's entire standing in categories such as assets, liabilities, equity, expenses, revenue, and overall profitability is referred to as financial performance. Financial performance is a subjective indicator of a company's ability to create revenue by utilizing assets from its primary business. The phrase can also refer to a broad assessment of a company's overall financial health over time. Financial performance is used by analysts and investors to evaluate similar companies in the same industry or to analyze entire industries or sectors (Investopedia). Verma (2022). Financial performance, in a larger sense, relates to how well financial goals are being met or have been met, and is an important part of financial risk management. It's the practice of putting a monetary value on the outcomes of a company's policies and operations. It can be used to compare similar enterprises in the same industry or to compare industries or sectors in aggregate.

Empirical Review

There are several researches conducted which shows that there is a relationship between financial leverage and financial performance of a companies. Ali (2020), accessed the effect of leverage ratios on the financial performance. The study found operating leverage to have significant effect on the financial performance of food and fertilizer sector registered

under PSE in Pakistan. The sample of the study includes 20 listed companies for the time period 2008.

Another study of Megawati (2020), examines the effects of operating leverage, financial leverage, and liquidity on profitability in the Telecommunications Industry Listed in Indonesia Stock Exchange. The study method employed was descriptive verification analysis with an explanatory survey approach and hypothesis testing with panel data using multiple regression analysis. Purposive sampling is used to gather five research samples from five different companies. 2012-2018 was the study period. According to the findings of this study, operating leverage and financial leverage have a marginally positive influence on profitability, liquidity has a marginally negative effect on profitability, and operating leverage, financial leverage, and liquidity all have an impact on profitability.

In addition, Aziz and Abbas (2019), for a period of nine years, secondary data was collected on 14 distinct sectors of the Pakistan Stock Exchange (2006 to 2014). Debt financing has a negative but considerable impact on firm performance in Pakistan, according to the findings of the study. The conclusions of this investigation suggest that companies should rely increasingly on their own sources of money because they are the most cost-effective and reliable in the context of Pakistani finance. However, the study used data of non-financial firms instead of financial firms of which it might have been more relevant and hence yield a better result that shows the real picture of Pakistan economy.

So also, the work of Samo and Murad (2019), investigates the impact of financial leverage and liquidity on profitability of using a sample of 40 selected publicly quoted companies in the textile sector of the Pakistan. Pooled panel regression and descriptive statistics models are employed in a quantitative way, using annual data from Pakistan's textile sectors from 2006 to 2016. Secondary data was acquired from the firms' financial statements. The study shows a negative impact on profitability due to financial leverage, as well as a favorable impact on profitability due to liquidity. However, the study's findings only indicated the influence of these ratios on Pakistan's textile industry.

Moreover, Omollo et al. (2018), investigates the effect of debt financing option on financial performance of firms listed at Nairobi Securities Exchange, Kenya. Forty firms were selected for the period of 2009 to 2015, extracted data were analyzed using pooled OLS. The study vested that there is a negative and significant effect of short-term, long-term and total debt on financial performance of non-financial firm. Therefore, credit institutions should only finance business up to the point where profitability is maximized to mitigate against default risk associated with over leverage.

In addition, Ibhagui and Olokoyo (2018), examines the empirical link between the leverage and firm performance, data for the study were extracted from NSE factbooks and annual reports of one-hundred sampled non-financial companies in Nigeria covering the period 2003 to 2007. Threshold regression was used for analyzing the data. The result revealed that the negative effect of leverage on firm performance is eminent and significant for small sized firm, the effect diminished as a firm grow. This implied that size of firm matters, it is a determinant for considering the impact of leverage on performance of the firms in Nigeria. However, data used for the study is of non-financial companies, it should have been extended to includes firms listed on the major stock exchange of emerging and developed markets.

Similarly, Joseph (2018), reviewed the existing empirical research evidence on the effect of financial leverage on firm performance and reports whether the results are indistinguishable between developed and developing economies. The study found that empirical crams and conclusions are mixed, inconsistent, and difficult to generalize. This emphasizes the urgent necessity for countries, including Nigeria, to conduct such research.

Also, Krishna and Kumar (2018), examined the financial leverage and firm performance of selected public sector listed on BSE, India. The result shows a positive relationship between debt ratio and ROE and a negative relationship between debt ratio and ROA, implying that increasing the firm's financial leverage increases its ROE. As a result, a company's capital structure should be optimized, as it has an impact on the firm's financial performance via financial leverage.

Indeed, based on the agency cost theory, Ilyukhin (2018) finds a positive relationship between financial leverage and firm performance, but the results for a large sample of Russian joint-stock companies from 2004 to 2013 show that the impact of financial leverage on Russian firms' performance has been negative, supporting the pecking-order theory, which states that high indebtedness can lead to significant financial limitations, which affects firm performance. Ineffective corporate control of the Russian market, debt attracting challenges, significant growth potential, and high interest rates for debt financing might all be reasons for this.

Jeleel and Olayiwola (2017) also investigated the impact of leverage on company performance. The study's data came from the NSE factbook, which included three different sample sizes of listed Chemical and Paint companies in Nigeria from 2000 to 2009. The investigation was done using a multiple regression technique, which found that capital structure is the most important element in a company's financial performance. As a result, the research shows that companies that use stock financing outperform those that use debt financing. However, the study's sample size is limited; increasing the sample size could have resulted in a more acceptable outcome.

Nwude et al. (2016) also looked at the impact of debt structure on the performance of Nigerian publicly traded companies from 2001 to 2012. Data was taken from 43 companies' accounts, annual reports, and NSE factbooks. The researchers employed pooled OLS to show that debt structure has a negative and significant impact on a company's financial success. As a result, companies should think about setting their debt ratio to a certain level in order to be more successful.

Shahar and Shahar (2015), for example, look at the impact of firm leverage on the performance of shariah-compliant and non-Shariah-compliant enterprises in Malaysia from 2008 to 2012. The sample population of thirty-five enterprises included both shariah-compliant and non-compliant businesses, and data was retrieved and analyzed using pooled ordinary least squares. Because the value and principles of practice are not the same, the study indicated that short-term and long-term debt had no impact on the profitability of shariah compliant enterprises. Because the variable employed to measure shariah compliant performance is not justifiable but desirable, it may have produced a better result.

Inam (2014), on the other hand, looked into the effect of financial leverage on the performance of Pakistani firms in the Fuel and Energy industry. Extracting data from annual reports and accounts of a sample size of twelve was done using ordinary least square analysis. Financial leverage, according to the study, has a positive impact on the financial performance of businesses. This means that a firm's capital structure must be optimized in order to increase its financial performance. As a result, the profitability, liquidity, and value maximization of Pakistan's fuel and energy companies are all determined by leverage. Because the sample size of the study is insufficient for generalization, a larger sample size is expected to yield more reliable results.

Innocent et al. (2014), for example, looked at the impact of financial leverage on the financial performance of publicly traded pharmaceutical companies in Nigeria from 2001 to 2012. Dates were extracted from three companies' accounts and examined using regression analysis (OLS). The debt ratio and debt equity have a negative correlation with ROA, according to the study. The financial performance of the tested pharmaceutical companies is unaffected by leverage. As a result, managers should be aware of debt financing interest rates in order to improve the firm's financial performance. The study's sample size is modest; therefore, the observation is insufficient to demonstrate data resilience; a larger sample size might produce a better result.

Similarly, Raza (2013) looked at the impact of financial leverage on the performance of Karachi Stock Exchange-listed companies from 2004 to 2009. The data was taken from 383 sampled firms' annual reports and accounts, and pooled regression was used to evaluate it. According to the findings, there is a negative relationship between leverage and performance, and using long-term debt will result in low profitability as a result of the company's bad performance. The type of data for the study precludes the use of the analysis technique. As a result, OLS has the potential to provide a high-quality and consistent result. Jasinthan and Achchuthan, (2012). studied the influence of financial leverage on the financial performance of Lanka Orix leasing company Plc in Sri-Lanka covering the period of 2001-2010. The Analyses results of the study shows that operating leverage has a significant on the financial performance of Lanka Orix Leasing Company Plc in Sri-Lanka. The outcomes revealed that no main difference was found between financial leverage and financial performance.

Theoretical Framework

This section reviewed the theories that are relevant to the study such as Pecking order theory and Agency theory.

Pecking order Theory: According to the pecking order theory proposed by Myers and Majluf (1984) and Myers (1984), organizations with high profitability have a low debt profile because they prioritize generating financing through retained earnings to maximize the value of current owners. If retained earnings are insufficient, companies can turn to debt, and if more money is needed, new equity can be issued. Retained earnings are favored since they have essentially no cost, but using external resources for financing, such as issuing additional shares, might result in very high costs.

As a result, if a company is lucrative, its retained earnings will be substantial, and it will use those earnings to meet its financial demands, implying that leverage and profitability have a negative connection. Firms with low retained earnings will need to borrow money. Asymmetric information between managers and investors causes problems, according to this hypothesis.

Agency Theory: Information asymmetry is connected to agency theory. Alchian and Demseo (1972) proposed the agency theory, which was further expanded by Jensen and Meckling (1976). The hypothesis is based on the relationship that exists inside the corporate environment between shareholders (principal) and managers (agent). In practice, a conflict of interest between shareholders, debt holders, and management may arise. These disagreements result in agency issues, which have an impact on the capital structure of the company. These writers distinguish between two sorts of conflicts, each of which has different ramifications and leads to opposing hypotheses about the link between leverage and performance. The first source of agency costs is conflicts of interest between shareholders and managers. The main issue here is the moral hazard conduct of managers who, since they have their own goals, can waste firm resources or limit their work rather than enhancing business value. Debt financing increases the pressure on managers to perform (by reducing their waste of resources and increasing their effort) by reducing the "free cash-flow" available to them (Jensen, 1986).

In addition, conflicts of interest between shareholders and debtholders result in agency costs. Indeed, shareholders are motivated to act in ways that benefit them at the expense of debtholders, and so do not always optimize business value. There are two forms of this conflict of interests. On the one hand, it encourages shareholders to participate in more risky initiatives than debtholders want (Jensen & Meckling, 1976). Conflicts between debtholders and

shareholders, on the other hand, can lead to underinvestment, as Myers shows (1977). As a result of the agency costs incurred as a result of the conflicts of interest between shareholders and debtholders, higher leverage is linked to lower business performance. Therefore, the both the pecking order and agency theories explained the variables of the study.

Methodology

The study adopts an ex-post factor research design where historical data on financial leverage and profitability were extracted from the published annual reports and accounts of the Six-sample size out of the population study of Ten listed healthcare companies in Nigeria. Using data of listed healthcare companies on the Nigerian Stock Exchange (NSE) as at 31 December, 2021. The study period covers 2010 to 2019.

Table 1

Population of the Study

S/N	Name of The Companies	Year of Incorporation
1.	Ekocorp Plc	1994
2.	Union Diagnostic and Clinical Services	2007
3.	Morison Industries Plc	1978
4.	Evans Medicals	1979
5.	Fidson Healthcare Plc	2008
6.	Glaxo Smithkline	1977
7.	Mayand Baker Nigeria	1994
8.	Neimeth International pharma Plc	1979
9.	Nigeria-German Chemicals Plc	1979
10.	Pharmadeko Plc	1979

Source: NSE Factbooks, 2021

However, there are several conditions that must be completed before a firm may be included in the study's sample, and they are as follows:

i. Companies must have been listed on the Nigerian Stock Exchange on or before 1st January, 2010 in order to qualify.
ii. To be included for the study, a company must have published its financial report for the period 2010-2019, which is the study's time frame.
iii. During the research period, companies must not have a negative operating profit (one of the Value-Added Intellectual Coefficient (VAIC) model's shortcomings is that it does not function for enterprises with negative value added or losses) (Firer & Williams, 2003).

Alen Public, professor at the Universities of Zagreb and Graz and the Austrian founder of the Intellectual Capital Research Centre, invented the Value-Added Intellectual Coefficient (VAIC) technique. This method is thought to be used to assess the efficiency of a company's key resources. In Croatia, it was also used to assess regional efficiency likewise in the case of Nigeria is applicable also.

As a result, six firms were utilized as the study's adjusted population after the aforesaid criteria were met, as indicated in Table 2.

Table 2

Adjusted Population of the Study

S/N	Name of The Companies
1.	Ekocorp Plc
2.	Evans Medicals
3.	Glaxo Smithkline
4.	Mayand Baker Nigeria
5.	Neimeth International pharma Plc
6.	Pharmadeko Plc

Source: Complied out of Population of the study.

Because the whole population was too small to draw a sample from, the adjusted population was utilized, and the sampling approach was census sampling, which allowed all of the population's elements to be represented. In order to analyze the data obtained, the study used the multiple regression technique.

Furthermore, because the study included both time series and cross-sectional data, the data was panel in nature. Because of the uncertainty regarding the conformance with the classical assumptions of the OLS regression model, as revealed by the normality test, the study's models were exposed to alternative regression models (Fixed and Random Effects) in addition to OLS. As a result, robust GLS regression was used in the research. The study includes a dependent variable of profitability (ROA), which takes into account leverage/debt, whereas ROE does not. It also includes an independent variable of short-term debt, long-term debt, and total debt, as well as a control variable of company size to avoid model misspecification.

Table 3

Variable and their Measurement

Variables	Proxies	Measurement	Cited by
Dependent: Financial Performance (FP)	ROA	(Net Profit/Total Assets) *100	Biren & Curry (2021)
Independent: Financial Leverage (FL)	Sort-term Debt (SD) Long-term Debt (LD) Total Debt (TD)		
Control: Firm Size	Firm Size (FS)		

Source: Compiled by the Researcher, 2021

The empirical model is stated as:

$$\mathbf{ROA_{it} = \beta_0 + \beta_1 SD_{it} + \beta_2 LD_{it} + \beta_3 TD_{it} + e_{it}} \quad \text{(i)}$$

By introducing control variable of firm size.

$$\mathbf{ROA_{it} = \beta_0 + \beta_1 SD_{it} + \beta_2 LD_{it} + \beta_3 TD_{it} + \beta_4 FS_{it} + e_{it}} \quad \text{(ii)}$$

Where: ROA =Return on Asset, SD Short-term Debt, LD = Long-term Debt, TD = Total Debt, FS = Firm Size, β_0, β_1, - β_6 = Regression intercept, e = Error term, and it = company i in year t.

The control variable was introduced into the model to avoid misspecification. The study data was analyzed using descriptive statistics, correlation statistics and OLS multiple regression analysis.

Results and Discussions

The aim of this section is to present analysis and interpretation of the results for the study.

Descriptive Statistics

Table 4

Descriptive Statistics

Variables	Obs.	Mean	Std. Deviation	Min.	Max.
ROA	60	0.1506	0.0739	-0.1595	0.4538
SD	60	4.0081	3.9549	1.3162	21.6310
LD	60	0.0725	0.0616	0.0026	0.3011
TD	60	38.0021	81.4459	0.4928	469.7961
FS	60	15.1322	1.0531	13.7904	17.0816

Source: Stata, 2021

Table 4, it presents the descriptive statistics of the study. The table reveals that ROA has an average of 0.1506, standard deviation of 0.0739, minimum of -0.1595 and maximum of 0.4538. SD has an average of 4.0081, standard deviation of 3.9549, a minimum of 1.3162 and a maximum of 21.6310. The table also reveals that LD has an average of 0.0725, standard deviation of 0.0616, a minimum of 0.0026 and a maximum of 0.3011. TD has an average of 38.0021, standard deviation of 81.4459, a minimum of 0.4928 and a maximum of 469.7961. FS has an average of 15.1322, standard deviation of 1.0531, a minimum of 13.7904 and a maximum of 17.0816.

Correlation Analysis

Table 5

Correlation Analysis

Variables	ROA	SD	LD	TD	FSIZE
ROA	1				
SD	0.0122	1			
LD	0.4386	-0.0024	1		
TD	-0.2183	0.5831	-0.2431	1	
FSIZE	0.1754	-0.2325	0.1836	-0.2679	1

Source: Stata, 2021

Table 5, it shows the correlation results among the variables. The table revealed that short-term debt has positive but insignificant effect on financial performance as reveal by the coefficients of 0.1754. The result also shows that log-term debt has a positive and significant effect on financial performance as reveal by the coefficient of 0.4386 which is significant at the 5% significance level. Total debt is negatively but significantly associated with financial performance with the coefficients of -0.2183. Firm size has positive but insignificant effect on financial performance as reveal by the coefficients of 0.1754.

The correlation coefficients on the main diagonal are 1.0000 because each variable has a perfect positive linear relationship with itself. The correlation among the independent variables shows that long-term debt is negatively and insignificantly correlated with short-term debt with the coefficient of -0.0024, total debt is positively and significantly correlated with long-term debt with the coefficient of 0.5831, while the total debt is negatively but significantly correlated with short-term debt with the coefficient of -0.2431. Lastly, firm size has a negative but significant correlation with short-term debt and total debt as revealed in the coefficient of -0.2325 and -0.2679 respectively while, a positive but insignificant with long-term debt with the coefficient of 0.0183.

Regression Results and Analysis

The findings from the econometric results of the effect of financial leverage on financial performance of the listed Health companies in Nigeria are presented in this section.

Table 6

Regression Result

Variables	Observation	Constant	SD	LD	TD	FS	R^2
ROA	60	0.185 (1.3432)	0.0264 (0.3451)	0.4532 (0.0031)	0.0063 (0.4752)	0.0063 0.2311	0.2343

Source: Stata, 2021

The above table 6 shows the regression results of the coefficient and its p-value in parenthesis.

The results in Table 6 shows that long-term debt has a significant positive effect on the financial performance of listed healthcare companies in Nigeria as indicated by the coefficient of 0.4532 which is significant at 1% level of significance (from the P-value of 0.0031). Based on this, the study rejects the null hypothesis which states that, long-term debt has no significant effect on financial performance of listed healthcare companies in Nigeria. Therefore, the study infers that the companies are financing their operation with long-term debt to improve their financial performance. The study is in line the study of Ilyukhin, (2018), which also goes against Raza, (2013).

On the other hand, the findings of the study reveal that short-term debt and total debt have no significant effect on the financial performance of the company based on coefficients of (0.0264 and 0.0062) and p-values of (0.3451 and 0.4752) respectively. Therefore, the study infers that the more the companies financed its operations with short-term debt or total debt, it does not have any effect on its financial performance. The finding of the study is in line with Raza, (2013). Firm size which is the control variable for the study, shows an insignificant effect on the financial performance of healthcare companies based on coefficient of 0.0063 and p-value of 0.2311. The implication of this finding is that size of the firms has no significant effect on the financial performance of the healthcare companies.

Moreover, the results from table 6 indicates that the independent variables of the study (financial leverage and the control variable firm size) explained 23.43% of the variations in the financial performance (ROA) of listed health companies in Nigeria, from the coefficient of determinations (R^2 value of 0.2343).

Conclusion and Recommendations

This study examines the effect of financial leverage on financial performance healthcare companies in Nigeria. This was examined by means of VAIC model and the analysis of effect of financial leverage (short-term debt, long-term debt and total debt) on the financial performance of healthcare companies proxied by return on asset. The findings of the study depict that there is a relationship between the financial leverage and financial performance of healthcare companies in Nigeria. The study shows that the long-term debt in financing the operation of the companies has a has positive and significant effect on the financial performance of the healthcare companies. While, there is an insignificant effect of short-term debt and total debt on the financial performance of the companies which implied that management of the healthcare companies in Nigeria should not go for short-term debt in financing their operation looking at the nature of their operation or mixing the both rather they should go for long-term debt finance which is far better in yielding a better performance.

The findings show that the composition of short-term debt, long-term debt, and total debt influences healthcare firms' financial success. Based on the study's findings, which show that long-term debt has a significant impact on financial performance, it is recommended that listed healthcare companies in Nigeria continue to use long-term debt to run their operations in order to achieve better financial results due to the nature/type of operation, which is long-yielding activities, in order to build a reputation for their companies.

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Moderating Effect of Liquidity on the Relationship Between Capital Structure and Stock Returns: Evidence from Nigeria

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Abstract: *This paper examines the moderating effect of liquidity on the relationship between capital structure and stock returns of listed manufacturing companies in Nigeria. The paper employs ex-post facto design. A filter was used to arrive at a sample size of 31 companies. The study employed secondary data sourced from the company's annual reports for the 10 years' period from 2010 to 2019. The dependent variable is stock return proxy by change in stock return while the independent variable is capital structure proxy by equity to capital employed ratio, long-term debt to equity ratio, the moderating variable is liquidity proxy by liquidity ratio. Data analysis was carried out using descriptive statistics, correlation and regression techniques. The results revealed that capital structure and liquidity have no significant effect on stock return. However, liquidity significantly moderates the relationship between capital structure and stock return. Based on findings, the study recommends that Manufacturing companies should give priority to liquidity, because it increases its capital structure as well as open more investment opportunities to increase sock return.*

Keyword: Capital Structure, Leverage, Liquidity, Manufacturing Firm, Stock Returns

Introduction

The capital structure plays a decisive role when it comes to a company's survival, growth and performance (Ahmad et al., 2013). The appropriate mix of different sources of funding improves the performance of the company, ensuring the maximum wealth for its owners. The optimal mix of capital structure is the appropriate mix of debt, and equity that gives the most benefits to the company. The company will benefit for instance from higher tax savings (Kleem, 2009). However, larger debt levels also raise the chance of bankruptcy (Nguyen & Kien, 2021). The risk of bankruptcy will increase as debt increases, which will lead to higher required rate of returns for stockholders.

Lasher (2016) established that the unlevered company's capital structure is built by stock exclusively. Unlevered companies have no tax advantages that affect their profitability. Therefore, where the primary purpose of financial managers is to increase shareholder wealth, increasing capital through borrowing will definitely affect the overall performance of the business. This challenge is even more severe when financial managers determine the ideal debt-to-equity ratio to construct the optimal capital structure of companies. An ideal mixture of debt and equity decreases the disputes between managers, shareholders and managers and the debt holders.

The global financial crisis, has also transformed the capital market environment. This financial crisis has made it hard to get the requisite level of capital markets funds that are best suited to absorb company losses or to meet obligations. The failure of firms to raise cash through the capital market suggests that liquid assets and internally generated money are still needed (Rizwan, 2016). Liquidity management is of very important for every organization paying current obligations to company, including short-term operations and financial expenses but an increase in long-term debt. Liquidity rates are utilized within each business to promote liquidity management in the form of an existing ratio and rapid ratio in order to have an extreme influence on the company's profitability.

Businesses are expected to have sufficient liquid assets to meet their payment commitments. Liquidity ratios work with cash and near cash assets on one side of a business (known jointly as "current" assets) and immediate payment obligations (current liabilities) on the other. In general, the near-cash assets consist of client receivables and inventories of full products and unprocessed materials. The cash flows generated by assets will influence the continued liquidity of the organization. Offsets of suppliers, operations and financial expenses to be paid short and mature installments under long-term debt include the compensation responsibilities (Waqas & Mobeen, 2014).

Liquidity is one of the key features of the financial market and is very crucial for investment plans and financial assets Empirically, three elements of liquidity are examined; depth cost, tightness costs and resiliency. The depth cost is calculated as the leeway of large-scale immersion. The second expense is derived by the application spread and the additional cost borne by the annoyed investor is estimated. Last, but not least, the third cost is to measure the approximate price delay to the breakthrough point after a liquidity shock deviation. Liquidity deficiency can have a detrimental impact on stock values. In contrast, earlier evidence implies that investor's decisions affect transaction costs, liquidity and market capacity. That is why logical investors claim bigger returns on less liquid equities (Nasir, 2014).

Stock returns is referred to as the capital gain or loss as a result of investing in the stock market (Jones, 2000). Stock returns is received through trading in the secondary market in the form of capital gain (changes in stock price) and dividends (Hällefors, 2013). Stock price is determined by demand and supply, which is usually influenced by firm

characteristics and/or macroeconomic variables (Akinlesi, 2011). Therefore, as stock market growth reflects economic expansion, money supply might be influencing stock market directly or/and through moderating the effect of microeconomic variables on stock market. Moreover, (Singh et al., 2011) pointed out that investors have a better chance of developing profitable investment strategies if they include macroeconomic variables in their decision making.

This study aims to examine the moderating effect of liquidity on the relationship between capital structure and stock returns of listed manufacturing companies in Nigeria. The specific objectives are to: (i) determine the effect of capital structure on stock returns, (ii) the effect of liquidity on stock returns (iii) the moderating effect of liquidity on the relationship between capital structure and stock returns. The following null hypotheses (Ho) were formulated. (i) capital structure has no significant effect on stock returns, (ii) liquidity has no significant effect on stock returns (iii) liquidity does not significantly moderate the relationship between capital structure and stock returns. The rest of the paper is organized as follows; Section two presents review of relevant literature while Section 3 summarizes methodology of this research. Section 4 concludes and give recommendations on the paper.

Literature Review

The capital structure of a company refers to its mix of equity and debt capital. There are two main ways to finance a company's assets, by means of equity or debt. Capital structure refers to how a company finances its assets via a mixture of capital and debt (Chava & Roberts, 2008). Several studies notably Shefrin (2005) defined capital structure by referring to the mixing of different forms of securities (long-term debt and common stocks) that are issued by a firm to fund its assets.

Chung (2007) and Webster (2012) view capital structure as a combination of debt and equity financing in a company. Extant literatures view capital structure as a company's decisions on the financing of company's assets. As a general rule, a sufficient mix of debt and equity capital should be provided to finance the company's assets.

Based on the Modigliani and Miller, Trade-off and Pecking Order theories, several empirical investigations have found firm-level elements affecting the company's capital structure. The leverage, profits (earnings before interest, tax, depreciation and amortization) and liquidity are among these factors.

In theory, if a business is heavily leveraged, the investor will require larger stock returns because of the significant bankruptcy risk (Yang et al., 2010). The choice of financial leverage is a trade-off between risk and returns. The risk of bankruptcy will increase as debt increases, which will lead to higher required rate of returns for stockholders. One would therefore expect leverage to have a beneficial impact on inventory returns. Moreover, if internal sources of a corporation are not sufficient to fund new initiatives, according to the notion of the pecking order; this opts for debt financing. This illustrates that high-growth companies are heavily leveraged because, because they need more capital, they can acquire more debt.

Adami et al. (2010) examine the relationship between stock returns and leverage by using 2673 companies listed in the London Stock Exchange over the period (1980– 2008). The study demonstrates a negative relationship between financial leverage and stock returns. There is a significant and negative relationship between gearing and returns when the gearing is the sole independent variable. Managers can enhance the returns of shareholders by avoiding gearing altogether, when they include other explanatory variables (tax rates and industry concentration) gearing remains significant and negative. When they estimate returns with CAPM, they find that companies having higher tax rates earn higher returns. However, when returns estimate by Fama–French, the result shows that when the gearing increase by one percent, returns fall by 0.01. When they use four-factor Carhart model the results show a negative and significant relationship between gearing and monthly abnormal returns.

The theory of capital structure's Pecking Order means that profitable companies are not going to decide whether to fund debt or equity because they have adequate funds to finance their assets. However, the notion of trade-off suggests a positive link between profitability and leverage. Intuitively, this means that profitable enterprises may readily obtain financing and take maximum advantage of tax shields on the basis of their reputation. Hovakimian et al. (2001) argued that profitability and leverage are not linked to each other since unprofitable companies also issue stock to mitigate the effect of the high leverage.

A returns is a security gain or loss in a given period. The income and the capital gains in relation to an investment are the returns and are usually quoted as a proportion. We also find robust evidence that stock price changes have a strong and primary effect on observed market-based debt ratios. Firms' capital structures seem to move in line with those mechanistically induced by their stock returns. We also find that firms show some tendency to revert to their previous debt ratios. However, the impact of stock returns dominates the effects of re-adjustment. The utilization of the entire debt in order to finance the operations of a company will be beneficial, on the one hand since debt interest will be tax and on the other hand the business will be controlled by the creditor in order to control the participation by shareholders and debt holders in the use of increasing debt capital agency costs. Many researchers disagree still with factors that affect the company's capital structure; therefore, the definition of the optimal capital structure go beyond many theories, although many researchers agree that the economic and institutional environment in which companies operate affects the capital structure of a company significantly (Owolabi & Inyang, 2013). These are elements which affect stock prices but do not

affect the stock market itself. The numerous traders and investors in the market are always trying to understand the trend of share prices and so establish a connection between the capital structure and corporate stock returns.

Liquidity is usually defined as the company's capacity to timely settle daily operations without financial difficulties, i.e., the availability of financial resources to pay withdrawn deposits and other maturing liabilities (Belak, 2014). Liquidity is a significant market measure. Liquidity is of significance in various aspects of individual companies and of all stock markets, including the role of liquidity in market growth and as the key index for market evolution, its impact on the capital costs, a factor to enhance corporate performance and the entire economy ensuring the success of new stock offerings, an important factor in basket management alone (Safaripour, 2008).

The notion of pecking order indicates that retained profits enhance liquid assets; excess liquid assets are inversely linked to strong levers. The trade-off theory indicates that companies with a high liquid asset ratio should borrow more, because they can satisfy their contractual obligations on time. This theory predicts a positive liquidity-leverage relationship. On the basis of empirical studies conducted, companies with high liquid asset levels will likely acquire less debts and rely on cash generated internally. Liquidity should therefore have a negative impact on leverage. While the influence of liquidity on stock returns was analyzed, numerous empirical researches indicated a negative link between liquidity and stock returns. Most theoretical and empirical research have shown that liquidity has a negative effect on stock returns because liquid stocks have a lower risk, hence liquid stock returns are low (Chen & Chen, 2011; Yang et al., 2010).

Baradarannia and Peat (2013) examine the effect of liquidity on stock returns over the period (1926–2008). The estimations are obtained through OLS method. They use the following control variables: relative size, liquidity of portfolio, moment portfolio variable. The results show a positive relationship between stock liquidity and expected returns. In addition, there is a significant relationship between systematic liquidity risk and expected returns.

Review of Empirical Studies

Olowoniyi and Ojenike (2013) explore the relationship between capital structure and stock returns. As a sample, 85 firms listed on the Nigeria Stock Exchange over the period (2000-2010) are taken for analyzing the above relationship. They use panel co-integration approach for analyses. The results of their study show that there is a long-run relationship between capital structure and stock returns; therefore, attention must be paid to the two variables simultaneously.

Yang et al. (2010) and Ahmad, Fida and Zakaria (2013), looked at the co-determinants of capital structure and stock returns on the Karachi stock exchange and the Taiwan stock exchange. Ahmad, Fida and Zakaria used a structure model where they applied a generalized method of moments (GMM) model to overcome the potential endogeneity problem. They used a panel data set for 100 non-financial companies in the period 2006–2010. They found that stock leverage and stock exchange both affect each other but that leverage has a dominant effect on stock returns. The theory that best explains the behaviour of Pakistani companies was the pecking order theory. Evidence from sources to the studies made by Yang et al. (2010) and Ahmad, Fida and Zakaria (2013) indicates that the relationship between stock returns and leverage is expected to be negative ($\beta 1<0$).). The results from Yang et al. (2010) also suggest that one can expect a positive relation between leverage and stock returns (1>0).

Bergrren and Bergqvist (2014) examine the relationship between capital structure and stock returns by taking 50 Swedish companies over the period (2009-2013). They use multiple regression panel data for analysis. The results show a positive effect of financial leverage, growth, and liquidity on stock returns. However, there is a negative effect of profitability on stock returns. In addition, the size of firm has a significant effect on financial leverage and stock returns, and finally, volatility has a significant effect on financial leverage.

Gharaibeh (2014) examines the effect of capital structure and stock liquidity on stock returns for a sample of 15 industrial firms listed in the Amman Stock Exchange over the period (2009-2012). The result shows a significant but a weak relationship between liquidity and stock returns. However, there is insignificant relationship between capital structure and stock returns. The results also show a big difference in variables (stock returns, liquidity and capital structure) because of the nature of each industry sector.

Njoki (2014) examines the relationship between capital structure and stock returns for a sample of 50 companies listed in the Nairobi Securities Exchange over the period (2011-2013). The results show a positive effect of financial leverage on stock returns. The size of firm and profitability has no significant effect on stock returns.

Finally, there is a positive effect of operating leverage on stock returns. Hung *et al* (2014) examine the determinants of stock returns by including all stocks listed in the NYSE, AMEX, and NASDAQ over the period (1926–2012). The results show that market beta has an important role in determining the cross section of stock returns in two moment CAPM the WML-augmented FF model and the Fama-French model, cross section of stock returns is also associated with size, liquidity, momentum, and value and the explanatory power of the variables is lost over crises periods.

Mustafa and Salamat (2016) conducted a study aimed at determining the association between capital structure and stock returns. The investigation was carried out in all companies listed on the Amman Stock Exchange in Jordan. The obtained data for the sample was collected between 2007 and 2014. The result demonstrated a statistically significant negative association between the capital structure (debt to equity ratios). As the control variable income per share has a

negative and positive link to stock performance. However, their relation to stock returns was statistically insignificant. The relationship between stock returns and capital structure, profitability and effects on the size of the fifty companies listed was explored by both Atidhira and Yustina (2017). The study analyzed the data using an ordinary less squared regression model. The analysis found that the debt-to-equity ratio and earnings per share have a statistically substantial beneficial effect on stock returns. In contrast, profitability ratios and corporate scale have a statistically negative effect on stock returns.

Mustafa et al. (2017) evaluates the impact on the stock returns of the Pakistani nonfinancial sector listed in Karachi stock exchange by its capital structure and corporate size. Data were obtained between 2004 and 2015. The data were analyzed using the ordinary least squared regression model (OLS). The result showed a statistically insignificant negative link between debt and equity. However, company size has a statistically significant positive association to stock returns.

Ali (2017) examines the connection between the capital structure and stock returns of 10 petroleum and gas businesses in Pakistan. Data from 2005 to 2014 were collected and the less squared models of regression were analyzed. The analysis found the statistically substantial favorable impact of the debt-to-equity relationship on stock returns.

The impact of the capital structure and profitability on the stock returns of the Indonesian property and real estate sector are determined by Nurlaela et al. (2019). As a sample, 29 listed Indonesian stock exchange businesses were selected. Data for the period 2012 to 2016 were collected and analysed using the common least squared regression model (OLS). The results showed that equity returns had a statistically significant positive connection to stock returns. Debt to equity and returns on assets relate to stock returns statistically insignificant.

Utami and Darmawan (2019) evaluated the impacts of debt on equity, asset returns, equity returns and earnings per share in the Indonesian stock exchange of fifty-three manufacturing enterprises. Data were obtained between 2012 and 2016. The results showed that debt to equity, asset returns and equity returns had statistically negligible positive links to stock returns. In contrast, income per share is related to stock returns as statistically significantly positive.

Uremadu and Efobi (2012) explore the impact of capital structure and liquidity on corporate returns by taking 10 firms in Nigeria over the period (2002–2006). They use OLS including log–linear least squares application for analysis. The results show a negative relationship between returns and value of long-term debt, ratios of long-term debt to total liability, and ratios of short-term debt to total liability, and ratios of short-term debt to total liability; and equity capital to total liability. In addition, there is a positive relationship between profitability and domestic liquidity rate, ratios of long-term debt to equity capital and value of short-term debt.

Nasir (2014) examines the liquidity and stock returns connection. The spread of the request was utilized to measure the liquidity as a proxy variable. Data were collected from 10 companies listed on the Karachi stock exchange between 2005 and 2012. In order to examine the data, two-stage regression was employed. The result showed that liquidity and stock returns were negative. Using data from the London Stock Exchange, Wang (2014) examines the effects of liquidity risk on stock returns. The study employed eight distinct liquidity proxies. The LSE-based results do not support an illiquidity premium. The data, however, imply a negative link between illiquidity and inventory returns.

Nasrin et al. (2015) examined the liquidity-stock returns relationship in respect to the company's life cycle for the 78 businesses listed at the Tehran Bourse from 2010 to 2014. Descriptive study, analysis of correlation was used. Taking into account the company's life cycle, there has been a significantly positive and direct association between liquidity characteristics and stock returns; i.e., the stock returns are increasing as liquidity increases.

For the period 2009-2015, Saeed and Hassan (2018) studied long- and short-term relationships between liquidity dimensions and the equity rates in the petroleum and gas sector of an emerging stock market. In the panel data context, Pedroni co-integration, Granger causality and a vector error correction model were utilized. The Pedroni co-integration approach shows the long-term interaction between liquidity indicators and stock returns. The VECM reports that liquidity affects short-term returns on equities, with a high rate of adjustment. In addition, bi-directional casualty is observed between returns on liquidity and equity.

Marozva (2019) analyzed the liquidity and stock returns relationship: new evidence from the Johannesburg Stock Exchange was incorporated in order to investigate the link. The results demonstrated that liquidity is an important element in JSE price returns because stock excess returns are positively connected to illiquidity and the relation is important. More particular, the study showed that the predicted excess returns connect positively and strongly to systematic stock risk via beta.

Theoretical Framework

Modigliani and Miller Theory

The Modigliani and Miller theorems propounded by Franco Modigliani and Miller in 1958, which were regarded to be the first theorem concerning the capital structure, Baker and Martin (2011). This theorem later led to the development of many more theories and numerous empirical research. Hossain and Khatoon (2017) have pointed out that the first Modigliani and Miller theorem proposals are not practical, as they imply that any decisions concerning capital structure or finance decisions do not boost or lower the company's value, provided that five assumptions are present. 1)

Transaction fees and capital market taxes are absent and the borrowing costs are same for general investors and companies. 2) No bankruptcy costs are present. 3) There is no existence on the market of asymmetric information, so that all investors have the same information on income and risk. 4) Market prices are not affected by market participants' influence. 5) The company's capital structure is permanent and is known to all market players. Modigliani and Miller (1963) have continued their research on this theorem and have developed a second proposal which will raise the business value by raising the debt in the capital structure of the firm. Because borrowing produces tax savings that intensify the value of the enterprise. As a result, funding decisions influence the value of the company. The optimum combination of debt and equity should therefore be taken care of to build an optimum capital structure. This would decrease weighted average capital costs in turn; wealth of owners would be maximized. This study is anchored on the Modigliani and Miller theory.

Trade-off Theory

M&M proposed in proportion 1 and 2 with taxes that companies prefer 100% debt to optimize company value and to benefit of the tax shield (Modigliani & Miller 1963). However, this is not how companies react in the real world, which is due to that when a company increases debt, the risk of going bankrupt will also increase. Modigliani and Miller assume that there are no bankruptcy costs, which is a big thing not to consider. The trade-off theory takes this to account by saying that capital structure reflects the trade-off between tax-benefits and expected costs of bankruptcy (Kraus & Litzenberger 1973). This means that the optimal capital structure is founded where the gain from an additional debt is offset by the extra-incurred costs of bankruptcy, as seen in figure 1. The optimal capital structure, according to the figure, is where the curve has its highest point. When looking at figure 1, value of the company is used on the y-axle. The value of the company consists of the sum of all claimants: creditors (secured and unsecured) and equity holders (preferred and common). Equity holders are all investors that hold equity in a company for example bondholders and stockholders. In this thesis stock returns are used in the regression models, which means that creditors and some equity holders are not accounted for.

Pecking Order Theory

The pecking order theory propounded by Myers (1984) and Myers and Majluf (1984) is based on asymmetric information between companies and investors (Baker & Martin 2011). According to the pecking order theory, equity is a less preferred way to finance a company due to the investors' beliefs that managers only issue new equity when the equity is overvalued. When managers need to finance their operations they should use a pecking list (Graham & Harvey 2001). There is empirical evidence that shows that issuance of new equity results in stock price reductions (Baker & Martin 2011). The pecking order theory suggests that the company should only seek external financing when there are insufficient internal funds (Graham & Harvey 2001). When the company do seek external funding, they always prefer debt to issuing new equity (Myers 1984).

Methodology

The design used in this research is the *ex-post facto* method, as the study entails the use of annual reports and accounts of manufacturing companies listed on the Nigerian Stock Exchange (NSE). Thus, due to the complex nature of this sector, the working population is thus restricted to the five (5) conglomerates, twenty (20) consumer goods, and thirteen (13) industrial goods companies in NSE as at 31st December, 2019. However, filter sampling technique was used through applying criteria, for a company to be part of the sample; the company should be qualified in terms of the following; they should have been listed on Nigerian Stock Exchange before 2010 and not been delisted before 2019 and the required data should be available and accessible. The application of the criteria resulted to the selection of 31 companies as sample size of the study. The study used secondary data sourced from the company's financial report for the period of 10 years from 2010 to 2019. The dependent variable is stock returns proxy by:

$$STR=\frac{SP_2-SP_1}{SP_1}$$

Where SP_2 is share price in year 2 and Sp_1 share price in year 1. The independent variable is capital structure proxy by equity to capital employed ratio (EtC), l ong-term debt to equity ratio (DtE), the control variable is return on assets (ROA), size (proxy by common log. of market capitalization) while the moderating variable is liquidity (LIQ) proxy by liquidity ratio. For the purpose of data analysis, descriptive statistics, correlation and regression techniques are employed using Stata Version 13. Hence, the following model is:

$$\mathbf{STR = f\,(EtC, DtE, LIQ, SIZ, ROA)}$$

$$\mathbf{STR_{ti} = \beta_{0ti} + \beta_1 EtC_{ti} + \beta_2 DtE_{ti} + \beta_3 LIQ_{ti} + \beta_4 SIZ_{ti} + \beta_5 ROA_{ti} + e}$$

Thus, for the moderating role of liquidity (LIQ), the effect can be represented as an interaction between a focal independent variable and a factor that specifies the appropriate conditions for its operation (Baron & Kenny, 1986). So, to

make sure LIQ moderation, this study used interaction (product) terms as explanatory variables in regression e.g., for EtC an interaction term EtC*LIQ was created by multiplying the observations. Hence, the following equation is formulated for moderation investigation:

$$\mathbf{STR_{ti} = \beta_{0ti} + \beta_1 EtC_{ti} + \beta_2 DtE_{ti} + \beta_3 ROA_{ti} + \beta_4 SIZ_{ti} + e \text{ ------- } (1)}$$

$$\mathbf{STR_{ti} = \beta_{0ti} + \beta_1 EtC_{ti} + \beta_2 DtE_{ti} + \beta_3 LIQ_{ti} + \beta_4 EtC{*}LIQ_{ti} + \beta_5 DtE{*}LIQ_{ti} + \beta_6 SIZ_{ti} + \beta_7 ROA_{ti} + e \text{ ..... } (2)}$$

This section presents the results of the analysis conducted on the data collected from the annual reports and accounts of listed manufacturing companies in the Nigeria Stock Exchange for the period of the study. It presents the descriptive statistics, correlation and regression results of the study.

Discussion of Result

Table 1

Descriptive Statistics of the Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
Returns	310	0.0631	0.5137	-0.7062	2.2733
EtC	310	0.8159	0.1759	0.0471	1.4827
DtE	310	0.3901	1.3494	-0.3255	20.2241
LIQ	310	0.7949	0.5126	0.0000	2.6400
SIZ	310	7.3160	0.9837	5.2976	9.5932
ROA	310	9.5803	13.3026	-25.2600	79.2700

Source: *Computed using Stata 13*

Table 1 shows the descriptive statistics result of the dependent, independent, control and moderating variables. A total of 310 observations were recorded. The table shows the mean and standard deviation with minimum and maximum range of the dependent, independent, control and moderating variables. The stock returns have an average of 1.0631 with a minimum of -0.7062 and a maximum of 2.2733 with standard deviation of 0.5137 representing 51.37 percent showing that there is variation among the stock returns of the sampled companies. Equity to capital employed (EtC) has an average of 0.8159 with a minimum of 0.0471 and a maximum of 1.4827 with standard deviation of 0.1759 representing 17.59 percent showing that there is variation among the EtC of the sampled companies. The long-term debt to equity (DtE) has an average of 0.3901 with a minimum of -0.3255 and a maximum of 20.2241 with standard deviation of 1.3494 showing that there is much variation among the DtE of the sampled companies. The liquidity (LIQ) has an average of 0.7949 with a minimum of 0.0000 and a maximum of 2.6400 with standard deviation of 0.5126 representing 51.26 percent showing that there is variation among the LIQ of the sampled companies. The size (SIZ) has an average of 7.3160 with a minimum of 5.2976 and a maximum of 9.5932 with standard deviation of 0.9837 representing 98.37 percent showing that there is much variation among the SIZ of the sampled companies. The return on assets (ROA) has an average of 9.5803 with a minimum of -25.2600 and a maximum of 79.2700 with standard deviation of 13.3026 which shows that there is much variation among the ROA of the sampled companies.

Table 2

Correlation Result

	STR	*EtC*	*DtE*	*LIQ*	*SIZ*	*ROA*
STR	1.0000					
EtC	0.0530	1.0000				
DtE	-0.0782	-0.5674	1.0000			
LIQ	0.1067	0.2968	-0.1418	1.0000		
SIZ	0.1421	-0.0211	0.0337	-0.0531	1.0000	
ROA	0.1622	0.2335	-0.1389	0.2941	0.3653	1.0000

Source: *Computed using Stata 13*

Table 2 shows the correlation matrix result of the dependent variable stock returns the independent variables EtC, DtE, moderating variable LIQ and the control variables SIZ, ROA. The relationship between stock returns and independent variable EtC is positive and weak with a coefficient value of 0.0530 representing 5.3 percent, this means that, all things being equal the higher the EtC the higher the stock returns. The relationship between stock returns and independent variable DtE is negative and weak with a coefficient value of -0.0782 representing 7.82 percent, this means that, all things being equal the higher the DtE the lower the stock returns. The relationship between stock returns and moderating variable LIQ is positive and weak with a coefficient value of 0.1067 representing 10.67 percent, this means that, all things being equal the higher the LIQ the higher the stock returns. The relationship between stock returns and control variable SIZ is positive and weak with a coefficient value of 0.1421 representing 14.21 percent, this means that, all things being equal the higher the SIZ the higher the stock returns. The relationship between stock returns and control variable ROA is positive and weak with a coefficient value of 0.1622 representing 16.22 percent, this means that, all things being equal the higher the ROA the higher the stock returns.

Table 3
Regression Results

Var. (STR)	**Model I**			**Model II (Moderation effect)**		
	Coefficients	**t- Stat**	**P-value**	**Coefficients**	**t- Stat**	**P-value**
Constant	-0.262	-1.00	0.316	0.019	0.060	0.955
EtC	-0.145	-0.840	0.400	-0.487	-1.600	0.111
DtE	-0.026	-1.690	0.091	-0.234	-2.790	0.006
LIQ	0.070	1.220	0.223	-1.206	-1.910	0.057
(EtC*LIQ)	-	-	-	1.314	2.020	0.045
(DtE*LIQ)	-	-	-	0.702	2.450	0.015
SIZ	0.048	1.710	0.088	0.057	2.050	0.042
ROA	0.004	2.030	0.043	0.003	1.840	0.067
R Square	0.3263			0.3368		
Adj. R Square	0.2943			0.3006		
F	4.130			5.45		
Prob > *F*	0.001			0.001		

Source: *Computed using Stata 13*

Table 3 shows regression results of the model I (without moderator) and model II (with moderator). Model I consist of dependent variable STR, the independent variables EtC, DtE, the moderating variable LIQ and control variables ROA, SIZ. In the model I the multiple coefficients of determination R^2 is 0.3263. This means that 32.63 percent of change in STR was caused by change in EtC, DtE, LIQ, ROA, and SIZ while 67.4 percent change in STR was caused by other factors not included in the model. The *F*-statistics is 4.130 with p-value of 0.001 which is less than 0.05 and is statistically significant, thus the model account for the variation in the dependent variable. In model II (with the interaction effect of LIQ) the multiple coefficients of determination R^2 is 0.3368. This means that 33.68 percent of change in STR was caused by change in EtC, DtE, LIQ, (EtC*LIQ), (DtE*LIQ), ROA, and SIZ while 66.4 percent change in STR was caused by other factors not included in the model. The f-statistics is 5.45 with p-value of 0.001 which is less than 0.05 and is statistically significant, thus the model account for the variation in the dependent variable.

The effect of independent variables EtC, (DtE) on the dependent variable STR is negative with coefficient value of -0.145, (-0.026) meaning that an increase in EtC, (DtE) by one unit while other variables remain constant, this leads to a decrease in STR by 14.5, (2.6) percent; the P values of 0.400, (0.091) further suggests the insignificant influence of the independent variables on the dependent variable of the study. These p- values 0.400, (0.091) and t- values -0.840, (-1.690) lead us not to reject the null hypothesis (Ho_1) which state capital structure has no significant effect on stock returns. The effect of moderating variable LIQ on the dependent variable STR is positive with coefficient value of 0.070 meaning that an increase in LIQ by one unit while other variables remain constant leads to an increase in STR by 7.0 percent; the P value of 0.223 further suggests the insignificant influence of the moderator variable on the dependent variable of the study. This p- value 0.223 and t- value 1.220 lead us not to reject the null hypothesis (Ho_2) which state liquidity has no significant effect on stock returns.

Moreover, Barron and Kenny (1984) provided that moderating effect is statistically significant If equations 1 and 2 are significantly different from normal equation (i.e., without moderator), but not from each other, then the variable is an independent predictor and not a moderator variable. Therefore, the effect of moderating variables (EtC*LIQ), (DtE*LIQ) on the dependent variable STR is positive with coefficient value of 1.314, (0.702) meaning that an increase in (EtC*LIQ), (DtE*LIQ) by one unit while other variables remain constant lead to an increase in STR by 1.314, (70.2) percent; **t**he P value of 0.045, (0.015) further suggests the significant influence of the moderating variable effect on the dependent variable of the study. This p- value 0.045, (0.015) and t- value 2.020, (2.450) lead us to reject the null hypothesis (Ho_3**) which state** liquidity does not significantly moderate the relationship between capital structure and stock returns.

Conclusion and Recommendation

This study was conducted to examine the moderating effect of liquidity on the relationship between capital structure and stock returns of listed manufacturing companies in Nigeria. The data collected for the sample is for the time period from 2010 to 2019. Therefore, the result of this test shows that liquidity significantly moderates the relationship between capital structure and stock returns. The model (i.e., model II) is statistically significant since probability value of *F*-statistics is greater than significance level. The R-squared value shows that the independent, moderating and control variables have the ability to explain the stock returns at a rate of 33.68 percent. The outcomes of the model showed that equity to capital employed and long-term debt to equity ratio has statistically insignificant negative relationship with stock returns. Modigliani and Miller's discoveries (1958) were thus considered as an investment technique by calculating stock advantages for liquidity portfolios in the compound division. The results have been shown to determine how liquidity might reveal stock returns. The use of resources in the companies listed in the manufacturing sector is more likely to result in an appropriate financial leverage. Based on the results of the study several recommendations can be made as follows: Firms should not issue more share, and not take more debt since long-term to equity ratio has statistically insignificant negative effect on stock returns. Firms should strictly maintain less than optimal amount of debt in their capital structure by following strict long-term debt policy. Those firms which are relying heavily on debt financing should focus on their internal financing. Manufacturing companies should also give priority to liquidity, because it increases its capital structure as well as open more investment opportunities to increase stock returns.

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Moderating Effect of Audit Quality on the Relationship Between Ownership Structure and Tax Aggressiveness of Listed Consumer Goods Companies in Nigeria

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***Abstract*:** *This study examined the moderating role of external audit quality on the relationship between ownership structure and tax aggressiveness of quoted consumer goods companies in Nigeria. Correlation research design was adopted, while the target population was quoted Nigerian consumer goods companies as at 31st December, 2021. Out of the 25 consumer goods companies 19 were purposively chosen based on their complete annual reports over the period of the study (2017-2021). Regression analysis was adopted in analyzing the collected data. Findings show that, managerial ownership and block-holding ownership have a positive and significant effect on tax aggressiveness of the companies. While foreign ownership has a positive but insignificant effect on tax aggressiveness of consumer goods companies. Institutional ownership and big 4 auditors were found to have negative effect on tax aggressiveness of the companies. Furthermore, audit quality was found to negatively moderate the relationship between ownership structure and tax aggressiveness of the companies. This implies that, the higher the audit quality, the lower the practice of tax aggressiveness. Therefore, the board of Nigerian quoted consumer goods companies should engage the services of big 4 auditors which was found to have a significant negative moderating effect on ownership structure and tax aggressiveness of the companies.*

Keyword: audit quality, consumer goods companies, ownership structure, tax aggressiveness, Nigeria

Introduction

Given the current economic challenges across the globe, governments at various level of administrations are devising means of improving their revenue base and also regulate economy. Thus, tax is considered by many scholars as one of the additional means government generate revenue (Vacca et al., 2020). However, tax is seen as a cost to many organizations (Aburajab et al., 2019), firms adopt various techniques to minimize or avoid payment (E-Maude et al., 2021). The legal means of minimizing tax liability is called tax avoidance and if it is contrary to the intention of the law it is referred to as aggressive tax avoidance.

Aggressive tax practices have become worrisome as Reuters (2013) reported that, globally, governments are losing about $1 trillion annually through tax aggressiveness, and specifically to Nigeria is $129 billion per annum. This was confirmed empirically by Ogbeide and Iyafekhe (2018) that, out of eighty five (85) listed non-financial companies in Nigeria, twenty six are highly tax aggressive. Hence, majority of the companies in the non- financial sector in Nigeria are regarded as tax aggressive firms, some are fairly tax aggressive, and very fewer of them are tax aggressive at equilibrium.

Given this huge challenge, Boussaidi and Hamed (2014) were of the view that, the system of ownership structure and audit quality should have a vital role in monitoring the aggressive management behavior. This corroborated the conclusions of the study of Chen et al. (2010) that, ownership structure should have a significant impact on the opportunistic management decisions. Furthermore, Annuar et al. (2014) argued that, ownership structure could be associated with corporate tax aggressiveness. The study further proposes that appropriate mix of ownership structure could mitigate such association.

In order to fill this identified research gap, studies were conducted on ownership structure and tax aggressive practice. However, there is still dearth of empirical evidence on the relationship between ownership structure and tax aggressiveness, particularly in Nigeria. Furthermore, the findings of the few previous studies are contradictory and inconsistent, hence inconclusive. Studies such as Martinez and Ramalho (2014) in Brazil and Rakayana et al. (2021) in Indonesia reported positive and significant effect of ownership structure on tax aggressiveness. While Salaudeen and Ejeh (2018) in Nigeria reported a positive but insignificant effect of ownership structure on tax aggressiveness. However, Wahab et al. (2017) in Malaysia, Resti et al. (2020) in Indonesia, and Famini et al. (2021) in Italy reported no significant relationship between ownership structure and tax aggressiveness. Thus, the motivation of this study to adopt audit quality and examined its moderating effect on the relationship between ownership structure and tax aggressiveness of quoted consumer goods companies in Nigeria. As this study believes that, the interaction between external audit quality and ownership structure as corporate governance mechanism would significantly minimize the practice of tax aggressiveness of quoted consumer goods companies in Nigeria.

Thus, in order to achieve the objective of this study, the following questions were formulated, when answered would achieve the main objective of this study.

i. What is the impact of ownership structure on tax aggressive practice of quoted consumer goods companies in Nigeria?
ii. To what extent does audit quality moderate the effect of ownership structure on tax aggressive practice of quoted consumer goods companies in Nigeria?

In order to provide answers to these questions, the following hypotheses were developed to guide the study.

H_{01}: Ownership structure has no significant effect on the tax aggressive practice of quoted consumer goods companies in Nigeria.

H_{02}: Audit quality does not significantly moderate the relationship between ownership structure and tax aggressive practice of quoted consumer goods companies in Nigeria.

This study contributes to knowledge by being one of the earliest attempt to adopt audit quality to moderates the effect on aggressive tax practice of quoted consumer goods companies. In respect to the beneficiaries, the study benefits policy makers especially the Nigerian Exchange Group (NGX), Federal Inland Revenue Service, and management of quoted consumer goods companies in Nigeria on the level of compliance and the impact of the code of corporate governance on tax aggressive practice. It would further enlighten the management of the companies on the role of audit quality and it oversight function that would consequently improve good governance.

The remaining part of this study is structured into four sections. The review of relevant literatures were presented in Section 2, while Section 3 described the methodology adopted for the study. Then, Section 4 discusses the results of the empirical study, while Section 5 presents conclusion and recommendations.

Literature Review

Tax aggressiveness

The concept of tax aggressiveness is as old as tax itself. Hence, various definitions were offered by various scholars and tax authorities. Chen et al. (2010) define tax aggressiveness as downward management of taxable income through tax planning activities. Martinez and Ramalho (2014) viewed tax planning activities as it encompass both legal and illegal. This was supported by the views of Boussaidi and Hamed (2015), that aggressive tax represents different handling activities to lower taxable income that can be legal. This was also emphasized by Mgbame et al. (2017) who defined tax aggressiveness as the different activities, engaged by management, to lower taxable income which could be legal or illegal. Suleiman and Ibiamke (2021) viewed aggressive tax avoidance as the management tax practice that falls in between the continuum of legitimate tax avoidance and tax evasion. Therefore, tax management is legal when the activities falls within the armpit of laws, while illegal when the activities falls outside the provision of law. Hence, various scholars such as Wahab et al. (2017), and Salaudeen and Ejeh (2018) proxy aggressive tax using effective tax rate (ETR) calculated as the proportion of tax paid for a period to profit before tax.

Ownership structure

Wati and Gultom (2022) defined corporate ownership structure as an internal control component that determine the manner in which corporate entity is manage. It describes the distribution of equity share with regard to votes and capital but also by the identity of the equity owners. The most commonly known corporate ownership according to Wati and Gultom (2022) are family ownership, institutional ownership, block-holder ownership, foreign ownership, managerial ownership, individual ownership, and government ownership. These structures are of major importance in corporate governance because they determine the incentives of managers and thereby the economic efficiency of the corporations. According to Nguyen (2020), ownership structures that has a positive and most significant influence on corporate management are block-holding ownership, institutional ownership, and foreign ownership. These are considered important based on the level of their influence on the management. Hence, they are the ownership structure adopted for this study.

Block-holding ownership is defined by Nguyen et al. (2020), as the number of equity shares owned by individuals who are not family members. Thus, Wati and Gultom (2022) qualified block-holders ownership as equity investors that their holdings represent at least 5 percent of the company's equity share capital. In this case, Schulze et al. (2001) were of the view that, even though block-holders ownership has a strong power to monitor management decision, it also increases the problem of self-control that arises when a firm is headed by a powerful owner.

Paramitha and Firnanti (2018) described institutional ownership as the ownership of equity shares by companies and financial institutions. Agency theory suggests that monitoring by institutional ownership can be an important governance mechanism. In fact, institutional investors can provide active monitoring that is difficult for smaller, more passive or less-informed investors as they have the opportunity, resources, and ability to monitor managers (Almazan et al., 2005). Thus, institutional ownership is associated with a better monitoring of management activities, reducing the ability of managers to opportunistically manipulate income. However, some scholars such as Claessens and Fan (2002)

argued that institutional investors do not play an active role in monitoring management activities, as they are considered to be passive investors who are more likely to sell their holdings in poorly performing firms than to expend their resources in monitoring management.

In respect to foreign ownership, Meilita and Rokhmawati (2017), and Kablan (2020) described foreign ownership as the company equity shares owned by foreign individuals, foreign legal entities, and foreign governments. This clearly defined the differences between institutional ownership and foreign ownership. According to Hossain (2020), foreign investors should have more monitoring power better than domestic investors, because they have better access to expertise and talent. However, Dvorak (2005) suggested that foreign investors' trading performance is inferior to that of domestic investors, because of their information disadvantage.

Audit quality

International Auditing and Assurance Standard Board (IAASB) (2014) states that, there is no definition of audit quality that is universally accepted. Audit quality is a complex and multi-faceted concept. IAASB defined audit quality as the compliance with audit laws by an auditor in conducting an audit of financial statements. Pratiwi et al. (2019) defined audit quality as the probability an auditor will detect and report material misstatements an error or deviation in an accounting system.

The main objective of an audit is to add credibility to the financial statement prepared by management. Hence, the financial reports audited by a highly reputable, competent, and independent accounting firm provide a signal to investors that the reports are reliable (Widago et al., 2021). Audit quality is jointly determined by auditors' competence and independence (Malek & Saidin, 2013). The most commonly used of the measures are perhaps the audit firm size and audit fees because as proposed by De Angelo (1981), the audit firm size is an indicator of quality since larger audit firms have more equipment and personnel for thorough audits, while audit fees determine financial independence of the audit firm. This is also predicated upon presupposition that the higher the quality of audit the higher the fee that will be charged by auditors (Tritschler, 2013). Therefore, this study believed that, the interaction between external audit quality and ownership structure would have a significant moderating effect on tax aggressive practice of quoted consumer goods companies in Nigeria, since both external audit and ownership structure are corporate governance control mechanism, hence minimize agency cost and information asymmetric problem.

Empirical Review

There are various views on how the ownership structure influence tax aggressiveness. The following are the empirical studies conducted by different scholars in different countries using different industries and methodologies.

Martinez and Ramalho (2014) examined the effect of ownership structure on tax aggressiveness of 94 firms in Brazil over a period of 12 years (2001-2012). Using linear regression to analyze the data collected from the financial reports of the companies, the study reported a positive and significant effect of ownership structure on effective tax rate of the companies over the period of the study. This result was corroborated by the study of Boussaidi and Hamed (2015) on the impact of governance mechanism on tax aggressiveness of 39 listed non-financial companies in Tunisia over a period of seven (7) years (2006-2012). Using regression analysis to analyze the data collected from annual reports and accounts of the companies, the study revealed a positive and significant influence of managerial ownership and concentrated ownership on effective tax rate of the companies over the period of the study. Furthermore, Sanchez-Marin et al. (2015) conducted a study on ownership structure and tax aggressiveness of 282 small scale business in Spain. Using structural model, the study reported a positive and significant influence of ownership structure on tax aggressiveness of the small and medium size enterprise in Spain.

Ogbeide and Obaretin (2018) examined governance mechanism and tax aggressiveness of 85 quoted non-financial institutions in Nigeria over a period of 5 years (2012-2016). Using General Method of Moment estimator, the study reported a positive and significant effect of ownership concentration, and managerial ownership on tax aggressive practice of listed companies over the period of the study. In the same vein, Salaudeen and Ejeh (2018) conducted a study on equity ownership structure and tax aggressiveness of 40 non-financial institutions over a period of 5 years (2010-2014). Using regression analysis, the result of the study revealed a positive but insignificant relationship between ownership concentration and tax aggressiveness, while managerial ownership was found to have a significant negative effect on tax aggressiveness of the companies. This was supported by the study of Resti et al. (2020) on ownership structure and tax aggressiveness of 135 listed companies in Indonesia over a period of 3 years (2016-2018). Using simple regression analysis, the result of the study revealed a positive and significant effect of foreign ownership and institutional ownership on effective tax rate of the companies, while managerial ownership was found to have a negative effect on effective tax rate of the companies over the period of the study.

In the study conducted by Wahab et al. (2017) on corporate governance and tax aggressiveness of 2, 538 Malaysian companies over a period of 10 years (2000-2009). Using least square method, the study reported a non-linear relationship between institutional ownership and effective tax rate of the companies over the period of the study. This was supported by the result of the study of Rakayana et al. (2021) on the structure of company ownership and tax avoidance of 93 listed

Indonesian companies over a period of 3 years (2017-2019). Using regression analysis, the study reported a positive and significant effect of government ownership and foreign ownership on effective tax rate, while institutional ownership and managerial ownership were found to have no significant effect on effective tax rate of the companies. Furthermore, Flamini et al. (2021) examined the influence of ownership structure on tax aggressiveness of 227 firms in Italy over a period 2013-2014. Using survey research design and regression analysis, the study reported a non-linear relationship between ownership structure and tax aggressiveness of the companies.

Since the empirical findings of the previous studies are divided into positive, negative non-significant relationship between ownership structure and tax aggressiveness, it is not out of context to conclude that, the previous findings are inconsistent, hence inconclusive. Therefore, there is a need to adopt a moderating or mediating variable to observe its interactive effect on ownership structure and tax aggressive practice. Thus, the motivation of this study to adopt external audit quality as one of the corporate governance control mechanism to observe its interactive effect on the relationship between ownership structure and tax aggressive practice of quoted consumer goods companies in Nigeria.

Furthermore, empirical studies have documented that, external audit quality has a significant effect in monitoring management opportunistic behavior, hence improve corporate reporting practices. In a study conducted by Kanagaretnam et al. (2016) on the relationship between audit quality and tax aggressiveness: Implications of cross country institutional difference. The study reported a negative and significant influence of audit quality on the likelihood of tax aggressiveness. Also in the study of Ogbeide (2017), audit firm size was found to exert negative and significant influence on tax aggressive practice of listed firms in Nigeria. Furthermore, Lestari and Nedya (2019) reported a negative relationship between audit quality (audit firm size) and tax aggressive practice of 312 listed companies in Indonesia. This result was confirmed by Alhababsah (2019) who also reported a positive and significant effect of audit quality on family ownership, institutional ownership and government ownership among Jordanian companies. Furthermore, Guizani and Abdalkrim (2020) reported that companies with higher family ownership are less likely to demand extensive audit services, while companies with institutional ownership and government ownership are more likely to engage high-quality auditors. Therefore, this study believed that external audit quality would significantly moderate the relationship between ownership structure and tax aggressive practice of quoted consumer goods companies in Nigeria.

Theoretical Review

Several theories were adopted by previous researchers to explain the concepts of ownership structure, tax aggressiveness, and audit quality. However, this study adopted agency theory to examine the moderating effect of audit quality on the relationship between ownership structure and tax aggressive practice of quoted consumer goods companies in Nigeria.

Agency theory is one of the most adopted positive accounting theory in explaining the relationship between management (agent) and shareholders (principal). The proponents of the theory were Jessen and Mackling (1979) who believed that, the relationship between shareholders and management is an agency relationship, hence interest of the parties diverge where management do take advantage of insider to maximize their interest against the interest of the owners. This leads to asymmetric information between the parties, thus increases information risk (Yousef, 2019).

In order to reduce the agency cost, corporate governance was introduced by various government across the globe to minimize management opportunistic behavior, thus increase corporate reporting transparency. Ownership structure and external audit are among the corporate governance control mechanism which are believed to have a strong monitoring capacity on the management behavior, consequently reduce aggressive tax practices. Therefore, this study believed that, external audit quality would significantly moderate the relationship between ownership structure and tax aggressive practice of quoted consumer goods companies in Nigeria.

Methodology

This study adopted correlation research design to define the structure and strategy of the study, while the target population was the quoted consumer goods in Nigeria as at 31st December, 2021 which were 25 in number. Using purposive sampling techniques, 19 were chosen based on the complete annual reports and account over the period of five (5) years (2017-2021). The data collected were analyzed using both descriptive and inferential statistics after the diagnostic test.

Two models were developed to test the hypotheses of the study and were presented as follows.

Model 1 was developed to observed the direct effect of ownership structure (ITO, MGO, FRO, BHO), audit quality (Big4) and firms characteristics (FMS, PRF) on tax aggressiveness (ETR) of the quoted consumer goods companies in Nigeria.

$$ETR_{it} = \beta_0 + \beta_1 ITO_{it} + \beta_2 MRO_{it} + \beta_3 FRO_{it} + \beta_4 BHO_{it} + \beta_5 Big4_{it} + \beta_6 BHO_{it} + \beta_7 Big4_{it} + \beta_8 FMS_{it} + \beta_9 PRF_{it} + \mu_{it} \quad \text{..... (1)}$$

Model 2 was developed to observe the moderating effect of external audit quality (Big4) on the relationship between ownership structure (ITO, MGO, FRO, BHO) and tax aggressiveness (ETR) of the listed consumer goods companies in Nigeria.

$$ETR_{it} = \beta_0 + \beta_1 ITO_{it} + \beta_2 MRO_{it} + \beta_3 FRO_{it} + \beta_4 BHO_{it} + \beta_5 Big4_{it} + \beta_6 ITO_{it}*Big4_{it} + \beta_7 MRO_{it}*Big4_{it} + \beta_8 FRO_{it}*Big4_{it} + \beta_9 BHO_{it}*Big4_{it} + \beta_{10} FMS_{it} + \beta_{11} PRF_{it} + \mu_{it} \quad \text{..... (2)}$$

The various variables of this study are identified and presented in Table 1 .

Table 1 :

Variables identification and measurement

SN	Label	Variables	Descriptions	Expected outcome
1	ETR	Effective tax rate	Tax paid for the period divide by profit before tax	
2	ITO	Institutional ownership	Proportion of equity shares owned by institutions to total equity shares for the period	-
3	MGO	Managerial ownership	Proportions of equity shares owned by directors to total equity shares for the period	+
4	FRO	Foreign ownership	Proportions of equity shares owned by non-indigenes to total equity shares for the period	-
5	BHO	Block-holders ownership	Proportions of equity shares owned by block-holders to total equity shares for the period	+
6	Big 4	Audit firms size	Dummy variable "1" if the account of a company is audit by Big 4 auditors, otherwise "0"	-
7	FMS	Firms size	Natural logarithms of firms total assets	+
8	PRF	Profitability	Natural logarithms of firms profit before tax	+

Sources: Compiled by the researcher from literature (2022)

Results and Discussions

This section presents the result of the analysis of the data obtained from the financial statements of the selected companies . After the presentations of descriptive statistics in Table 2, Table 3 presents correlations result, while Table 4 contained results of diagnostics tests conducted. The regressions analyses results are presented in Table 5. These results in the various tables are followed by discussions.

Table 2

Descriptive statistics

Variables	Mean	Std. Dev.	Minimum values	Maximum values
ETR	.2142	.2182	.0029	.2957
ITO	.0671	.1540	.0000	.5551
MGO	.1617	.2183	.0000	.7192
FRO	.0827	.0514	.0015	.2333
BHO	.0341	.0506	.0000	.1961
Big 4	.2032	.0911	.0000	1.000
FMS	14.469	1.738	9.170	20.850
PRF	.1034	.0653	.0142	.3872

Source: STATA 13 Descriptive Statistics Result (2022)

The descriptive statistics result presented in Table 2 revealed an average value of effective tax rate (ETR) of 0.2142 (21.42%), maximum value of 0.2957 and minimum value of 0.0029, with a standard deviation of 0.2182. This implies that, average ETR is low compared to the statutory company income tax rate of 30% obtainable in Nigeria. Therefore, it implies that in average, the listed consumer goods company in Nigeria pay less than statutory company income tax rate. Furthermore, tax expenses paid varies less from company to company with a standard deviation of 0.2182.

In respect to ownership structure, the descriptive statistics in Table 2 shows that, institutional ownership (ITO) varies from 0.00% (minimum value) to 55.51% (maximum value) with a standard deviation of 15.4%, while averagely, the ownership of equity share by institutions across the company was 6.71%. Averagely, foreign ownership (FRO) was 8.27% in between the minimum value of 0.15% and maximum value of 23.33% with a standard deviation of 5.14%. Block-holders ownership revealed an average value of 3.41% at the minimum value of 0.00% and maximum value of 19.61%, with a standard deviation of 5.06%. While averagely, Nigerian listed consumer companies audited by Big 4 over the period of the study was 0.2032 at a minimum value of 0.00 and maximum value of 1.00.

Considering firms characteristics as a control variable, firms size (FMS) has an average value of 14.469, minimum value of 9.170 and maximum value of 20.850 with a standard deviation of 1.738. While the result of firms profitability (PRF) revealed an average value of 0.1034, minimum value of 0.0142 and maximum value of 0.3872 with a standard deviation of 0.0653.

Furthermore, Pearson moment correlation statistics was adopted to analyze the correlation between the variables of the study at 5% significant level and the result presented in Table 3.

Table 3 :

Correlations matrix

	ETR	ITO	MGO	FRO	BHO	Big 4	FMS	PRF
ETR	1							
ITO	.0187	1						
MGO	.4032	-.2134	1					
FRO	.0281	.0218	.1063	1				
BHO	-.1931	-.2105	-.0318	.0329	1			
Big 4	-.5721	.0481	-.0017	.1028	.0619	1		
FMS	.3845	.6249	.2391	.2140	.6018	.5301	1	
PRF	.4294	.0319	.0128	.0039	.0192	.4210	.3813	1

Source: Correlation matrix-STATA 14 (Level of Significant @ 5%)

The result of correlation analysis presented in Table 3 shows a positive correlation between institutional ownership (ITO) and effective tax rate (ETR), managerial ownership (MGO) and effective tax rate, foreign ownership (FRO) and effective tax rate, firms size (FMS) and effective tax rate, firms profitability (PRF) and effective tax rate. However, block-holders ownership and effective tax rate, and Big 4 auditors and effective tax rate were found to have a negative correlations.

In respect to the strength (degree) of the correlation, the correlation between institutional ownership and effective tax rate, and foreign ownership and effective tax rate were found to be negligible. In addition, the result revealed a low correlation between managerial ownership and effective tax rate, and firms' size and effective tax rate. However, the correlation between Big 4 auditors and effective tax rate, and firms' profitability and effective tax rate were found to be moderate with correlation coefficient ranges from 0.41 to 0.60 (Adefila, 2008).

Besides, the correlation result in Table 3 shows that the data set does not present any *multicollinearity problem, since the highest absolute value of correlation of 62.49% is the relationship between firms size (FMS) and institutional ownership (ITO) which is well below the threshold of 80% (Gujarati, 2008).*

In order to carry out regression analysis, a diagnostic test was conducted using variance inflation factor (VIF), standard skewness, standard kurtoses, Durbin Watson test statistics and the results are presented in Table 4.

Table 4

Diagnostic test result

Variables	Std. Skewness	Std. Kurtoses	VIF	1/VIF
ITO	1.4184	0.9266	3.010	0.332
MGO	-0.0680	0.2542	1.241	0.806
FRO	1.4657	0.6854	8.180	0.122
BHO	0.132	0.712	1.589	0.629
Big 4	0.292	0.505	4.721	0.212
FMS	0.309	0.612	2.619	0.382
PRF	0.421	0.813	6.101	0.164
Durbin-Watson Test = 0.429		Chi^2 prob. = 0.000		

Source: STATA 14 Output (Level of Significant @ 5%)

The diagnostic result in Table 4 shows that, the data collected were normally distributed given all the values of standard Skewness and standard Kurtoses of the explanatory variables are less than ±1.96 evidencing (Haniffa & Hudaib, 2006). Furthermore, the results of VIF and tolerance coefficient shows that, there was no unacceptable level of multicollinearity among the study variables since all the values of VIF are less than 10 and all the values of tolerance coefficient are less than 1 (Hair et al., 1995). In respect to the issue of auto correlation, the result of Durbin Watson test statistics of 0.429 is less than the standard value of 2, thus no problem of autocorrelation among the variables of the study (Adefila, 2014). The value of Hausman model specification test of 0.000 is significant, thus, the null hypothesis was rejected (random effect) in favor of fixed effect.

Given that, the data collected were normally distributed, and there was no problem of autocorrelations and multicollinearity, the regression analysis was carried out and the result presented in Table 5.

Table 5:
Regression result

Models	Model 1		Model 2	
Variables	**Coefficient**	**p-value**	**Coefficient**	**p-value**
Intercept	.3412	.0248	.4937	.0010
ITO	-.4272	.0151	-.0015	.0029
MGO	.2318	.0146	-.0421	.0185
FRO	.1745	.7012	.0243	.0053
BHO	.0234	.0073	.0042	.0501
Big 4	-.3214	.0012	-.0408	.0002
FMS	.0432	.0232	-.0841	.0000
PRF	.2193	.0062	-.5370	.0794
ITO*Big 4			-.6250	.0000
MGO*Big 4			-.4231	.0214
FRO*Big 4			.0132	.0601
BHO*Big 4			-.5321	.0000
R^2 = .392	Adj. R^2 = .364		R^2 = .681	Adj. R^2 = .642

Source: STATA 14 Output (Level of Significant @ 5%)

Regression analyses were carried out using both model 1 and model 2 and the results are presented in Table 5. The regression result of model 1 shows the value of R^2 of .392 and adj. R^2 of .364. This implies that, the explanatory variables included in model 1 account for 39.2% variation in tax aggressive practice of listed consumer goods companies in Nigeria over the period of the study, while 60.8% were to be accounted for by other variables not included in model 1. Furthermore, given the intercept p-value of .0248 at 5% significant level, is significant, hence model 1 has a good predictive power.

In respect to the elements of ownership structure, the result of model 1 Table 5 revealed a negative and significant (coefficient = -.4272; p-value = .0151) effect of institutional ownership (ITO) on tax aggressive practice of the companies over the period of the study at 5% significant level. This result contradicts the finding of Resti et al. (2020) who reported a positive and significant relationship between institutional ownership and tax aggressiveness. Furthermore, it is contrary to the result of the study such as Wahab et al. (2017) and Rakayana et al. (2021) who found no significant relationship between institutional ownership and tax aggressiveness.

Managerial ownership (MGO) was found to have a positive and significant (coefficient = .2318; p-value = .0146) effect on tax aggressive practice of the firms at 5% significant level. This result supported the findings of Boussaidi and Hamed (2015) and Ogbeide and Obaretin (2018) who also reported a positive and significant relationship between managerial ownership structure and tax aggressive practices. However, it contradicts the result of studies such as Salaudeen and Ejeh (2018) and Resti et al. (2020) that found negative relationship between managerial ownership and tax aggressive practice. Furthermore, in the study of Rakayana et al. (2021), no significant relationship was found between managerial ownership and tax aggressive practice.

Furthermore, a positive and insignificant (coefficient = .1745; p-value = .7012) relationship was established between foreign ownership (FRO) and tax aggressiveness among the listed consumer goods companies in Nigeria at 5% significant level over the period of the study. This implies that, even though foreign ownership of equity in the listed consumer goods companies in Nigeria has a positive influence on tax aggressive practice, but is not significant. This result confirmed the findings of studies such as Resti et al. (2020) and Rakayana et al. (2021) who also in different studies reported a positive influence of foreign ownership on tax aggressiveness of firms.

However, block-holder ownership (BHO) was found to have positive and significant (coefficient = .0234; p-value = .0073) effect on the effective tax rate of the firms over the period of the study at 5% significant level. This signifies that, increase in block-holding ownership of equity shares in the listed consumer goods companies in Nigeria would significantly increase aggressive tax practices among the firms. Hence, confirmed the result of the previous studies such as Boussaidi and Hamed (2015), Ogbeide and Obaretin (2018), and Salaudeen et al. (2018) who also reported a positive relationship between block-holding ownership and tax aggressiveness in different studies.

While Big 4 auditors was found to have a negative and significant (coefficient = -.3214; p-value = .0012) influence on tax aggressive practice of the listed consumer goods companies in Nigeria at 5% significant level. This implies that, listed consumer goods companies in Nigeria that were audited by big 4 audit firms engage less in tax aggressive practice compared to others. This result corroborated the findings of previous studies such as Kanagaretnam et al. (2016), Ogbeide (2017) and Lestari and Nedya (2019) who also in different studies reported a negative relationship between audit quality and tax aggressive practices among different firms. Hence, supported the conclusion made by Guizani and Abdalkrim

(2020) that companies audited by big 4 auditors are more likely to engaged less in tax aggressive practices compared to their counterpart. In regards to firms characteristics both firms size (FMS) and firms profitability (PRF) were found to have positive and significant (FMS coefficient = .0432; p-value .0232; PRF coefficient = .2193; p-value .0062) influence on tax aggressive practices of the companies over the period of the study at 5% significant level.

However, introducing audit quality as a moderator in model 2, provides a higher level of significance (0.0010) than the direct relationship presented in model 1. It implies that, audit quality has improve the explanatory power of model 2. The result of the regression analysis of model 2 further shows that, the interaction between audit quality and the elements of ownership structure have a negative coefficient with a significant result; except foreign ownership which revealed a positive and insignificant values (coefficient = .0132; p-value = .0601). This implies that, listed consumer goods companies that employed the services of big 4 auditors were less engaged in aggressive tax practices over the period of the study compared to their counterpart. Furthermore, the adjusted R^2 is 27.8% higher than the adjusted R^2 of model 1. This implies that, the introduction of big 4 auditors as a moderator could better predict the tax aggressive practice of the companies. Therefore, audit quality has significant moderating effect on the relationship between ownership structure and tax aggressive practice of listed consumer goods companies in Nigeria over the period of the study.

Conclusion and Recommendations

This paper examined the moderating effect of audit quality on the relationship between ownership structure and tax aggressiveness of quoted consumer goods companies in Nigeria. The result of the regression analysis shows a positive and significant influence of managerial ownership and block-holding ownership on tax aggressive practice of the companies. While foreign ownership was found to have positive but insignificant influence on tax aggressiveness of the companies. However, institutional ownership and big 4 auditors were found to have an inverse relationship with tax aggressive practice of the companies. Therefore, ownership structure has a positive and significant influence on tax aggressive practice of the quoted consumer goods companies in Nigeria. However, when audit quality was introduced as a moderator, the regression result revealed a negative and significant relationship between institutional ownership and aggressive tax practices, block-holding ownership and aggressive tax practices, and managerial ownership and tax aggressive practices, while foreign ownership was found to have a positive but insignificant effect on tax aggressive practice of the firms. Thus, this study concluded that, audit quality has a negative and significant moderating effect on ownership structure and tax aggressiveness of quoted consumer goods companies in Nigeria.

Therefore, the study recommended that, the board of directors of quoted consumer goods companies in Nigeria should engage the services of big 4 auditors. This will improved the quality of financial reporting, hence reduce the tendencies of aggressive tax practices, since it was found to negatively reverse the effect of ownership structure on aggressive tax practices of the companies.

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IFRS Adoption and Value Relevance of Accounting Information of Listed Deposit Money Banks in Nigeria

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Abstract: *The purpose of this study is to evaluate the implementation of the International Financial Reporting Standards (IFRS) and the value relevance of accounting information of Nigeria's listed Deposit Money Banks (DMBs). This research employs correlational and Ex-post factor research design and adapted Edward Bells and Ohlson model (1995). Data on Book Value Per Share (BVPS), Earnings Per Share (EPS), Change in Earnings Per Share (CEPS) and Cash Flow from Operations (CFOPS) are extracted from the audited annual reports of all Nigerian listed deposit money banks with international authorization as of December 31, 2020, While share price data for the 3rd month after year end were collected from share prices publishes on Nigerian Exchange Group PLC (NGX). Having IFRS as a moderator of the adapted Edward, Bells and Ohlson model, the Ordinary Least Square (OLS) regression model documents that: as accounting information becomes more value relevant after IFRS implementation, it improves the prediction potential of accounting information. As a result, the study suggests that all developing countries adopt IFRS as their financial reporting standard since it can improve the integrity of their accounting information. Furthermore, organizations should ensure that corporate governance, strong enforcement and rigorous IFRS training is strongly implemented since it assures better reporting quality. Researches should also be conducted to assess the impact of mandatory adoption of IFRS on the accounting information in consumer goods sector and SMEs in Nigeria.*

Keywords: IFRS, Accounting information, value relevance.

Introduction

Globalization, need for cross-borders financial performances comparism as well as the history of jeopardy on the fair representation of accounting disclosures that have led to various controversies in the capital market have necessitated the need for unified set of high quality reporting standards (Olowe & Shehu, 2021). Several scholars have pointed out that the quality of information is influenced by a series of elements, the most important of which are accounting standards, which are expected to aid consistent, comparable, reliable and relevant accounting information when properly applied.

This study focuses on adoption of IFRS and relevance of accounting information of listed Deposit Money Banks in Nigeria thereby adapting the Edward Bells and Ohlson Model (1995) and guarded by the "Clean surplus accounting theory" of which Book Value Per Share (BVPS), Earnings Per Share (EPS), Change in Earnings Per Share (CEPS) and Cash Flow from Operations (CFOPS) serves as the independent variables while Share Price (SP) and IFRS serves as the dependent and moderating variables respectively to covers sixteen years study period from 2005 to 2020.

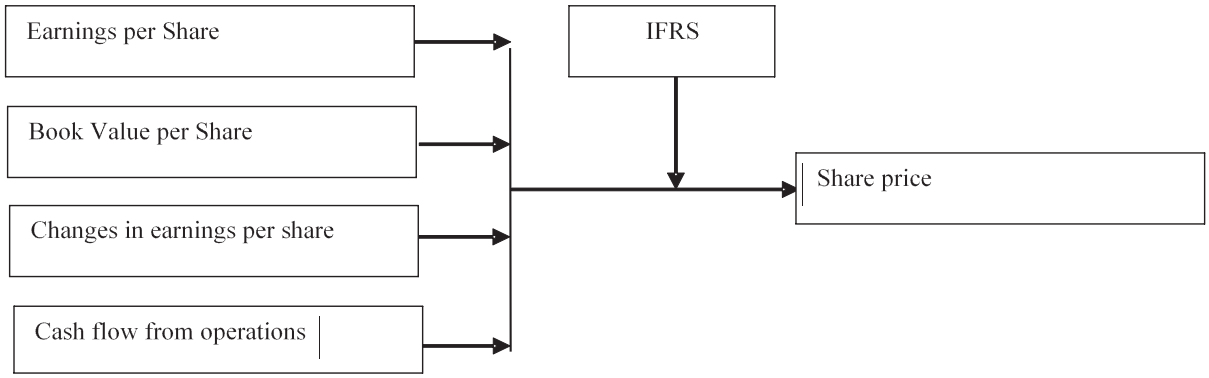
According to Umoren and Enang (2015), the globalization of businesses and the increasing complexity and duties of financial reporting have caused some local accounting standards to have weak updating and disclosure expectations over time. Local GAAPs have also been chastised for failing to support cross-border capital market efficiency, particularly in this era of global firm integration (Paul & Burks, 2010; Nobes & Parker, 2008). As a result, the qualitative qualities of accounting information supplied under multiple accounting standards diminished, rendering it irrelevant, untrustworthy, and incomparable, especially to overseas investors. On the other side, the quality of accounting standards determines the quality of accounting information prepared and disclosed under them. One crucial feature is that IFRS rely heavily on fair value accounting rather than the concept of historical cost (Akpaka, 2015). As a result, IFRS have impact on Earnings, Book Values, and Cash Flow from Operations and as such, it is of critical necessity to establish whether accounting data are properly reflected in the resulting price of shares.

limited researches in this area has prompted this study, as well as the fact that the highly regulated and organized Nigerian banking industry has undergone a series of reforms, including international participation, as some of Nigeria's banks operate under international license. Hence, adoption of IFRS have ignited changes in degree of relevance of accounting information presented, owing to the definition, recognition criteria, measurements and disclosure requirements of the elements of accounting information in several areas such as; Impairment, financial instruments, fair value treatments, debt versus equity and other relevant financial information.

Literature Review

The study utilizes earnings, book value per share, changes in earnings per share and cash flow from operations as proxies

Figure 2.1: Research Framework



Source: Researcher's research framework

++++++++++++++++value relevance

++++++++++++++++accounting information

The emergence of the International Financial Reporting Standards (IFRS) and its subsequent global acceptance has piqued the interest of various Scholars. The research of Olowe and Shehu (2021) on adoption of IFRS and accounting information which employed correlational research design and covered 2008 – 2015 research period documented that both accounting information published before and after the adoption of IFRS are relevant. The study emphasized that adoption of IFRS has not attained its full potential since accounting information after adoption did not reveal relative relevance over the accounting information published before adoption. More research is needed to cover more period and industries so as to validate the findings of this research. According to Akpaka (2016) study on IFRS adoption and value relevance of financial information that covered the period of 2006 to 2009 documents that accounting information before the adoption of the International Standards is value relevant, but accounting information after the adoption is only marginally relevant, and accounting information after adoption does not demonstrate relative relevance to financial information provided before the adoption of the IFRS. On the contrary, Uthman and Abdul-baki (2014) claims that there is improvement on the relevance of accounting data in Nigeria after the implementation of IFRS. The study's drawback dwells on the fact that the verdicts are exclusively based on the opinions of the analysts, with unexpected events receiving less consideration.

According to Omokhudu and Ibadin (2015) study that examined accounting information and firm value in an emerging market which covered the period of 1995 to 2013, the OLS documented that Cash flow from operations, Earnings, and Dividend coefficient estimates are significant when assessed on the four techniques used in the study, implying that the variables are significant. As a result, investors should concentrate on dividends, earnings, and cash flow rather than book valuations. Regulators must supply high-quality accounting information to the investing public in order to improve the investment scenario. Because the insurance and financial industries are not included in the assessment, there is a gap in this study.

Furthermore, Musa, Usman, and Mamuda (2015) study on relevance of accounting information applied multiple regressions technique on 8 sampled group companies listed in Nigeria. They discovered that book value, earnings and change in earnings statistically and significantly have impact on price. Implying that Nigerian listed companies publish accounting information under IFRS is relevant to investors in making investment decisions. It was concluded that Earnings are more valuable than book value in particular. The sample includes banks that had adopted IFRS and had been in operation since 2006. Although there is some bias in this method, it is based on enough observations of seven listed banks over an eight-year period.

Alabede (2016) value relevance study that covered the period of 2007 to 2014 sampling series of companies from different sectors in Nigeria established that post IFRS accounting information is more valuable than the information provided prior to IFRS adoption, although not significantly, at least for non-financial firms, and EPS appears to be the most relevant information content under IFRS. Omura (2005) assessed the relevance of annual reported book value for five (5) corporations and discovered that book value has long-term relevance on market value. Mandatory adoption of the IFRS has been stated to influence relevance of accounting information significantly, but only when determining the book value of equity (Yukseltuk, Misirlioglu, & Guermat, 2009). However, the study was conducted in a different country and may not be applicable in Nigeria.

Umoren and Enang (2015) analyze to validate if the implementation of IFRS has improved the relevance of earnings and book value thereby focusing on twelve listed banks. It was revealed that book value per share and earnings per share under IFRS are more relevant in deciding price of shares than that obtainable under the Local N-GAAP, however incremental data show that over the post-IFRS period, EPS is more value relevant, whereas book value of equity per share is less so. It may be critical, however, if the same result can be obtained when a sample of all of the listed companies is taken. The report does recommend, however, that cash flows from activities be included in the future analysis.

According to Abubakar's (2010) research whose goal was to experiment the Salisu Human Resources value model on Telecommunications, Media, and Technology (TMT) businesses discovered that accounting information published by Nigerian enterprises provides no significant value relevance to the information's users. Earnings, Book value and change in earnings all play vital role in deciding the price of shares of publicly traded banks in Nigerian, according to another study by the same author. The experiment reveals that when Human Resources value is considered in the financial statements of carefully selected banks, the overall relevance of the accounting information is stronger than when it is ignored (Abubakar, 2011).

Furthermore, Abiodun (2012) investigation revealed that earnings are more valuable than book values. According to the study, and the information in statement of comprehensive income represented by earnings, influences the value of Nigerian firms than the information in the statement of financial position represented by book values. This is in line with what Miko and Kamardin (2016) observed.

In Rahman (2012) study, findings showed that, in comparison to the pricing model, relevance of both book value and earnings grew individually, however when the two were combined, the value relevance of earnings increased and book value became irrelevant. Under the return model, the value significance of earnings has increased, either individually or collectively, whilst the value relevance of book value has fallen. Earnings were discovered to be more important than book value in deciding price of shares and return volatility. Also, the data demonstrated that book value per share and earnings per share were more individually valuable in the price model. However, in a return model, the variables aggregately are more valuable. According to the study, earnings are more useful in determining market values in Jordanian industrial firms. To arrive at a conclusion in line with the empirical research, it is glaring that this line of study on relevance of accounting information has not given a clear direction with the implementation of IFRS, leaving the findings and conclusion unclear. As a result, further research is needed in this field, because Changes in accounting processes between firms, amount of complexity, industry differences, time span, and technique used in these research can all be linked for some of the disputed concerns.

Thus, in line with the result of the preceding researches, it can be concluded that the implementation of IFRS has the potential to alter the present link between company market value and various accounting information in a variety of ways. These previous studies serve as guidance for selecting the accounting information for this study.

Just as seen in several valuation studies that adopted the Edward, Bells and Ohlson's price model (e. g. Olowe & Shehu, 2021; Akpaka et al, 2014; Umobong and akani, 2014; and Abubakar, 2012; Miko, 2016), “Clean Surplus Accounting Theory” developed by James .A. Ohlson in the year 1991 was drawn as the underpinning theory for this study as it evaluates relationship between accounting information and share price.

Methodology

The paradigm for the research is the positivism/ post-positivism school of thought. Correlational research design as well ex-post facto was employed for the study. Secondary source of data extraction was used. 15 banks listed on the Nigerian Exchange Group PLC (NGX) as at 31st December, 2020 constitutes the population of the study and the 8 banks was filtered with the condition that During the observation period, the banks are listed; Between 2005 and 2020, the banks were not taken over or had their names modified; As of December 31, 2020, the banks have international authorisation (license). Data on the dependent variable was collected from the Listed DMBs published annual financial reports while Share prices data for the 3rd month after year end were collected from shares price of Nigerian Exchange Group (NGX) quotations for the period of sixteen years (2005 – 2020). Ordinary Least Square regression (OLS) analysis was used.

The Edward, Bells, and Olhson (EBO) model was used to derive value relevance inferences from financial data in this study. Earnings Per Share (EPS), Cash Flow from Operations (CFOPS), Change in Earnings Per Share (CEPS), and Book Value Per Share (BVPS) are the study's independent variables, while Share Price is the dependent variable (SP). Dummy variable D was also created to measure IFRS adoption (with values of "0" for pre-IFRS adoption periods and "1" for post-IFRS adoption periods, respectively), as suggested by Abubakar (2011), Umobong & Akani (2015), Akpaka, Chandrasekharan and Abubakar (2014); Maigoshi (2014), Shehu (2013), Musa (2015), Adebimpe O. U and Ekwere R. E. (2015).

The following models based on the EBO model have been formulated to undertake the regression analyses:

$SP = a_0 + \beta_1 EPS_{it} + \beta_2 BVPS_{it} + e_{it}$ ……....(1)

$SP_{it} = a_0 + \beta_1 EPS_{it} + \beta_2 BVPS_{it} + \beta_3 CEPS_{it} + \beta_4 CFOPS_{it} + e_{it}$ ……...(2)

$SP_{it} = a_0 + \beta_1 EPS_{it} + \beta_2 BVPS_{it} + \beta_3 CEPS_{it} + \beta_4 CFOP_{it} + \beta_5 IFRS_{it} + \beta_6 EPS_{it} * IFRS_{it} + \beta_7 BVPS_{it} * IFRS_{it} + \beta_8 CEPS_{it} * IFRS_{it} + \beta_9 CFFO_{it} * IFRS_{it} + e_{it}$……(3)

Where:

a_0=	Intercept or constant
SP_{it}=	Share Price
EPS_{it}=	Earnings Per Share of bank i at time t.
$BVPS_{it}$=	Book Value Per Share of bank i at time t.
$CEPS_{it}$=	Change in Earnings Per Share of bank i at time t.
$CFOPS_{it}$=	Cash Flow from Operations of firm i at time t.
EPS * IFRS =	Earnings Per Share interacts with accounting standards firm i at time t
BVPS*IFRS=	Book Value Per Share interacts with accounting standards firm i at time
CEPS*IFRS=	Change in Earning Per Share interacts with accounting standards firm i at time t
CFOPS*IFRS=	Cash Flow from Operation interacts with accounting standards of i at time
β_{1-9}=	Coefficient of explanatory variables
e_{it} =	Error terms

Table 3.1 lists the variables that were chosen for this model and how they were measured..

Table 3.1

Measurement of Variables

VARIABLES	MEASUREMENT	SOURCE
S P	Prices of listed DMBs' shares 3 months post the fiscal year ends.	Akpaka et al (2014), Olowe & Shehu (2021).
E P S	Divide net profit attributable to shareholders by the weighted average number of outstanding ordinary shares.	Akpaka et al (2014), Musa (2015), Ol owe & Shehu (2021).
BVPS	The shareholders' fund/equity divided by the weighted average of outstanding ordinary shares.	Akpaka et al (2014), Musa (2015), Olowe & Shehu (2021).
CEPS	EPS for the current year minus EPS for the prior year.	Akpaka et al (2014), Akpaka (2014), Musa (2015), Olowe & Shehu (2021).
CFOPS	Net income + non -cash expenses + changes in working capital. Measured as Natural Log.	Tochukwu et al (2017), (Omokhudu, 2015 and Bartov et al 2001).
IFRS	International Financial Reporting Standards, Dummy variable D will be introduced ("1" for post IFRS adoption and "0" for pre IFRS adoption period).	(Akpaka et al, 2014; Umobong et al 2015; Maigoshi 2014 and Musa, 2015 , Adebimpe O. U and Ekwere R. E. 2015).
EPS*IFRS	Interaction effect between Earning per share and IFRS adoption.	(Adebimpe O. U and Ekwere R. E., 2015).
BVPS*IFRS	Interaction effect between Book value per share and IFRS adoption.	(Adebimpe O. U and Ekwere R. E., 2015).
CEPS*IFRS	Interaction effect between Change in earnings per share and IFRS adoption.	(Adebimpe O. U and Ekwere R. E. 2015).
CFOPS*IFRS	Interaction effect between Cash flow from operations and IFRS adoption.	

Source: Table of researcher's variable definitions

Results and Discussion

This discussion is organized to reveal the descriptive statistics, the correlation analysis, and the regression results using STATA 13. It also presents the robustness test which includes test for normality, multi-collinearity, heteroskedasticity and hausman test for the appropriate regression output for discussion.

Descriptive Statistics

Table 4.1 presents the summary of the variables in use for the entire eight (8) DMBs with international authorization over the period of 15 years of pre and post mandatory IFRS adoption (2005 to 2020).

Table 4.1: Descriptive Statistics of Variables

Var	SP	EPS	BVPS	CEPS	CFOPS	IFRS
Mean	8.69	1.11	8.16	0.07	5.01	0.56
SD	7.07	1.49	6.85	0.92	14.29	0.49
Min	0.79	-2.12	-18.79	-2.99	-19.81	0.00
Max	35.51	8.74	28.81	2.99	19.08	1.00
Obs	128	128	128	128	128	128
Ske	1.72	2.07	0.04	-0.49	-0.61	-0.25
Kur	6.02	9.22	4.68	5.81	1.61	1.06

Source: *Descriptive statistics from STATA 13.*

The average share price is N 8.69, having N7.0 as the standard deviation, as shown in Table 4.1. The standard deviation is low, indicating that the data is grouped around the mean, showing that the average can be predicted. N35.51 is the highest reported share price, while N0.79 is the lowest.

EPS shows an average of N 1.11 with N1.49 as the standard deviation, according to table 4.1. The standard deviation figure indicates that the EPS average clustered around the mean. The minimum EPS measured over the course of the investigation was N -2.12, with a maximum of N8.74, suggesting that DMBs have a wide range of EPS.

In addition, BVPS revealed an average of N8.16 and N6.85 as its standard deviation, as shown in table 4.1. The average is expected because the standard deviation is low, indicating that the data is grouped around the mean. The lowest BVPS is N-18.79, while the highest is N28.81. The distribution shows a wide variation in BVPS among the DMBs, as evidenced by the lowest and highest values.

Table 4.1 shows that CEPS mean and standard deviation is N0.70 and N0.92 respectively. The mean is expected as the standard deviation is minimal, implying that the data is grouped around the mean. The CEPS varies from N-2.99 to N2.99, with the lowest being N-2.99 and the maximum being N2.99.

In addition, CFOPS shows an average of N5.01 with N14.29 as its standard deviation, as shown in table 4.1. The standard deviation is widely spread from the mean, thus this is unexpected. The minimum and maximum CFOPS are N-19.81 and N19.80, respectively. As can be seen from the minimum and highest values, CFOPS shows a minimum and maximum value of 0.00 and 1.00, respectively, the IFRS revealed a mean of N0.56 with N0.49 as its standard deviation.

4.2 Correlation Matrix

The link between the variables employed in the analysis is shown in Table 4.2. At -0.23, the connection between SP and EPS is negative. This indicates that as EPS rises, SP falls, and vice versa. SP is also favorably connected with BVPS (coefficient of 0.59), CEPS (coefficient of 0.53), and CFOP (coefficient of 0.09). As a result, an increase in SP leads to an increase in book value, earnings change, and cash flow from operations of Nigeria's listed deposit money banks.

Table 4.2: Correlation Matrix of the Dependent and Independent Variables

	SP	EPS	BVPS	CEPS	CFOPS	IFRS
SP	1.00					
EPS	-0.23	1.00				
BVPS	0.59	-0.04	1.00			
CEPS	0.53	-0.16	0.76	1.00		
CFOPS	0.08	-0.20	0.18	0.20	1.00	
IFRS	0.51	-0.67	0.33	0.25	0.05	1.00

Source: *Correlation matrix from STATA 13*

Table 4.2 further reveals that, at 0.51, SP has a positive association with IFRS. These indicate that the introduction of IFRS and its interactions with the independent factors raised the share price of listed DMBs. The outcome is unsurprising, given that listed deposit money banks adopted the International Financial Reporting Standards (IFRS) to increase value. Analysts appear to prefer fair value accounting, which is based on IFRS, because it tends to depict reality more accurately than historical cost accounting, which is in keeping with the researcher's previous expectation.

EPS depicted a negative relationship with SP, BVPS, CEPS, CFOPS, and IFRS with -0.23, -0.4, -0.16, -0.19, and -0.67 respectively.

Furthermore, BVPS is positively connected to CEPS (0.76), CFOPS (0.18), and IFRS adoption (0.33), indicating that BVPS rises as CEPS, CFOPS, and IFRS rise. With the adoption of IFRS, the use of fair value measurement for assets becomes more significant, and fair value is assumed to be closer to the real worth of an asset at a given point in time than

historical cost accounting. Because fair value is utilized in asset assessment, the net asset should be near to its real worth, influencing the value relevance of accounting information.
In general, the correlation matrix table demonstrated that multi-collinearity among variables is unlikely to pose a threat because none of the variables are highly associated to one another, with none of the correlations exceeding 0.90, as determined by prior research like (Olowe & Shehu, 2021; Abubakar, 2011;Kargin, 2013, Akpaka et al, 2014; Umobong et al 2015; Maigoshi 2014 and Musa, 2015).

Regression Result
The Hausman test yields a chi2 of 23.67 and a p-value of 0.0049, indicating that the fixed effect model is appropriate for the investigation. Table 4.3 reveals the regression result from the fixed effect model.

Table 4.3: Summary of Regression Result

Variable	Coef.	Z	Sig.	VIF	TV
Constant	6.00	5.53	0.000***		
EPS	-0.25	-0.45	0.654	3.84	0.26
BVPS	0.26	3.13	0.002***	4.04	0.25
CEPS	0.72	1.15	0.253	3.2	0.31
CFOPS	0.00	-0.19	0.853	1.23	0.81
IFRS	-2.64	-1.46	0.147	2.52	0.4
EPS*IFRS	0.94	2.82	0.006***	2.46	0.41
BVPS*IFRS	0.17	2.61	0.010***	2.74	0.36
CEPS*IFRS	2.95	3.41	0.001***	3.02	0.33
CFOPS*IFRS	0.10	2.55	0.012***	1.76	0.57
R^2 Within	0.71				
Between	0.04				
Overall	0.40				
F-Statistics	30.61				
Prob> F	0.00				

Source: *Regression output from STATA. 13 (***, ** and * represents, 1% , 5% and 10% respectively).*

Table 4.3 represents regression summary result after employing STATA 13 for data analyses. Hence the equation is restated as:
Spit=-5.99 - 0.25EPSit + 0.26BVPSit + 0.72CEPS - 0.004CFOPSit – 2.64IFRSit + 0.94EPS*IFRSit - 0.17BVPS*IFRSit – 2.95CEPS*IFRSit + 0.09CFOPS*IFRS + εit
The table 4.3 indicates that EPS, BVPS, CEPS, CFOPS, IFRS and EPS*IFRS, BVPS*IFRS, CEPS*IFRS, CFOS*IFRS have VIF that are less than 10 and TV that are less than 1.0. Based on this, the model can be described as fit and robust for the study since there is no evidence of multi-co-linearity.

4.3.1 Earnings Per share and share price

Earnings have a coefficient of -0.25 with a T-value of -0.45 and a P-value of 0.65 according to the figures in Table 4.3. It means that earnings and price of shares of banks have negative and insignificant relationship in the pre-IFRS era. It means that as DMBs' earnings rises, prices of the shares falls. In other words, for every N1 hike in earnings, price is projected to drop by around N0.25k. The outcome of this finding is unexpected because it goes against the researcher's expectations. This could have resulted due to the subjective nature of accounting policies under GAAP which gave room for manipulations which aided earnings management with the presence of fraud risk factor (Cressy, 1959). This in turns could become worrisome to investors every time there is an announcement for an increase in earnings. Hence, reduces the price they are willing to pay for the shares. The findings of this study are valid since they indicate that EPS is a factor in deciding the share price of DMBs listed in Nigeria, which is consistent with the clean surplus and valuation theory. The findings of Maradun (2009), Oyerinde (2011), and Akpaka (2011) research are contradicted by the negative earnings coefficient (2015). The findings, however, are in line with those of Chang et al (2008) and Khanagha (2011), who both found a negative relationship between EPS and share price. This indicates the evidence supporting the null hypothesis not to be rejected ($H_0$1) which states that pre–IFRS adoption earning per share has no significant value relevance on share price of listed deposit money banks in Nigeria.

Book Value per Share and Share Price

The t-value for book value is 3.13, and its beta coefficient is 0.26, with a significant value of 0.002 as given in table 4.3. This means that the book value of DMBs listed in Nigeria is essential in determining the share price. It means as DMBs' book value increases, the price of DMBs' shares increases. With N1 hike in book value, price is expected to climb by around N0.26k. This is in line with the researcher's previous predictions, which are supported by the theory in use. In actuality, superior value implies a higher price, therefore this conclusion holds true. This result is similar to Omura (2005), Kwon (2009), however it differs from Abubakar (2010) and Akpaka (2015), who found that book value per share had a slight negative impact on share prices. This indicates the evidence to reject the null hypothesis ($H_0$2) which states that pre – IFRS adoption Book value per share has no significant value relevance on share price of listed deposit money banks in Nigeria

Change in earning per share and share price

Changes in earnings have a negligible effect on the price, as shown in Table 4.3. The coefficient of 0.72, coupled by a t-value of 1.15 and an insignificant value of 0.253 supports this. This means that the higher the difference in earnings, the higher the stock price. The stock price increases by N0.72k for every N1 increase in earnings. The findings of this study contradict the researcher's predictions, but they are consistent with what is seen in the actual world of investing, where investors fear earnings management, which has led in prior capital market economic crises (Olowe et all, 2017). This finding is similar to that of Akpaka (2015) and Miko (2016), who discovered a negative and insignificant relationship between Earnings Per Share Change and Share Price. This indicates an evidence supporting the null hypothesis not to be rejected ($H_0$3) which states that pre – IFRS adoption Change in earning per share has no significant value relevance on share price of listed Deposit money banks in Nigeria.

Cash flow from operation and share price

Furthermore, the coefficient for CFOPS demonstrates that CFOPS and SP have a negative connection. It has a -0.004 coefficient, a T-value of -0.19, and a p-value of 0.853. The conclusion is that for every 1% increase in CFOPS, the SP falls by 0.4 percent. This result differs from the researcher's expectations, as it would be predicted that CFOPS would have a positive and large impact on SP if earnings increased year after year. The outcome is unexpected because it contradicts the researchers' initial expectations. This indicates the evidence supporting the null hypothesis not to be rejected ($H_0$4) which states that Cash flow from operation has no significant value relevance on share price of listed deposit money banks in Nigeria.

Moderating Variable of IFRS Adoption

The IFRS adoption results revealed an unfavorable and insignificant effect on price with a coefficient of -2.64, T- value of -1.46 and p- value of 0.14. IFRS adoption showed negative but insignificant effect on stock price. The insignificant of co-efficient implies that IFRS has no significant effect on the value relevance of accounting information of listed deposit money banks in Nigeria.

However, as used in the research of Nurina Laili and Zahroh Naimah (2018), this study used IFRS Adoption as a moderating Variable for other representative variables of accounting information in the specified model. The initial coefficient of EPS, BVPS, CEPS, CFOPS and IFRS Adoption was -0.25, 0.26, 0.72, -0.004 and -2.64 with T-value of -0.45, 3.13, 1.15, -0.19 and -1.46 respectively. These values were accompanied by P-values of 0.654, 0.002, 0.253, 0.853 and 0.147 respectively which indicated that only book value per share and IFRS were significantly value relevant. While interacting IFRS adoption with other variables, the coefficient of all the explanatory variables became value relevant as revealed in table 4.4.

EPS*IFRS has a coefficient of 0.94, a T-statistics of 2.82, and a significant value of 0.00, according to table 4.4. (There is a 1% level of significance). It means that earnings per share and the International Financial Reporting Standards (IFRS) have a favorable and significant link with price. It means that as DMBs' EPS*IFRS goes higher, the price investors are willing to pay for the DMBs' stock rises too. i.e., as EPS*IFRS increases by N1, the stock price will rise by approximately N0.94k. This finding is unsurprising because it corresponds to the researcher's assumptions. This could be owing to the objective character of IFRS accounting regulations, which left little or no room for manipulations that could help with earnings management. The findings of this study are valid since they show that EPS has a significant effect on price, which is consistent with market efficiency theory, clean surplus theory, and valuation theory. The finding of a significant and positive coefficient on earnings (EPS*IFRS) is consistent with Akpaka (2015), Oyerinde (2011) and Maradun (2009) who found a significant and favorable link between earnings and price. The result provides us enough evidence to reject the null hypothesis ($H_0$6) which states that post–IFRS adoption earning per share has no significant value relevance on share price of listed deposit money banks in Nigeria.

Furthermore, the t-statistics for book value per share interaction with IFRS (BVPS*IFRS) is 2.82, having a significant figure of 0.010. It suggests that BVPS*IFRS is crucial in deciding share price. It means that as DMBs' BVPS*IFRS rises, the higher the price investors are willing to pay for the DMBs' stock. It means that as BVPS*IFRS increases by N1, price rises by around N0.17k. This is consistent with the researcher's prior expectations, as justified by the theory in use. This conclusion is also true in reality, as better value necessitates a higher price. This finding is consistent

with Omura (2005), but differs from Abubakar (2010) and Akpaka (2015), who found that book value per share has an insignificant negative influence on share prices. The result provides us enough verdicts to reject the null hypothesis ($H_0$7) which posits that post – IFRS adoption book value per share has no significant value relevance on share price of listed deposit money banks in Nigeria.

Changes in earnings interaction with IFRS (CEPS*IFRS) have a favorable and significant effect on price, according to the data in table 4.4. The CEPS*IFRS coefficient of 2.95, which is accompanied by a t-value of 3.41, which is also significant at the 1% level of significance, backs this up (significant statistical value of 0.00). It denotes that as CEPS*IFRS rises, stock price rises. It means that as CEPS*IFRS increases by N1, price rises by N2.95k. Because it corresponds to what is available in the real world of investing, and it is also adequately justified in terms of the theory in use, the result of this finding is in line with the researcher's expectations. In contrast, Akpaka (2015) found an unfavorable and insignificant link between Change in Earnings Per Share and Share Price in another study. The outcome also provides us enough verdicts to reject the null hypothesis ($H_0$8) which states that post–IFRS adoption change in earning per share has no significant value relevance on share price of listed deposit money banks in Nigeria.
The t-statistics for cashflow from operations interaction with IFRS (CFOPS*IFRS) is 2.55, with a beta coefficient of 0.095 and a significant value of 0.01 according to the data in table 4.4. According to this, CFOPS*IFRS is significant in deciding prices. It means that CFOPS*IFRS rises, the higher the prices of shares. As CFOPS*IFRS increases by N1, price increases by approximately N0.095k. This is coherent with the researcher's previous predictions, which are supported by the theory in use. In actuality, superior value implies a higher price, therefore this conclusion holds true. The result also provides us enough verdicts to reject the null hypothesis ($H_0$9) which states that post–IFRS adoption cash flow from operations has no significant value relevance on share price of listed deposit money banks in Nigeria.
Finally, Table 4.4 reveals that the regressor and regressand have a 0.71 degree of association (R). This suggests that the regressors (EPS, BVPS, CEPS, CFOPS, IFRS, EPS*IFRS, BVPS*IFRS, CEPS*IFRS, CFOPS*IFRS, and CFOPS*IFRS) are up to 71 percent significantly and positively linked with the regressand (SP). The regressand will alter in reaction to changes in the regressors, according to this result. As the regressors increase by a unit, the regressand is predicted to rise by 71%. This means that the regressors' combined effect can account for up to 71% of the variation in the regressand, as measured by the R2 value, with the remaining 29% influenced by other factors. Furthermore, the F-statistic of 30.61 indicates that the study's variables were well chosen and can be merged for analysis. As a result, the model fits according to the rule of thumb. 0.000 as the significant value confirms this, indicating that the summarized influence of the regressors is predicted to be significant at the 1%. It means the variables employed to proxy accounting information predicted a favorable and significant effect on price. This implies that the moderating effect of IFRS on financial information is cumulatively value meaningful, which is not surprising given the researcher's earlier expectations. In actuality, the investment decision has been made based on publicly available audited financial data (Olowe & Shehu, 2021). This is in coherent with the clean surplus theory and the predictions of Akpaka (2015) and Uthman and Abdulbaki (2014).

In line with the summarized outcome, we have sufficient justification to reject the null hypothesis ($H_0$5) which states that: There is no significant effect of IFRS on the value relevance of accounting information of listed DMBs in Nigeria.

Conclusion and Recommendations

An accounting standard of excellent quality should be able to explain fluctuations in stocks market price, i.e. explain a significant portion of stock market price volatility. As a result, the study concludes that financial information produced post - IFRS is useful. As a result, accounting data is valuable, and IFRS has effect on Nigeria's publicly traded DMBs. The study goes on to say that pre - IFRS, EPS had an unfavorable and minor effect on share price, whereas after the IFRS adoption, EPS has a positive and large effect. As a result, EPS calculated according to IFRS is value relevant and can be utilized to make market judgments. Before IFRS implementation, BVPS had a favorable and large effect on share price, and after the adoption of IFRS, BVPS had a favourable and large effect on share price as well. As a result, BVPS following IFRS is value relevant and can be used to make market decisions. Prior to the introduction of IFRS, CEPS had a positive but small impact on share price, however with IFRS adoption, CEPS has a favorable and large effect on share price. As a result, CEPS is value relevant following the mandated adoption of IFRS and could be utilized to make market judgments. CFOPS has an unfavorable and minimal effect on stock price prior to the adoption of IFRS, whereas CFOPS has a favorable and considerable effect on stock price after the adoption of IFRS. As a result, CFOPS following IFRS adoption has value and can be used to make market decisions. When considering the cumulative impact of EPS, BVPS, CEPS, CFOP, IFRS, EPS*IFRS, BVPS*IFRS, CEPS*IFRS, and CFOPS*IFRS on share price, the overall R2 is 0.71, indicating that the independent variables can explain 71 percent of the variation in share price. Similarly, the p-0.000 significance suggests that all of the independent factors operate together as a family to influence share price following IFRS adoption, implying that the variables are value relevant.

The general view of improved relevance with adoption of IFRS has been confirmed as the Nigerian listed deposit banks present value relevant accounting information based on earnings, book value, change in earnings, and cash flow from operations proved value relevant, according to the findings of this study. Since IFRS has been proven to improve the value relevance of earnings per share, it is recommended that Nigerian deposit money banks and other publicly traded companies focus their efforts on improving the elements of the statement of financial performance, as investors and other stakeholders will rely on the accounting information presented in the income statement to make informed decisions.

In a situation where the reporting entity has the option of reporting elements of the statements of financial position represented by the book value per share using historical cost accounting or using fair value accounting, the reporting entity should use fair value accounting because it has been shown to increase the value relevance of accounting information.

To improve the impact of IFRS, Directors, audit firms, and regulators should collaborate to stiffen compliance in Nigerian deposit money banks. Because strict regulation and enforcement can bring out the benefits of IFRS and develop more confidence for stakeholders to make informed and relevant decisions based on the information provided on the statement of cash flow.

Deposit money banks and other listed firms across all developing nations as well as regulators should make available all required means to aid comprehension of the effect of IFRS, train staff on IFRS and changes in accounting framework as well as intensifying its enforcement since the implementation of the IFRS has improved the relevance of accounting data..

Organizations should make sure that IFRS should be adopted not just in form but in substance considering the level of confidence stakeholders would be placing on the value relevance of accounting information.

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Weighted Average Cost of Capital and Earnings Management of Listed Conglomerate Companies in Nigeria

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Abstract: *This paper investigates the impact of Weighted Average Cost of Capital (WACC) on the Earnings Management (EM) of the six (6) listed conglomerate companies in Nigeria for a period of ten years (2007 – 2016). The data was collected from the annual reports and accounts of the companies for the period of the study. Using the Stata software version 13 the data was analyzed by means of descriptive statistics to provide summary statistics for the variables, correlation analysis to measure the possibility for multicolinearity among the variables, and Random Effects GLS regression to test the study hypotheses. After controlling for firm growth, profitability and interest coverage, the study finds a positive and statistically significant effect of WACC on EM of the listed conglomerates in Nigeria. This result is a bad signal for the companies in that it may affect investor confidence by casting doubt in the quality of their financial reports. It is therefore recommended that the regulatory bodies should apply relevant interventions that would reduce the risk and cost of doing business in Nigeria as well as strengthening the disclosure requirements of companies.*

Key words: WACC, earnings management, discretionary accruals, earnings manipulation, cost of debt, profitability, firm growth

Introduction

Earnings Management (EM) has been a topic of interest among academics and professionals in the field of accounting and finance (see, McNichols, 2000; Xu, Taylor & Dugan, 2007; Sun & Rath, 2010; Ali & Kamardin, 2018; Oruike, Iraya, Omoro & Otieno, 2021). EM occurs when earnings are manipulated by the management of companies in order to achieve their desired targets. Manipulation of earnings is common because investors and analysts often use the present earnings to project future earnings.

EM has a correlation with the cost of capital of firms in that a current cost of capital could derive future earnings manipulations. It is associated with investment risks in that a change in the relationship between EM and risk leads to a corresponding change in the EM-cost of capital relationship; and the relevance of the cost of capital in any form of business cannot be overemphasized. In a world of open markets and growing competition, companies require enough external funding to survive. The cost of this funding is a major challenge facing every business organization.

In this paper, as an original contribution, we have argued that WACC could impact on the earnings manipulation activities of the listed conglomerate companies in Nigeria. This could be justified by the fact that companies facing current cost of capital challenges based on the results of their financial reports, could indulge in manipulating their earnings to present better financial statements in order to achieve a lower cost of capital in future periods.

Many of the studies on the cost of capital and EM have focused on identifying conditions under which earnings manipulation emerges in a single-firm setting (Gunter, 2012; Kedia &Philippon, 2009; Kumar & Langberg, 2009; Kwon & Yeo, 2009; Peng & Roell, 2008). While these studies have provided many useful insights, their applicability is limited. In a single-firm setting, firm-specific risk is priced because there are no alternative securities that would allow capital providers to diversify away idiosyncratic risk. For this purpose, an industry-wide study capable of providing a more robust result is needed. The findings will be beneficial to investors, auditors and other users of accounting information who will understand the leverage the management of firms have to manipulate financial information.

Review of Literature

WACC is the sum of the weighted costs of all the component sources of funds that make up the capital structure (Nwude, 2016). The average weight of the various sources of financing is the weighted average cost of capital. Van Horne and Wachowicz (1996) found that the rationale behind the use of the WACC is that by financing in the proportions specified and accepting projects yielding more than the weighted average required return, the company is able to increase the market price of its stock. For companies using both debt and equity capital, WACC is calculated using the relative market values of equity and debt with the following formula:

*WACC = (Ke * E) + (Kd * D)……..(1)*

Where Ke = Cost of equity, E = Proportion of equity in the Capital Structure (Market value of equity), Kd = Cost of debt, and

D = Proportion of debt in the Capital Structure (Market value of debt)

The extant literature suggests that there is a relationship between the WACC and the EM. For instance, Adel (2017) examined the relationship between earnings quality and cost of capital in Jordan using data from a large selection of countries for the period 2008 - 2012. He adopted the Dechow, Sloan, and Sweeney (1995) model in measuring earnings quality. The result of the study showed that EM has a negative and significant impact on the cost of capital. Their result might have been affected by the economic differences of the countries involved.

Tahir (2016) examined the impact of EM on capital structure in Pakistan using data from non-financial companies listed on Karachi Stock Exchange for the period 2001-2005. OLS Regression was used for the study. The findings showed that absolute discretionary accruals have a positive and significant relationship with EM.

A study in Iran by Salteh, Valipour Zarenji and Seyad (2012) directly investigated the relationship between EM and the WACC. They collected data from companies on the Teharan Stock Exchange for the period 2003 – 2009. Multivariate linear regression was used for the study. Findings showed that non-discretionary accruals have negative and statistically insignificant relationship with WACC. Perhaps a longer period of study would have produced a more robust result.

In the Netherlands, Balvers (2009) investigated the relationship between EM and the cost of capital of the top 50 firms quoted on the Dutch Stock Exchange on the Euronext Amsterdam between 2001 and 2007. Descriptive statistics, multivariate analysis and OLS regression were used for the study. The result indicated that both cost of debt and cost of equity are negatively significant with the levels of EM measured by the absolute value of discretionary accruals. The study by Balvers (2009) was an improvement over the study of Prevost, A., Skousen, C., and Rao, R. (2008) that used only cost of debt as an independent variable. In addition to the cost of debt, Balvers (2009) also brought the cost of equity into the analysis. Based on the literature reviewed, the following hypothesis was developed:

$H_{01:}$ *Weighted average cost of capital has no significant impact on the earnings management of listed conglomerate companies in Nigeria.*

Theoretical Framework

The guiding theory for this study is the Price Earning Theory. The price earnings ratio is the relationship between a company's stock price and earnings per share. This ratio gives investors a better sense of the market value of the company. The price earning model shows the expectations of the market and it is the price an investor must pay per unit of earnings.

Methodology

This study is an ex- post-facto and based on the correlational research design which is a good explanatory tool of variations in dependent variables of social and management science problems. Data was collected from the annual reports and accounts of the listed conglomerate companies for the period of ten years (2007 – 2016). EM is the dependent variable proxied by the absolute value of discretionary accruals; while the WACC is the independent variable. Further, the study adopts firm growth, profitability and interest coverage as the control variables. The study variables are operationalised in the following table.

Table 1: Variables and their measurement

Variable	Measurement
Earnings Management (EM)	Log of (Total Accruals – Non Discretionary Accruals) as used by Ramesh and Sarthak (2017)
WACC	Log of (Cost of Equity multiplied by the Market value of Equity plus the Cost of Debt multiplied by the Market value of Debt) as used by Nwude (2016).
Growth	Change in Sales to Sales as used by Ramesh and Sarthak (2017)
Interest Coverage	Earnings before Interest & Taxes to Interest expenses as used by Francis, Nanda & Olsson (2008).
Profitability	Profit before tax to Total Assets as used by Ramesh and Sarthak (2017)

Source: compiled by authors

The analysis of the data firstly used the descriptive statistics (mean, standard deviation, minimum and maximum), followed by the basic normality tests including skewness and kurtosis. To test the extent of relationships among the variables and to detect any possibility for multicolinearity, the correlation matrix was also applied. Finally, the multiple regression analysis was conducted to estimate the variation in the dependent variable (EM) that is explained by the independent variable (WACC). Multiple regression technique has been frequently used by researchers on the EM (e.g., Jones, 1991; Balvers, 2009). In line with Balvers (2009), and Dechow et al. (1995) a model was applied to predict the impact of each of the explanatory variable on the EM of the sampled firms. The model is expressed as follows:

$DA_{it} = f(WACC_{it}, IC_{it}, ROA_{it}, FG_{it})$ .....(1)

$DA_{it} = \beta 0_{it} + \beta_1 WACC_{it} +_{\lambda 1\ ICit} + \lambda_2 ROA_{it} + \lambda_3 FG_{it} + e_{it}$.....(2)

Where:

DA_{it} = Discretionary Accruals for company *i* in period *t (DA is measured as* the natural log of Total accruals less Non-discretionary Accruals)

$WACC_{it}$ = Weighted Average Cost of Capital for company *i* in period *t*

IC_{it} = Interest Coverage for company *i* in period *t*

ROA_{it} = Return on Assets for company *i* in period *t*

FG_{it} = Firm Growth for company *i* in period *t*

$B_{0\,i,t}$ = Parameters to be estimated for company *i* in period *t*

β_1 is the regression coefficient of the independent variable for company *i* in period *t*.

$\lambda_{1 \ldots} \lambda_5$ is the regression coefficient of the control variables in period *t*.

e_{it} is the random error for company *i* in period *t*

Results and Discussion

The results of the descriptive statistics, the correlation matrix and the panel data regression are presented respectively in the tables below.

Table 2: Descriptive Statistics

Variables	Obs	Mean	Std. Dev	Min	Max	**Skewness**	**Kurtosis**
Earnings Mgt.	60	14.20487	1.302023	11.42954	17.6899	0.9528	0.4955
WACC	60	23.3772	1.10813	21.25054	25.47544	0.3025	0.0275
Growth	60	32.08287	174.9459	-87.81989	1294.19	0.0000	0.0000
Profitability	60	.0411705	.110945	-.1680643	.5467079	0.0000	0.0000
Interest Coverage	60	7.117028	28.37587	-9.421508	217.655	0.0000	0.0000

Source : Stata Output 13.0

In addition to the descriptive statistics above, analysis was also conducted to test the relationships that exist between the variables of the study. This was done to detect any issue of multicolinearity among the variables. The analysis was conducted through the correlation matrix shown below.

Table 3: Correlation Matrix

Variables	EM	WACC	GR	PROF	IC	VIF
EM	1.0000					
WACC	0.6797	1.0000				1.15
GR	0.3288	-0.2665	1.0000			1.05
PROF	0.0660	-0.1746	0.2160	1.0000		1.12
IC	0.1593	0.0210	0.3043	0.8048	1.0000	1.07
Mean VIF						**1.10**

Source: Stata Output 13.0

The mean VIF is 1.10 which implies that no multicolinearity exists among the variables. Consequently, the panel data regression analysis was conducted below.

Table 4: Regression Analysis

em |	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
wacc |	.9991737	.1780096	5.61	0.000	.6502813	1.348066
gr |	.0003875	.0005915	0.66	0.512	-.0007718	.0015469
pf |	2.14522	1.288254	1.67	0.096	-.379712	4.670151
ic |	-.0031006	.0038662	-0.80	0.423	-.0106782	.004477

No. of observations = 60
Prob > chi2 = 0.0000
R-sq: = 0.4336

The results from the study indicate that the R^2 otherwise referred to as the coefficient of determination is 0.4336. This implies that 43% of the total variation in the dependent variable can be explained by the independent variables included in the study. This result signifies that WACC, firm growth, interest coverage and profitability jointly explain 43% variations in the EM of the listed conglomerate companies in Nigeria. The remaining 57% can be explained by other variables that are not captured in the study. The result also shows that the probability of the F- statistic is significant. This confirms the fitness of the model to predict the dependent variable.

The study documents that after controlling for firm growth, interest coverage and profitability, WACC is positive and statistically significant on the EM of the listed conglomerate companies with the coefficient of 0.99 which indicates a very high impact. This implies that higher WACC significantly increases the magnitude of earnings manipulation in the listed conglomerates sector. This result supports the finding of Mclnnis (2007) and Gunter (2012).

The study also finds that both firm growth and profitability though not variables of interest as were only used as control variables, were both found to be positive but statistically insignificant on the EM of the studied companies. This implies that the conglomerate sector has high incentive to manage earnings. This result supports the findings of Sercu, Vander and Willekens (2006). This also signals that the more profitable the conglomerates become, the more the incentives they have to manage earnings. Hence, investors and other users of financial information should be aware that declaration of huge profits in current years might trigger earnings manipulation in the future. This is consistent with Cupertino, Martinez and Da Costa (2015). Conversely, interest coverage was found to be negative and statistically insignificant with EM of the listed conglomerates implying that the firms that have difficulty paying interests on debt have high incentive to manipulate earnings. This result agrees with the finding of Li and Richie (2016), but contradicts those of Balvers (2009).

Conclusion and Recommendations

The major conclusion derived from the results of this study is that the WACC has positive and significant impact on the extent of the EM of the studied conglomerates. This implies that higher current cost of capital has the tendency of increasing the possibility of earnings manipulations by the studies firms. This may undermine the quality and acceptability of the financial reports presented by these companies which will in turn affect investor confidence. Based on this conclusion, the study recommends that the authorities should use relevant government interventions in the economy that would significantly reduce the cost of doing business in Nigeria. Also, the regulators should increase and strengthen the disclosure requirements of companies to enhance the confidence of the investors and other users of financial information.

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Capital Structure and Financial Performance: A Study of Listed Deposit Money Bank's in Nigeria

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Abstract: *The increasing failure of banks as a result of improper capital mixture has made it important to seek for ways to enhance its value in order to attract investors. Scholars have argued from various quarters that banks must adequately choose the best capital structure. This study examines Capital Structure and Financial Performance of Listed Deposit Money Banks in Nigeria. The study adopted an ex-post facto research design and it considers variables Short term debt (STD), Long term debt (LTD), Equity (EQ), Total debt financing (TDF) and Total debt to Equity (TDE) as proxies for capital structure and financial performance was proxied by (ROA). The study uses secondary data for the study. These data were obtained from annual financial report from all the 14 DMBs listed on the NSE as at 31st December, 2020, which covers the population of the study, not the entire 31 commercial licence banks in Nigeria, from 2009 to 2020. Random Effects Regression model was utilized for the analysis using Stata version 13. The findings show that LTD and TDE has a positive and significant effect on financial performance of listed DMBs in Nigeria. The study recommends that to improve financial performance in DMBs in Nigeria, banks should employ long term debt and total debt to equity financing as this will strengthen their operation by reducing the cost of STD. Professional and qualified personnel should be charged with the financing decision of DMBs in Nigeria since an optimal capital structure is a must for DMBs in Nigeria, if they must compete effectively and survive financial and economic distresses.*

Keywords: Capital structures, financial performance and return on asset.

Introduction

Financial performance is a measure of how well a firm can use assets from its primary mode of business to generate revenue. The term used as a general measure of a firm's overall financial health over a given period of time and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation.

Financial performance reveals the efficient use of resources and the ability to make profit. Thus, it is a significant fact for stakeholders (depositors, creditors, shareholders, state and managers). The depositors, the banks show them the profitability generated for their deposited funds. The creditors, the banks show them the ability of the banks to meet the commitments made for them. The state, financial performance indicates the ability of the banks to pay its tax. The shareholders, the financial performance indicates the return on their investment/invested funds. The managers, financial performance indicates the benefit of their efforts and human capital investment (Aymen, 2018). According to Anarfo and Appiahene (2017) Return on Assets (ROA) indicates how much profit each asset generates. It is computed by dividing net income by total assets.

Banks are very important institutions for the achievement of any economy, Serwadda, (2019), opines that banks primary task is to receive funds from investors and then lend out to the business community that are in need of those funds. Sources of capital shows the capability of the banks to draw more customers and make enhanced investment opportunities (Aymen, 2018).

The instability in the financial performance of banks had led to many reforms in the banking sector especially the Soludo (2004) banking sector consolidation exercise which was done with the objectives of reducing the boom and burst cycle in the banking sector; preventing imminent systemic crisis; and creating a sound banking system that depositors can trust and investors can rely upon among others. There was also a major banking sector reform in 2009 (CBN, 2014).

The Nigerian banking sector is highly regulated and has faced a lot of reforms among which the twenty-five billion-naira re-capitalisation in 2005 was one of it. In the past decades, the observed trend of performance of commercial banks in Nigeria has not been encouraging, as it can be seen from series of abnormalities and signs of stagnation in the banking sector in the 1990s which as a result the Apex bank (Central bank of Nigeria) had to revoke licenses of 31 banks between 1994 and 1998 for reasons including inadequate capitalization, insider dealings and debt overhang (CBN, 2014). There is also the issue of merger and acquisition (Access/Diamond Bank,) Titan Trust Bank taking over Union Bank, if their performance is good, why should they acquire themselves.

The main objective of the study is to examine the effect of capital structure on financial performance of banks in Nigeria.

In line with the objective of the study, the following hypotheses were formulated in null form to guide the study:

$Ho_{1:}$ Short-term debt has no significant effect on the financial performance of DMBs in Nigeria.

Ho_2: Long-term debt has no significant effect on the financial performance of DMBs in Nigeria.
Ho_3: Equity ratio has no significant effect on the financial performance of DMBs in Nigeria.
Ho_4: Total debt has no significant effect on the financial performance of DMBs in Nigeria.
Ho_5: Total debt to equity has no significant effect on the financial performance of DMBs in Nigeria.

The Central Bank of Nigeria (CBN) will benefit immensely from this research in that the findings will reveal possible loopholes and short comings in capital structure with a view to maintain the level of capital structure that will be further reflected in optimum financial performance. The results of the study can be used by the CBN in improving its monitoring role on capital structure in Banks. The findings of this study will contribute to empirical literature on capital structures and financial performance in emerging economies, as it will examine the impact of capital structures on financial performance in the Nigerian banking industry. The result of the study will serve as a reference point for further research as far as capital structure and financial performance are concern.

The rest of the paper is divided into four sections covering discussion on the literature review and theoretical framework, the research method and model specification, result and discussions and conclusion and recommendations.
The study covers a period of twelve years (2009 to 2020). The period under review is deemed relevant to determine the capital structure and financial performance of banking industry and also it is justified because of the major happenings in the Banking industry such as the merger and acquisitions of banks and CBN bail-out intervention.

2. Literature Review

2.2 The Concept of Financial Performance

Financial performance refers to the degree to which financial objectives being or has been accomplished and is an important aspect of finance risk management. It is the process of measuring the results of a firm's policies and operations in monetary terms. It is used to measure firm's overall financial health over a given period of time and can also be used to compare similar firms across the same industry or to compare industries or sectors in aggregation.

Financial performance analysis includes analysis and interpretation of financial statements in such a way that it undertakes a full diagnosis of the profitability and financial soundness of the business. The financial analyst program provides vital methodologies of financial analysis.

Bhunia, Mukhuti, and Roy (2011) define financial performance as company's overall financial well-being over a period of time and these can be used to relate similar company's across the same industry and or sector or to compare industries or sectors in the same aggregation. Similarly, Nyor and Yunusa (2016) defined financial performance as the level of performance of a firm over a stated period of times, expressed in terms of overall profit or losses during the period.
Capital structure is the mix of debt and equity sources in financing the assets of an organization that would reduce the cost of capital and maximize the returns on investment. Equity is a unit of possession interest in a firm; it consists of common stock and preferred stock (Okeke, 2005). Likewise, Watson and Head (2007), asserted that equity financing is also from financial perspectives and or organizational viewpoints (Zeituna and Tian, 2007).

Review of Empirical Studies

Godday and Peter (2021) explores the impact of capital structure optimality on performance metrics of ten (10) multinationals from 2010 to 2019. The study made use of Total Debt to Equity Ratio (TDER), Total Debt to Total Asset Ratio (TDAR), Short-Term Debt to Asset (SDAR), and Long Term Debt to Total Asset Ratio (LDAR) as components of capital structure while Return on Equity (ROE) was used to proxy the performance of the sampled corporations. Data for the study was derived from the annual reports of the sampled multinationals over the period under consideration. Using the panel data methodology, the study supports the fixed effect model as suggested by the Hausman test. Results from the fixed effect model shows that TDER exerts negative but significant impact on the ROE of multi-nationals in Nigeria. Meanwhile, both TDAR and SDAR exert positive but insignificant impact on the ROE of multi-nationals in Nigeria. However, LDAR ratio exerts negative but insignificant impact on the ROE of multi-nationals in Nigeria. The study concludes, that the prudent used of mix of TDAR and TDER can achieve optimal performance of firms in multinationals in Nigeria.
Similarly, Bello, Pembi and Vandi (2020) assess the impact of capital structure on the financial performance of DMBs in Nigeria. The study adopted an ex-post facto research design and it considers variables Long Term Debt to Asset (LTD/TA), Short Term Debt to Total Asset (STD/TA) and Total Debt to Total Asset (TD/TA) of capital structure and financial performance which was used as proxy by Return On Asset (ROA). The study sourced secondary data using a suitable sampling technique based on the accessibility of data during the period of the study. These data were obtained from annual financial report of the five sampled DMBs in Nigeria covering a period of 2009 -2018. The data obtained were analysed using descriptive statistic (i.e. mean and standard deviation) and inferential statistic (i.e. Pearson correlation and regression analysis). The results of the analysis reveal that STDTA and TDTA have significant positive impact on ROA. While LTDTA has insignificant positive impact on ROA.
Also, Etale and Ekpulu (2019) investigates the effect of capital structure composition on the financial performance of DMBs in Nigeria. The study employs the ex post facto research design, and data were obtained from *the selected DMBs*

from fact book covering 2009-2018. Data estimate was done using the Ordinary Least Square (OLS) techniques. Descriptive statistic, correlation, and time-series regression analysis were further conducted. Some outstanding diagnostic test and model selection criteria were used to determine the good fit of the model using E-views 9 econometric package. Findings from the experimental study show that debt equity ratio, debt-capital employed ratio, and equity-capital employed ratio have significant and positive correlation with return on total assets which is the alternate for firm performance for the study period. The study commends that in the face of trade-off in capital structure decision, DMBs should have an optimum mix of capital structure, and should also monitor the dynamic forces and level of leverage that could eradicate the tax shield and decrease return on total assets.

Nwude and Anyalechi (2018) evaluates the influence of financing mix on the performance of commercial banks, and the underlying relation between debt-equity ratios. Data collated were analyzed using correlation analysis, pooled OLS regression analysis, fixed effect panel analysis, random effect panel analysis, granger causality analysis, as well as post estimate test such as restricted f test of heterogeneity and Hausman test. The findings show that although debt finance use negative and substantial impact on return on asset, the debt-equity ratio has positive and substantial influence on return on equity. There was neither unidirectional nor bidirectional link between capital structure and performance of commercial banks in Nigeria.

Theoretical Review

There exist many theories that underpins capital structure and financial performance which includes: *Modigliani and Miller Theory, Agency Cost Theory, Static-Trade off Theory, Pecking Order Theory and the Market Timing Theory*. Considering the objectives of the study which is to examine the effect of capital structure on financial performance of Banks in Nigeria, trade off theory will be adopted being the best theory that explained the relationship between capital structure and financial performance. To argue this, Kraus and Litzenberger (1973), develops the theory of optimal leverage ratio in which the trade-off between costs and benefits of taxes when decision of debt financing is considered. Borrowing saves the firm money on its corporate taxes, but the more it borrows, the more likely it will go bankrupt. At the relatively low debt levels, the probability of bankruptcy and financial distress is low; hence the benefits of tax shield from debt may outweigh the costs. Nonetheless, at the very high debt level, tax advantage of debts may be offset by the bankruptcy costs. This is the main idea of static trade-off theory of capital structure, saying that firms borrow up to the point where marginal benefits of tax shield should be higher than marginal bankruptcy costs. This is premised on the fact that the theory considers comparison between tax advantages and disadvantages of various sources of finance and their effect on value in determining the sources of finance for a firm.

3. Methodology and Model Specification

The population of the study consist of all the 14 banks listed on the Nigerian Stock Exchange as at 31st December, 2020.The time frame for the study is 12 years, 2009 to 2020. Random effect regression model was used to test the model of the study and Stata 13 was used as a tool of analysis. Therefore, the sample includes all the 14 banks listed in the Nigerian stock Exchange as at 31st December, 2020.

3.2 Model Specification

Model of the study which will be used in testing of the hypotheses is presented thus:

$$\mathbf{ROA_{it} = FS\ (STD, LTD, EQ, TDF, TDE)}$$

Transforming the above function to linear equation gives:

$$\mathbf{ROA_{it} = \beta_0 + \beta_1 STD_{it} + \beta_2 LTD_{it}\ \beta_3 EQ_{it} + \beta_4 TDF_{it} + \beta_5 TDEit + \beta_6 FS_{it} + \mu_{it}}$$

Where:

ROA = Returns on Assets
i = Entity
t = Time
β_0 = Intercept
$\beta_1 - \beta_6$ = Coefficient
STD = Short term debt
LTD = Long term debt
EQ = Equity
TDF = **Total** debt financing
TDE = Total debt to equity
FS = **Firm** size
μ = Error term

4. Results and Discussion

This segment presents the analysis of the data and test of hypotheses formulated in section one of the work. First descriptive statistics is presented and analysed, followed by the correlation matrix table and the summary of regression result table, the policy implications and recommendation are made and drawn from the findings of the study.

The descriptive statistics for each of the variables were designed to show the Minimum, Maximum, Mean and

Table 1 Summary of Descriptive Statistics

Variable	Min	Max	Mean	Std.Dev	Skewness	Kurtosis
ROA	0.010	0.600	0.177	0.101	1.393	5.967
STD	0.004	0.670	0.135	0.108	1.421	6.345
LTD	0.040	0.900	0.255	0.068	4.125	50.96
EQ	0.004	0.900	0.183	0.261	1.865	4.959
TD	0.020	0.900	0.271	0.080	3.948	36.86
TDE	0.008	1.120	0.647	0.281	-1.104	3.131
FS	0.740	0.990	0.864	0.075	0.059	1.388

Source: Stata 13 Output.

Table 1 presents detailed descriptive statistics for both dependent and the independent variables of the study. From table 1, it appears that the minimum level of ROA among listed Banks in Nigeria is 0.010 and the maximum is 0.60, the average is 17%. This implies that 17% of the Banks return on assets constitute the normal performances of the listed DMBs in Nigeria. Also, there is no dispersion of data from the mean, as the standard deviation is 0.10 against the mean value of 17%. This further signifies that the data is normal.

The descriptive statistics result in table 1 further shows that short term debt has an average mean value of 13% with a minimum value of 0.004 and a maximum value of 0.670. Similarly, LTD reveals an average value of 25%, this value ranges from a minimum of 0.040 to a maximum of 0.900 signifying how Nigerian Banks engaged long term debt in financing their activities. This indicates how long-term debt tends to improve financial performance of DMBs in Nigeria due to its low-priced and easy access. Equity has a mean value of 18% with a minimum value of 0.004 and maximum value of 0.900 signifying that Equity holds financial performance in the Nigerian banking industry.

In the same vein, total debt shows an average 27% with a minimum value of 0.020 to a maximum value of 0.900 implying that Nigerian Banks debt is on the average thereby improving their financial performance. Total debt to equity has an average value of 64%, a minimum value of 0.008 and a maximum value of 1.120 signifying that Nigerian banks meet shareholders equity and its ability to meet its outstanding debt obligation in the event of a business downturn.

Furthermore, from the skewness and kurtosis which measures the thickness and peakness or nature of the data, test for normality of the data or the existence of outliers or extreme values among all the variables shows that have a skewness and kurtosis values that are both normal and abnormal except FS which have a skewness value of 0.059 and a kurtosis value of 1.388 which are all said to be normal. This means that the data collected were free from outlier bias and are reliable for drawing generalization. The full result of the test is attached as appendix. Nevertheless, the normality of the data does not affect the statistical inference of the study (Gaussian theory 1929).

Correlation Matrix

Table 2 shows the correlation values between independent and dependent variables and among independent variables themselves.

Table 2 Summary of Correlation Matrix

	ROA	STD	LTD	EQT	TD	TDE	FS
ROA	1.0000						
STD	0.055	1.0000					
LTD	0.219	0.041	1.0000				
EQ	0.003	0.134	-0.049	1.0000			
TD	0.110	-0.090	0.140	-0.009	1.0000		
TDE	-0.166	-0.000	0.165	-0.113	0.182	1.0000	
FS	0.024	-0.136	-0.006	-0.045	-0.002	-0.024	1.0000

Source: Stata 13 Output.

The correlation among the independent variables all shows negative relations except that of LTD, and Equity with STD, TD with LTD, and TDE with TD. Also, no sign of multicolinearity effect among the independent variables since none of the parameters exceeded 18%.

However, the correlation matrix further revealed that no two explanatory variables were perfectly correlated, that is Short-term debt 5%, Long-term debt 21%, Equity 3%, Total debt 11% and Total debt to Equity is 16%. This means that there is the presence of multicolinearity in our model. This shows that appropriateness of fitting model of the study with five independent variables and the control variable in order to see their impact on Returns on Asset of listed banks in Nigeria.

The analysis of the relationships among the independent variables themselves indicated mostly positive and insignificant. However, to conclude the relation and the impact of the dependent variable (ROA) and all the pairs of independent variables (STD, LTD, EQ, TD, and TDE) of Nigerian DMB's the estimators from the regression of the model of the study is analysed.

Table 3 Summary of Random-Effect GLS Regression Result

Variables	Coefficient	Z -Values	P>Z -Values	VIF Tolerance Values
Constant	0.674	0.53	0.596	-
STD	0.377	0.49	0.622	0.953
LTD	0.281	2.42	0.015	0.954
EQ	0.007	0.24	0.810	0.963
TD	0.110	1.16	0.247	0.943
TDE	-0.073	-2.50	0.012	0.875
FS	0.056	0.42	0.675	0.917
R-Squared	0.312			
F-Statistics	3.18			
Hettest (Prob>chi2)	0.125			
Hausman (Prob>chi2)	0.745			
Xttest (Prob>chibar2)	0.004			
Prob (F. Sig)	0.005			

Source: Random-Effect GLS Regression Result Stata 13 Output.

The random effect GLS regression results displayed in table 3 reveals that the cumulative R-squared (0.312) which is the multiple coefficients of determination. This shows that short-term debt, long-term debt, equity, total debt, total debt to equity and firm size jointly explained the systematic variations in returns on asset among the listed Banks in Nigeria with 32%, which implies that all the independent variables explain the dependent variables at 32%, where the remaining 68% is explained by other factors not captured in the model. Similarly, the result of the F- statistics value of 3.18 implies that the model is fit and is significant at 1% considering the rule of thumb of 2 (Hassan & Abubakar 2012). Therefore, the model is fit, and the explanatory variables are properly selected, combined and used as substantial value of the capital structure is accounted for by the explanatory variables. Hence, the finding of the study is relied upon.

The regression result in Table 3 further revealed that short-term debt is positive (0.622) but insignificantly influencing returns on assets with coefficients. The positive effect is associated with short-term debt of Nigerian listed Banks as confirmed in descriptive analysis, and also frequent changes in short-term debt capital of Nigerian listed Banks are highly associated with systematic depreciation of banks' assets attributed to high cost of short-term debt financing. The findings as revealed in the regression results is consistent with the findings of Zeitun and Tian (2007); Abor (2008); Ebaid (2009); Onaolapo and Kajola (2010); San and Heng (2011), respectively but refuted the findings of Mojtaba and Shahoo (2011); Khan (2012) and Zuraidah *et al.* (2012) systematically. Therefore, in line with the result the null hypotheses $Ho_{1,}$ is rejected.

The results further demonstrate clearly that long-term debt was found to have positive value of 0.015 and is significantly impacted on banks financial performance at 5% level of significance. The outcome provides evidence that long-term debts positively affects financial performance of banks through ROA. This outcome is in line with the findings of Zeitun and Tian (2007); Zuraidah *et al.* (2012) and Khan (2012) and contradicts Garcia-Terul and Martinez-Solano (2007).

Theoretical body of knowledge argues that long-term debt provides tax shield. Thus, is cheaper source of financing than equity to certain extent. After certain level, the cost of debt outweighs the tax benefits. From the analysis, we observed that, sampled banks which engaged long-term debt enjoyed higher financial performance. Also, in line with the results of the study, we accept the null hypotheses Ho_2.

Considering the impact of equity on financial performance of Nigerian listed banks, the results of our regression estimation

revealed positive and insignificant outcomes of 0.810. This is an implication that equity is positive but insignificantly impacted on banks financial performance. The result corresponds those of Mwangi (2010); Onaolapo and Kajola (2010) and Khan (2012) and also contradicts San and Heng (2011). This can best be supported by the argument that borrowing reduces varying levels of risk to the company and on the Return on Assets. Thus, this provides an evidence of rejecting the third null hypotheses Ho_3.

Also, Total debt is positively impacted financial performance with a positive and significant value of 0.247 which is significant at 24%. This is in consonance with the findings of *Bello, Pembi and Vandi (2020)* Osuji and Odita (2012). It was shown in the studies of Ahmad*, et al* (2012); Boroujeni *(*2013); Nadeesha and Pieris (2014), and Sekar (2014), that total debt has significant relationship with ROA while all capital structure indicators have significant relationship with ROE. Similarly, this provides an evidence of rejecting the third null hypotheses Ho_4.

while Total debt to Equity positively impacted the financial performance of banks with a value of 0.012 on Return on Assets at 5%. Etale and Ekpulu (2019) and Abur-rub (2012) results showed a positive significant relationship between firm's capital structure and their performance. This result is at variance with Ruan (2011) and Cheng and Tzeng (2011) but agrees with that of Olorunfemi and David (2010). In line with the above preposition, this provides enough evidence of accepting the fifth null hypotheses Ho_5.

For control variable, Firm Size appears to be negative and insignificantly influencing the level of profitability in Banks listed in Nigeria with a positive value of 0.675 which is insignificant. This implies that, the larger a firm is, the more likely that it would boost the profitability of banks.

5. Conclusion and Recommendations.

The study has provided evidence on the usage of five independent variables that made up capital structure (short-term debt, long-term debt, equity, total debt and total debt to equity) in predicting financial performance of listed banks in Nigeria; the study introduced firm size as control variable.

Similarly, findings showed out that, long-term debt is positive and significant which affects banks financial performance through ROA, the study findings contradict Garcia-Terul and Martinez-Solano (2007) that long-term debt is positively correlated with firm's growth opportunities. Long-term debt is the best financing tool for banks. Also, Total debt to equity is positive and significant which also affects banks financial performance through ROA

Therefore, the study concluded that short term debt, equity and total debt are not strong drivers of financial performance of DMBs in Nigeria within the period of the study. On the whole, the study concludes that long term debt and total debt to equity are strong drivers of financial performance DMBs in Nigeria. The outcome of this study is in consonance with trade off theory being the best theory that explained the relationship between capital structure and financial performance. This is premised on the fact that the theory considers comparison between tax advantages and disadvantages of various sources of finance and their effect on value in determining the sources of finance for a firm, a bank is better financed by long-term debt than short-term debt and total debt to equity financing.

In line with the findings and conclusions of the study, the study recommends that Long-term debt finance is highly tangible with banks; hence, policies need to be formulated that would encourage banks to accumulate huge and tangible assets that needs to be pursued. Hence, tax discount and exemptions can be granted accordingly. In order to improve financial performance of listed DMBs in Nigeria, banks should embark on long-term debt as this will strengthen their performance by reducing the cost of equity financing, which in turn lead to credit rationing. Total debt to equity improves financial performance, the study therefore also recommends that banks should re-evaluate their cash flow management strategies in order to enable them operate more profitably as well as generate enough cash sufficient enough to meet their daily obligations to facilitate better performance of the banks.

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Effect of Intangible Asset Disclosure on The Value Relevance of Listed Deposit Money Banks in Nigeria

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***Abstract*:** *The need for the disclosure of financial reporting is important to the users due to the growing complexity in the business environment. Intangible assets disclosure, for institutions has different disclosure requirements. This study was carried out to examine the effect of intangible assets disclosure on the value relevance of listed banks in Nigeria from 2016 to 2020 with a firm year observation of 45 and the data used in the study were from the secondary which were obtained from the annual reports of banks. GLS regression was employed in the analysis of the data and the results from the regression analysis shows that book value per share and intangible assets disclosure were positive and significantly influencing the share price of the listed deposit money banks in Nigeria. The study concludes that investors' reaction to the share prices of Nigerian deposit money banks is determined by the aggregate of book value and intangible assets information published in the financial statements. Based on the findings and conclusion of this study, it was recommended that the management of Nigerian quoted deposit money banks should give more attention to intangibles, in order to enrich the content of financial statements and increase the pertinence of accounting number. Similarly, auditors must give more attention to intangibles' examination process, in order to certify the amounts related to them in the financial statements, and hence enrich their reliability, because this provides adequate guarantee for investors to use them in decision making.*

Keywords: Value Relevance, Earnings Per Share, Book Value Per Share, Accounting Information and Intangible Assets.

Introduction

Financial statement is the means of communicating the affairs of the company to the outside stakeholders. It carries vital information required by creditors, shareholders, external auditors and other interest groups such as the government. These stakeholders have various but different items of interest in the financial statement. They focus on items that serve or protect their interest. From the foregoing, it can be said that the importance of information concerning accounting numbers to the various stakeholders cannot be over emphasized. Moreover, since the public relies heavily on the financial statement for decision making, the financial statement has to be reliable, that is, free from both intended and unintended bias.

Information in the financial statement is the product of corporate accounting and external reporting systems that measure and publicly disclose data concerning the true state and performance of publicly held firms. Financial statement is to satisfy the users' information needs that is helpful in decision making. Therefore, managers prepare and present financial statements, which represent the main source of information. The purpose of financial statements is to provide useful information about financial position, performance and changes in financial position of a firm. The usefulness of accounting information has been constantly expressed in the literature by the term "value relevance", which measures the efficacy of accounting figures from the viewpoint of equity valuation. The value relevance reflects the main function of accounting, which relates to the supplying of useful information that enables investors to value securities and make rational decisions. The objective of value relevance research is to relate financial statement figures to a measure of firm's value and, to assess the relation of such information to the determination of value (Dahmash & Qabajeh, 2012). These financial statements, according to the Generally Accepted Accounting Principles (GAAP) have four main qualitative characteristics that should be met in order for it to succeed in its purpose: relevance, reliability, understandability, and comparability. The International Accounting Standard Board (IASB) Framework (2011), shows that accounting information is only relevant when users are able to evaluate past, present or future events in taking economic decisions. This means that accounting information can be relevant when they reflect information used by investors to appreciate the firm's value. According to Lam, Sami and Zhou (2013), the higher the value relevance, the more financial statements can be relied upon to make investment decisions and thus the greater the association between financial statement items and firm market values.

The advent of intensified technological business environment together with intensified business competition have joined to help highlight intangibles asset as one of the major drivers of corporate value. The measurement and reporting of intangibles has attracted keen interest from accounting researchers, this is prompted by the growing gap between the book

value and market value of companies (Marna&Charl, 2012). Concerns rose since many intangibles are not recognized as assets, due in part to the conservative nature of asset recognition criteria and concerns for contemporary accounting standards reliability. Therefore, entities investing in intangible assets characterized by high levels of uncertainty have restricted capacity to recognize some intangibles as assets, and thereby have difficulty communicating relevant financial information to external parties. Because of diminish in the information content of financial statements, it has led to considerable interest in ways of measuring and reporting intangible assets. Most studies focusing on the relevance of intangible assets have concluded that several types of intangibles are relevant to investors, collectively, these studies have found that available estimates of intangible assets reliably reflect the assessed values of these assets by investors, and that they have a significant positive association with share prices.

Today's economy is driven primarily by the creation of intangibles, which are a key factor for development and success of organizations competing in the economic and technological context (Córcoles, 2010). From a managerial approach, considers that intangibles represent strategic assets that give competitive advantages for firms and sustain them. While from an economic approach, intangibles have become the main instigator of value creation and growth (Moore & Craig, 2008). Consequently, IASB has worked hardly to develop guidelines for identification, recognition and measurement of intangible assets, and some directions for their disclosure, in order to improve financial statements content. In Nigeria, the banking sector forms one of the pillars of economic development. Given the fact that banks in Nigeria are intangible intensive, intangible assets form a significant part of banks total asset. Unlike manufacturing firms that rely heavily on machinery, banks operations and valuation is tied to its investment in intangibles. Argument is in respect of the reliability of those intangibles, where the treatment of some of the intangibles as expenses rather than capitalizing, therefore, there is need to study the value relevance and reliability of those intangibles when they are reported as assets in the statement of financial position.

Thus, the main purpose of this paper is to investigate the role of intangibles in the valuation of deposit money banks listed in the Nigerian stock exchange.

1.1 Statement of the problem

Accounting for intangible assets is a long running, complex and controversial issue largely because of the difficulties in obtaining reliable estimates of value for these assets, despite their increasingly significant role in enhancing firm value. Due to the complexities in their underlying economics, most intangible investments fail to meet the asset recognition criteria outlined in traditional financial reporting systems (Kabir, 2008). The difficulties associated with the measurement and recognition of intangible investments lead to a significant portion of these investments being expensed as incurred in most accounting regulatory frameworks. Nonetheless, it is argued that such accounting practices might significantly understate the economic value of intangible assets, leading to reduced usefulness or relevance of accounting information (Wyatt, Matolcsy & Stokes, 2001).

One of the motivations for conducting this study stems from the ongoing discussion concerning intangible assets. For example, the history of the standard setting development for intangible assets can be characterised as lengthy, complicated and highly controversial. Further, it continues to receive a lot of interest due to the international convergence among the major national standard setters and the International Accounting Standards Board (IASB). Therefore, it appears that the issue of intangible assets has always been, and continues to be, one of the important areas of interest for standard setters. Nonetheless, these standard setting bodies are still struggling in establishing a consistent set of guidelines for the identification, measurement, reporting and management of intangible assets. Moreover, the increasing significance of the role of intangible assets in enhancing firm value in today's knowledge-based and technology-intensive economy puts more emphasis on the need for more research in this area. This provides a general motivation in conducting this study in an attempt to assist the relevant parties affected by this issue, particularly the policy makers. In view of the above problems, one of the major arguments that emerged in the literature, is that whether recognizing intangible as assets will improve the quality of accounting information via value relevance. Studies such as Sahut, Boulerne and Frédéric (2011), Hartini and Hazianti (2013), Xu- Dong and Wei (2014), Salisu and Modibbo (2015), among others did not study the effect of the value relevance of intangible assets in an emerging economy. Given the fact that banks financial statement is intangible intensive, where the treatment of some of the intangibles is expensing rather than capitalizing, there is need to study the value relevance of these intangibles when they are reported as assets in the statement of financial position.

1.2 Objectives of the Study

The main objective of this study is to assess the effect of intangible assets disclosure on the value relevance of listed deposit money banks in Nigeria. The specific objectives of the study are:

i. To determine the effect of book value per share on the share price of deposit money banks in Nigeria.
ii. To examine the effect of earnings per share on the share price of deposit money banks in Nigeria.
iii. To assess the effect of intangible asset disclosure on the share price of deposit money banks in Nigeria.

1.3 Hypotheses of the Study

The following hypotheses are formulated in null form as follows:

H_{01}: Book value per share has no significant effect on the share price of listed deposit money banks in Nigeria.

H_{02}: Earnings per share has no significant effect on the share price of listed deposit money banks in Nigeria.

H_{03}: Intangible asset disclosure has no significant effect on the share price of listed deposit money banks in Nigeria.

1.4 Scope and Significance of the Study

This study examines the effect of intangible assets disclosure on the value relevance of listed deposit money banks in Nigeria. It is therefore restricted to three main variables of the accounting numbers (book value per share, earnings per share and intangible assets disclosure), while the value relevance in the context of the study refers to bank value (proxied by share price). The study covers the period of five years (2016-2020), this period was chosen due to increase in the value of intangible asset contained in banks financial statement.

The study will be of benefit to stakeholders. Investors are identified as one of the primary users of financial information. Potential investors make use of financial statements to assess the viability of investing in a company and the quality of financial information is important in their decision making. Intangible assets being an important element of the financial statement hence, this study will help investors to acknowledge the relevance of intangible assets in relation to firm value. The shareholders are the major risk bearers in a company and they rely on the completeness of the information in the financial statement to assess the performance of a company, thus, the outcome of this research will bring to light the importance of full disclosure of financial information. It will help to shed light on those areas that need more attention in order to ensure faithful representation of the financial statement of banks in Nigeria. Also, the result of this research can benefit other researchers as it adds to the pool of knowledge by providing an empirical ground on the relationship between intangible assets and value relevance of banks in Nigeria.

2. Literature Review and Theoretical Framework

The construct of value relevance can be defined in a number of ways. Barth, Beaver and Landsman (2001), simply state that value relevance is the examination of the association between accounting amounts and equity market values. In a more thorough discussion of the construct, Francis and Schipper (1999), offer four interpretations of value relevance. Interpretation one is that financial statement information influences stock prices by capturing intrinsic share values toward which stock prices drift. Under interpretation two, Francis and Schipper (1999), state that financial information is value relevant if it contains the variables used in a valuation model or assists in predicting those variables, while interpretation three and four are based on value relevance as indicated by a statistical association between financial information and prices or returns. Consistent with Francis and Schipper's (1999) fourth interpretation of value relevance, this study defines value relevance as the ability of financial statement information to capture and summaries information that determines the firm's value.

Intangible assets according to IASB are defined in IAS 38, as an identifiable, non-monetary assets without physical substance held for use in the production or supply of goods or services for rental to others, or for administrative purposes, that; (a) are identifiable; (b) are controlled by an enterprise as a result of past events; and (c) from which future economic benefits are expected to flow to the enterprises.

2.1 Review of Empirical Studies

This section reviews prior studies undertaken that is similar to the subject matter. Sahut, Boulerne and Frédéric (2011), compared the value relevance of intangible assets under IFRS with local GAAP for European listed companies; their sample included 1855 companies for ten European countries. The study has been carried out over six-year period, from 2002 to 2004 for local GAAP, and from 2005 to 2007 for IFRS. It arises that book values of identifiable intangible assets were higher and have more informative value to explain share prices and stock returns under IFRS than local European GAAP. Exception of Italy and Finland, the identifiable intangible assets provided more value relevance information.

Furthermore, Hartini and Hazianti (2013), conducted a study on firm life cycle and the value relevance of intangible assets. This study examines the relationship between accounting choice for intangible assets and their value relevance as well as the moderating effect of firm life cycle on this relationship, in the pre- and post-Australian Equivalents to International Financial Reporting Standards (AIFRS) periods. The findings indicate that during the pre-AIFRS period, identifiable intangible assets are regarded by the Australian market as value relevant. The results also suggest that although there is a significant difference in value relevance between decline and mature firms, the same effect is not present between growth and mature firms. Further, the results indicate that identifiable intangible assets for growth and mature firms are value relevant but not for Decline firms. Although the findings provide support to previous studies on the use of accounting choice as a signaling mechanism. A comparison between the pre- and post-AIFRS period suggests that the market attaches higher value relevance to identifiable intangible assets after the adoption of AIFRS. The findings also suggest that AIFRS implementation has led to an increase in the value relevance in all three firm life cycle stages and that

there is no significant difference between these stages. Nonetheless, the impact of AIFRS implementation is more substantial for decline firms with evidence of value relevance found only in the post-AIFRS period. This suggests that the concerns over a more restrictive accounting treatment for intangible assets following the adoption of AIFRS could lead to firms providing less value-relevant information might be overstated and unwarranted. The draw back in this study is that the disclosure check list used is peculiar to Australian firms and this can affect the generalization of the result.

In conjunction, Xu- Dong and Wei (2014), conducted a study on the value relevance and reliability of intangible assets of Australian firms before and after adopting IFRS. The purpose of this study is to examine the value relevance of intangible assets, including goodwill and other types of intangibles in the pre and post adoption period of IFRS. Furthermore this study reports whether the adoption of IFRS improves the value relevance of intangible assets and alters the relationship between value relevance and reliability. The study made use of both the price and return models based on the Ohlson theory (1995). The period covered is from 2001 to 2009. The result revels that capitalized intangible assets are value relevant in Australia, in both the pre and post adoption of IFRS periods. Value relevance is higher in firms with more reliable information on intangible assets. This study finds that the value relevance of intangibles has declined in the post adoption period of IFRS. However, the positive relationship between the value relevance and the reliability of intangibles has remained unchanged in the post adoption period. The draw back in this study is that the result may not reflect current happenings as the period covered may have been over taken by recent happenings.

Also, Salisu and Modibbo (2015), examined intangible assets and value relevance of accounting information of listed high-tech firms in Nigeria using a sample of nine high-technology firms during the period of seven years (2005-2011), the study employed Ordinary Least Square Regression technique for data analysis using Edward, Bells and Ohlson Price model. The result revealed that, there is joint incremental value relevance of recognizing intangible assets in the statement of financial positions of High-Technology firms in Nigeria, that is, recognizing intangible assets, of listed high-technology firms in Nigeria will increase the quality of accounting information of the firms. The study found that intangible assets are value relevance and reliable. The draw back in this study is that the result may not reflect current happenings as the period covered may have been over taken by recent happenings.

Likewise, Bilal and Abdenacer (2016), did a study on the impact of intangibles on the value relevance of accounting information of French companies. The study aims to explore whether intangible items that are recognised in the financial statements are value relevant to investors in the French context, and whether these items affect the value relevance of accounting information. The data was collected from a sample of French listed companies over the nine year period of 2005 to 2013. The findings indicate that intangibles are value relevant. That is to say that intangibles improve the value relevance of accounting information. The draw back in this study is that the result may not reflect current happenings as the period covered may have been over taken by recent happenings.

Moreover, Kimouche (2016), conducted a study on the value relevance of intangible asset of Algerian listed companies. The study explored whether the amounts of intangible assets that reported in financial statements of Algerian listed companies are value relevant, and whether they have incremental value relevance. The study included all non-financial Algerian listed companies during the period of 2005 to 2013. The study made use of the Linear Regression and the results indicate that book values of Algerian companies are not value relevant. The results indicate also that intangible assets do not affect the value relevance of book values, and thus, they do not have incremental value relevance. The draw back in this study is that the period covered may not reflect current happenings.

In addition, Shehzad and Ismail (2014), examined value relevance of accounting information and its impact on stock prices of listed banks at Karachi stock exchange. This study primarily investigates the value relevance of accounting information in banking sector of Pakistan. The study employed the pooled regression technique on nineteen private banks from the period of 2008 to 2012. The findings show that earning per share is more value relevant than book values, while accounting data explains a high proportion of the stock price. The relevant information is such that it influences the economic decisions of users by helping them evaluate past, present and future events.

Furthermore, Khanna (2014), studied value relevance of accounting information of selected Indian firms. The study analyses the combined, individual, and incremental value relevance of accounting information produced by selected firms listed on Indian stock exchange for the period of 2006 to 2010. Results revealed that accounting information is value relevant, while the combined value relevance of accounting information represented by earnings per share and book value per share has declined while there have been insignificant changes in the incremental value relevance of accounting information. The draw back in this study is that the result may not reflect current happenings as the period covered may have been over taken by recent happenings.

Similarly, Adaramola and Oyerinde (2014), did a study on value relevance of financial accounting information of quoted companies in Nigeria. This study examined the value relevance of accounting information of quoted companies in Nigeria

using a trend analysis. Secondary data were sourced from the Nigerian Stock Exchange Fact Book, Annual Financial Reports of Sixty six (66) quoted companies consisting of financial and non-financial firms in Nigeria and the Nigerian Stock Market annual data. The Ordinary Least Square (OLS) regression method was employed in the analysis. The study reveals that accounting information on quoted companies in Nigeria is value relevant. However, the study reveals further that the value relevance of accounting information does not follow a particular trend within the period under study. While the value relevance was weak in the period of global economic crisis (2005-2009), it was high in the other periods. Based on the finding that accounting information directly influences the value of securities in the capital market. The draw back in this study is that the result may not reflect current happenings as the period covered may have been over taken by recent happenings.

In addition, Musa, Nasiru and Muhammad (2017), conducted a study on the impact of the new accounting reporting among listed firms in Nigerian stock market. This study discusses the relationship between accounting disclosures and market value under new accounting reporting. The study addresses whether accounting information has improved after the IFRS adoption among Nigerian listed firms. The study adopted Ohlson (1995) stock price model that has commonly been used in the capital market for five (5) years period from 2009 to 2013 of 129 companies listed in the Nigerian stock market. The periods were petitioned into two as pre-IFRS (2009-2011) and post-IFRS adoption (2012-2013) to observe whether there is an increase in value relevance of accounting information. The Findings of the study have shown disaggregated assets and liabilities have a strong relationship with stock price. However, there is higher association after the adoption of IFRS.

2.2 Theoretical Framework

Financial statements have a variety of applications. One objective of financial reporting is to assist investors in equity valuation. For financial information to be value relevant, accounting numbers must be related to current company value. If there is no association between accounting numbers and company value, accounting information cannot be termed value relevant, and hence, financial reports are unable to fulfil one of their primary objectives. This study, therefore, use the Ohlson's (1995)'s theoretical model to explain the relationship between the variables. The model says that the value of a company's equity is equal to the book value of equity plus the discounted value of future residual income. The Ohlson's (1995)'s model examines the impact of not only earnings but also book value of equity on stock performance. The Ohlson's (1995)'s Price Model uses book values, earnings, and change in earnings to determine how they affect the share price. The price model investigates the impact of accounting information on the market valuation of equity stock; furthermore, the price model examines the impact of not only earnings but also book value of equity on stock performance

1. Methodology and Model Specification

The study employed Correlational research design. A correlational research design is used to describe the statistical association between two or more variables. It is therefore, considered most appropriate for this study because it allows for testing of expected relationships between and among the variables and the making of predictions regarding these relationships. This research design is employed in this study to determine the effect of intangible assets disclosure on the value relevance of deposit money banks in Nigeria. The study used secondary data from the financial statements of the sampled deposit money banks for the period of five years (2016-2020), this period was chosen due to increase in the

3.1 Variables Measurement and Model Specification

The definitions and measurements of the variables used in this study are presented in Table 1 .

Table 1: Variables Measurement and Definition

Variable	Nature of Variable	Proxy	Measurement	AUTHOR
Share price	Dependent Variable	SP	The Market Share Prices in the study is the share price of the selected firms at exactly three (3) months after accounting year - ends.	Adaramola and Oyerinde (2014)
Book Value per share	Independent Variable	BVS	Shareholders' fund of each firm to the number of ordinary shares.	Mukesh (2017)
Earnings per share	Independent Variable	EPS	Profit after interest and tax of each firm to the number of ordinary shares.	Bhatt and Sumangala (2012)
Intangible Asset Disclosure	Independent Variable	ITA	A score of one is given for each item disclosed based on the detailed information provided in the disclosure check list, a score of zero is allocated if firms failed to provide information required. The score is measured by dividing the total score for each firm by the total possible score for that firm.	Tsalavoutas & Dionysiou (2014)

SOURCE: Researcher 2020

Model Specification

In order to test the hypotheses formulated in this study and achieve the research objectives, the study adopted Ohlson (1995) stock price model that has commonly been used. Ohlson model (1995) has been employed to explore associations between the market value of equities and main financial information disclosed variables, such as book value per share, and earnings per share and any other financial information and is estimated as;

The basic model derived within the Ohlson (1995) framework, is stated as:

$Pjt = \alpha 0 + \alpha 1BVit + \alpha 2Eit + \varepsilon it$ ---------- (1)

This study modifies the basic model to accommodate Intangible assets disclosure, thus the model is stated as:

$SP_{it} = \alpha 0 + \alpha 1EPS_{it} + \alpha 2BVPS_{it} + \alpha 3ITA_{it} + \varepsilon_{it}$ ---------- (2)

SP = Share price of bank ?in year t

EPS = Earnings per share of bank ?in year t

BVPS = Book value per share of bank ?in year t

ITA = Intangible asset disclosure of bank ?in year t

And α0 is the intercept**,** whileα1, α2, and α3 are the coefficients/estimators**.** ε_{it} is the Residual or error term.

3. Results and Discussions

This section presents the analysis of the results obtained from the data collected for the study.

3.1 Descriptive Statistics

The descriptive statistics of the data is presented in Table 2.

Table 2: Descriptive Statistics

Variables	Mean	SD	Min	Max	N
SP	1.55	4.23	0.18	28.2	45
EPS	0.47	0.69	1.013	4.58	45
BVPS	0.69	3.34	0.04	21.80	45
ITA	0.43	0.12	0.32	0.81	45

Source: STATA 13 OUTPUT (Appendix)

Table 2 presents the descriptive statistics of the data for the variables of the study. The data set indicated above contained a total of 45 observations of banks listed on the Nigerian Stock Exchange. Three independent variables were measured against the dependent variable. The dependent variable is the share price of the sampled banks. Table 2 shows that the sampled deposit money during the period has an average share price (SP) of ? 1.55 with standard deviation of 4.23, and minimum value of ? 0.18k and ? 28.2k as the maximum value. The standard deviation of 4.23 reveals the deviation from the mean. Also, the table reveals that the average earnings per share (EPS) of the sampled banks is ? 0.47, with standard deviation of 0.69, and the minimum and maximum of ? 1.013k and ? 4.58k respectively. The results from Table 2 show that the average book value per share (BVPS) is ? 0.69k of the sample banks during the period of the study, with the standard deviation of 3.34. The minimum and maximum of BVPS are ? 0.04Kand ? 21.80k respectively. It also indicates that the average compliance with intangible asset disclosure (ITA) of the sampled banks is 0.43, with standard deviation of 0.12, and the minimum and maximum ITA of 0.32 and 0.81 respectively.

4.2Correlation Results

In this section, the Pearson correlation Coefficients of the variables of the study are presented in Table 3 as follows;

Table 3: Correlation Matrix

Variables	SP	EPS	BVPS	ITA
SP	1.0000			
EPS	0.7157	1.0000		
BVPS	0.0628	0.5111	1.0000	
ITA	0.5317	0.6163	0.3081	1.0000

Source: STATA 13 OUTPUT (Appendix)

The results in Table 3 show that the correlation coefficients of the variables of the independent variables (earning per share, book value per share, and ITA) and share price of the listed deposit money banks in Nigeria. Table 3 shows a positive association between earnings per share (EPS) and share price from the correlation coefficient of 0.7157. This relationship suggests that earnings per share has a positive relationship with share price. Similarly, the results from Table 3 indicate that, there is a positive association between share price (SP) and book value per share (BVPS) from the

correlation coefficient of 0.0628. This signifies a positive relationship between book value per share and share price Lastly, the results shows a positive relationship between ITA and share price, from the correlation coefficient of 0.5317.

4.3 Regression Results and Hypotheses Testing

This section presents and analyzes the regression results of the model of the study. The regression results are presented in Table 4.

Table 4: Regression Coefficients

Variables	Coefficients	t-values	P-Values
EPS	3.364417	8.70	0.000
BVPS	0.8855399	1.46	0.183
ITA	8.32476	2.42	0.042
CONSTANT	19.03828	7.43	0.000
R^2 WITHIN	0.3900		
Wald Chi2			0.0000
HETTEST: Chi2	14.46		0.0001
MEAN VIF	1.07		
HAUSMAN TEST: Chi2	7.84		0.0494

Source: STATA 13 OUTPUT (Appendix)

The results in Table 4 show the presence of Heteroskedasticity in the results as indicated by the Breuch Pagan/Cook-Weisberg test for heteroskedasticity Chi2 of 14.46 with p-value of 0.0001. Thus, the null hypothesis that there is constant variance in the residuals is rejected; as the p-value is statistically significant at 1% level of significance. Table 4 on the other hand, indicates the absence of multicolinearity among the explanatory variables, as shown by the mean variance inflation factor (VIF) of 1.07.

The results from Table 4 indicate that the independent variables explained around 39% of the total variations in the dependent variable (share price) of the sample listed deposit money banks in Nigeria, from the coefficient of multiple determinations (R^2 within of 0.3900). The table also shows that the model is fitted as indicated by the P-value of 0.0000 which is significant at 1% level of significance.

4.4 Hypotheses Testing

Table 4 shows that, book value per share (BVS) has a significant positive effect on share price of sampled quoted deposit money banks in Nigeria, with a coefficient of 3.3644 and t-value of 8.70 which is statistically significant at 1% level of significance as indicated by the p-value of 0.000. Based on this, the study rejects the null hypothesis one (H_{01}) which states that, book value per share has no significant effect on the share price of quoted deposit money banks in Nigeria. This signifies that book value is significant in determining the share price of quoted deposit money banks in Nigeria. This finding is in line with the studies of Omura (2005), and Gee-Jung, (2009), which reveals that book value have a significant effect on value relevance but contrary to Kimouche (2016).

Table 4 shows that, earnings per share (EPS) has an insignificant positive effect on the share price of quoted deposit money banks in Nigeria, from the coefficient of 0.8855 with t-value of 1.46 which is statistically insignificant at any level of significance (p-value of 0.183). This implies that earnings per share is positively and insignificantly influences the share price of quoted deposit money banks in Nigeria. Therefore, in line with the result, the study fails to rejects the null hypothesis two (H_{02}) which state that earnings per share has no significant impact on the share price of quoted deposit money banks in Nigeria. This finding is in tadem with the study of Abubakar (2010), which reveals that earnings per share is not value relevant and contrary to Oyerinde (2011), Abubakar (2011), and Abiodun (2012).

Lastly, the results from table 4 shows that, intangible assets disclosure has a significant positive effect on the share price of quoted deposit money banks in Nigeria, with a coefficient of 8.3248 and a t-value of 2.42 which is statistically significant at 5% level of significance (p-value of 0.042). This suggests that, the more intangible assets are disclosed by quoted deposit money banks in Nigeria the higher will be the share price. Intangible assets has the largest beta coefficient of 2.1439, which means that a 1% increase in intangible assets will lead to approximately N2.14K increase in share price. The study therefore infers that intangible assets disclosure have significantly influenced the share price of quoted deposit money banks in Nigeria. Based on this, the study rejects the null hypothesis three (H_{03}) which states that intangible asset disclosure has no significant impact on the share price of quoted deposit money banks in Nigeria. The result is in line with the study of Abubakar (2011), Bilal and Abdenacer (2016) which reveals that intangible asset disclosure is value relevant and contrary to Kimouche (2016).

4. Conclusion and Recommendation

This study investigated the effect of intangible assets disclosure on the value relevance of quoted deposit money banks in Nigeria during the period 2016-2020. The study has made a huge contribution to the value relevance literature by examining the value relevance of accounting information in relation to intangible asset of quoted deposit money banks in Nigeria. The results demonstrate that, as far as the quoted deposit money banks in Nigeria are concerned, information contained in the statement of financial position are qualitatively and quantitatively value relevant to investors and stakeholders generally.

Three explanatory variables were used to ascertain their impact on share price of quoted deposit money banks in Nigeria. Two of the explanatory variables – book value per share and intangible assets disclosure - are statistically significant in influencing the share price of quoted deposit money banks in Nigeria. Based on the results obtain from the analysis it is therefore, concluded that accounting information variables of quoted deposit money banks in Nigeria have value relevance to users of financial statement. It further explained that investors' reaction to the share prices of Nigerian deposit money banks is determined by the aggregate of these accounting information such as book value and intangible assets disclosure published in financial statements. Based on the findings and conclusion of this study. It was recommended that the management of Nigerian quoted deposit money banks should give more interest to intangibles, in order to enrich the content of financial statements and increase the pertinence of accounting number. Auditors must give more attention to intangibles' examination process, in order to certify the amounts related to them in financial statements, and hence enrich their reliability, because this provides adequate guarantee for investors to use them in decision making.

The results show that value relevance is positively associated with value reliability. This suggests that, when accounting standard setters assess whether the existing IFRS of intangibles should be improved in the future, it is therefore recommended that they need to think in terms of whether the standard can provide more relevant information of intangibles to investors.

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Audit Client Importance and Stock Returns of Listed Consumer Goods Firms in Nigeria: The Moderating Role of Audit Committee Independence

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Abstract: *This study investigates the moderating role of audit committee independence on the relationship between audit client importance and stock returns of listed consumer goods firms in Nigeria. Secondary data were collected from the annual financial statements of the sixteen (16) companies sampled for this study from 2008-2019. Panel regression analysis technique was used for the analysis of data. It was found that client importance has a negative and significant relationship with stock returns. However, the study revealed that, audit committee independence has no moderating effect on the relationship between client importance and stock returns of consumer goods firms in Nigeria. The paper therefore recommends that, the Financial Reporting Council (FRC) of Nigeria, Securities and Exchange Commission (SEC) should make a provision for independent directors coming from outside the firms and such directors should constitute the majority of the committee members; that since the audit committee is involved in the appointment, re-appointment and remuneration of external auditors, they should go for such audit firms whose character and integrity is beyond question. and also have track record of performance in the past.*

Key Words: Client importance, Stock Returns, Audit committee Independence, Firm size, Growth opportunities

Introduction

The primary objective of an external auditor to the company is to examine financial statements and write a report to members of the company stating whether the financial statements examined by him are fairly presented (Companies and Allied Matters Act, 2020). It is therefore presumed that the major role of an auditor is to produce an audit report that is free from financial misstatements capable of reducing information asymmetry and to minimize the opportunistic behaviour from managers in financial reporting (Adeyemi & Fagbemi, 2014). The demand for external audit originated as a result of agency conflict which arose from the separation of firm's ownership from control. Ownership of these firms lies in the hands of shareholders; however, the day to day running of it is in the hands of managers hired by the shareholders. In order to guarantee the quality of financial information published by firm managers, it is required by the company law (Companies and Allied Matters Act, 2020) that the statements be certified by an external auditor. External auditors may show a tendency of compromising their independence for clients that are more economically important. Retaining an important client provides some economic benefits to the auditor. Such benefits might make the external auditors more willing to compromise their independence for such clients. Ensuring auditor independence is imperative to financial reporting process since it contributes to the quality of audit reports. High quality audit reports are said to affect stock returns positively. When financial reports are released by the auditors and such reports are perceived by the investors as been of high quality such firms are rewarded through positive changes in stock prices. Many researchers examined client's importance in relation to variables other than stock returns. (Chen, Sun & Wu,2010; Kandeh, Samudiyan & Shadkamagu,2014; Ksharmeh & Hizbar,2016) This study therefore examines how client's importance affects stock returns, and whether the relationship is moderated by audit committee independence. This study contributes to literature by providing evidence as to how client importance relates to stock returns

The rest of the study is structured as follows: section 2 covers literature review, section 3 deals with the Methodology adopted to achieve the research objective, section 4 presents the results and discussion of findings and finally, section 5 reports the study's conclusion and recommendations.

Literature Review

The literature reviewed in this area covers client's importance, stock returns and audit committee independence.

Conceptual Clarifications

Figure 1 shows the framework of the current paper within the existing research and also explaining how client's importance to the auditor affects stock returns.

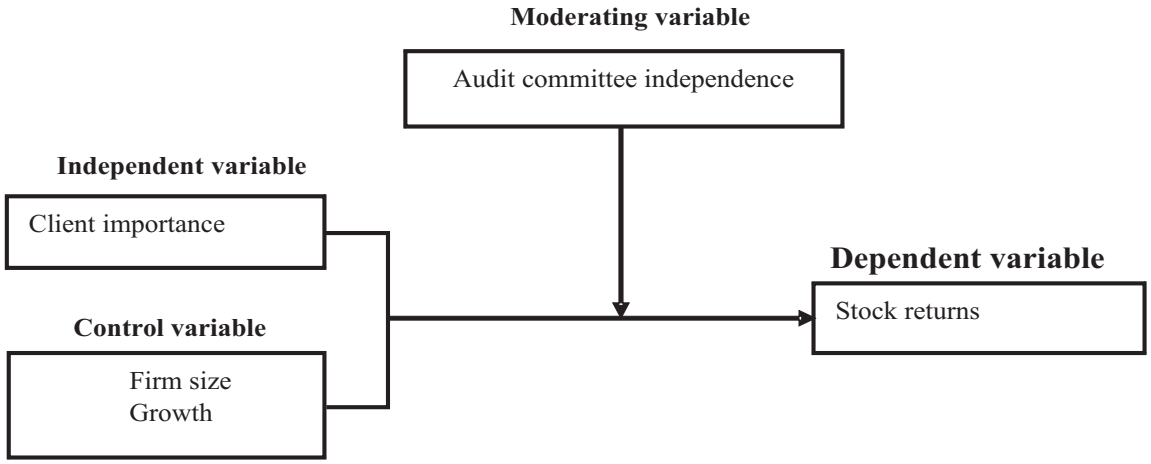

Figure 1: The conceptual framework of the study
Source: Author's compilation

Figure 1. shows the expected relationship between client importance and stock returns and how audit committee independence moderates their relationship. The model is divided into four parts, client importance (independent variable), stock returns, (dependent variable), audit committee independence, (moderating variable) and firm size and growth (control variables)

Stock Returns

When investors commit their resources in an investment, they do so with the expectation of getting returns. Returns generated from the capital market is referred to as stock returns. Returns can be in form of dividend or capital appreciation. The returns could be real or expected. Stock returns are used to measure the market reaction on the various events that take place in the capital market which is released through information which is announced through publications. If the publication contains information that affects the market, then the market participants are expected to react in form of changes in the prices of stock.

Client's Importance and stock returns

This is a situation where auditors compromise their independence for economically important clients (Chen, Sun & Wu,2010). Extant literature suggests that, auditors are more likely to compromise on clients accounting irregularities when the client is economically big in terms of revenue contribution to their total audit fees. This is in contrast to when a client does not contribute significantly to their fees (Chung & Kallapur, 2003; Gosh, Kallapur&Moon,2009) Under this circumstance, the auditor's objectivity is likely to be compromised if she stands the risk of losing such an important client if he reports the accounting irregularities of such a client When this happens, the qualities of such reports are affected adversely and low audit quality reports affects Stock returns adversely. Kandeh et al, (2014) examine the effect of client importance on audit quality in Iran. Eighty-eight (88) companies that were registered on Treasury Single Account (TSA) from 2004 – 2011 were used as the sample for the study. Step wise multiple regression was used to analyse the data that was collected. The results show that client importance has a positive effect on audit quality. Kasharmeh and Hezbar (2016) investigate the effect of Auditor-client relationship upon audit quality and auditor independence in Bahrain. Questionnaires were distributed to respondents from Audit firms in Bahrain. Regression model was used to test the hypotheses. The results show that auditor – client relationship have a significant impact on audit quality. Based on data from U. K. Ferguson et al. (2004) found that client importance is positively associated with absolute abnormal accruals. Ghosh et al. (2009) found that client importance is negatively related with earnings response coefficients. From these studies, it can be inferred that auditors compromise independence, or that independence is perceived to be compromised for economically important clients. On the other hand, Reynolds and Francis (2001) maintain that client importance is negatively related with absolute abnormal accruals. Hunt and Lulseged (2007) found similar results for the non- Big N clients. Gaver and Paterson (2007) investigated the insurance industry and discovered that, client importance is negatively related with the tendency of financially weak insurers to understate reserves. Conversely, some studies found no significant relationship between client importance and audit committee independence. For instance, Chung and Kallapur (2003) found an insignificant association between client importance and absolute abnormal accruals. Craswell et al (2002) examined Australian data and could not find that client importance is related with the issuance of qualified audit reports. Li (2009), however, found that the association between client importance and issuance of going concern reports varies over time. Specifically, Li found that, client importance is not significantly associated with the issuance of going concern

opinions. From the foregoing, this study hypothesised that:
$Ho_{1:}$ Client importance has no significant effect on stock returns of listed consumer goods firms in Nigeria

Audit committee Independence as a Moderator Between Client Importance and Stock Returns

An audit committee is a selected number of members of a company board of directors whose responsibilities include helping auditors to remain independent of management. An audit committee that has a greater proportion of its members including its chairman to be independent directors is said to be an independent audit committee. An independent audit committee plays a critical role in providing oversight and serving as a check and balance on a company's' financial reporting system. It is imperative that an independent audit committee should ensure that the management of a firm is accountable to shareholders (Blue Ribbon committee, 1999; Cadbury report, 1992; Tread way commission, 1987). The Code of Corporate Governance, (2011) states that, the majority of audit committee members must be independent and also the chairman of the committee must be an independent non-executive director. Equally, the Nigerian Code of Corporate Governance, (2018) states that, all members of the audit committee should be financially literate and should be able to read and understand financial statements. At least one member of the committee should be a financial expert, have current knowledge in accounting and financial management and be able to interpret financial statements. Also, Companies and Allied Matters Act, (1990), states that, the audit committee shall consist of an equal number of directors and representatives of the Shareholders of the company (subject to a maximum number of six members) and shall examine the auditor's report and make recommendations thereon to the annual general meeting as it may think fit. The committee's independence is expected to moderate the existing relationship between client importance and stock returns.

One of the basic functions of the Audit committee is the supervision of the financial reporting process by overseeing the internal control system of the firm to ensure it complies with the provision of laws and regulations. The duties of the audit committee include meeting with the external auditors personally to discuss audit related matters and to also propose and handle the coordination of the audit work with the unit staff. The audit committee has for a long time been viewed as very important in the firm in helping with the oversight of executive management by administering the oversight responsibilities in respect of accounting, finance and internal audit functions. One of the primary aims of setting up audit committees in firms is to further improve the earnings and financial reporting quality.

The audit committee further serves as a reinforcement agent to the independence of internal and external auditors. Bala and Kumai (2015) posited that the more independent the audit committee is, the higher the degree of oversight and the more likely that members act objectively in evaluating the propensity of the firms accounting, internal control and reporting practices thereby enhancing the quality of audit reports which has an impact on the stock returns of the firm. Audit committees have a dynamic monitoring role to ensure the quality of financial reporting and the firm's accountability. Firms form audit committees voluntarily as an important mechanism to monitor agency costs and improve the quantity as well as the quality of information that is disclosed for various corporate stakeholders (Saha, 2018). The committee has become a link between the board of directors and the external auditor in avoiding any information asymmetry between them (Azman & Kamaluddin, 2012).

Furthermore, Abdullatif and Khadash (2010) considered the audit committee as the most significant institution in the corporate governance because it protects shareholder's financial interest. The whole essence of the audit committee is based on two strands of accountability; first, managements' accountability to the board and second, boards accountability to shareholders. This study is therefore using audit committee independence as a moderating variable on the relationship between client's importance and stock returns. In other ways, this study examines whether the presence of an audit committee independence will serve to improve the financial reporting quality of audited reports thereby ensuring high audit quality, high quality reports are known to affect positively the stock returns of firms. We therefore propose the following hypothesis:
$Ho_{2:}$ Audit committee independence does not significantly moderate the relationship between client importance and stock returns of listed consumer goods firms in Nigeria

Methodology

Data for this study was collected from 16 firms out of the 21 consumer goods firms listed on the Nigerian Exchange (NGX) covering the period from 2008-2019 using the following criteria: first, the firms must show complete financial statements covering the period under review, secondly, they must have continued in their operations during the period under review and lastly, the firms selected must have been listed on the Nigeria Stock Exchange as at the beginning of the study period. Descriptive research approach is used for this study.

Variables of the Study and their Measurements

Four sets of variables, namely, Dependent variable, Independent variable, the Moderating variable and the Control variables were used in the study.

Dependent Variable: The dependent variable for this study is stock returns. Stock returns is the appreciation in the price of stock plus any dividend divided by the original price of the stock. It is measured using the following equation:

$$RET = \frac{(P_{1\,it} - P_{0\,it}) + D_{it}}{P_{0\,it}}$$

Where: RET = Stock Returns
P_{0it} = Initial Stock Price at the beginning of the year.
P_{1it} = Ending Stock price at the end of the year
D_{it} = Dividend paid

Table 1

Variables and their Measurements

Symbol	Variable	Measurement	Source
Dependent variable			
RET	Stock Returns	Price of Stock at the end of the year minus price stock at the beginning of the year plus dividend divide by price of stock at the beginning of the year	Bhattacharya, (2011); Perotti and Wagenhofer (2014)
Independent variables			
CIA	Client's Importance to the Auditor	Measured by the ratio of client's sales to the sum of all client's sales audited by an auditor within the sample size	Kandeh, Samadiyan and Shadkamaga, (2014); Kasharmeh and Hezbar, (2016)
Moderating variable			
ACI	Audit Committee Independence	Measured by the proportion of independent directors on the audit committee	Omotosho, Okpanachi, Yahaha and Aniette, (2017); Reid, Carcello, Li and Neal, (2017
Control variables (Firm characteristics)			
FSZ	Firm Size	Measured using the log of total assets of the company.	Khostinant & Barari, (2006); Chaney & Jeter, (1992)
GRT	Growth Opportunities	Measured using market value of equity to book value of equity	Bolo & Mirzaeei, (2011); Collins & Kothari, (1989);

Source: Authors compilation, 2021

Model Specification

The study used multiple regression model to evaluate the moderating effect of Audit Committee Independence on the existing relationship between Client Importance and Stock returns. This model is structured as follows:

$$\mathbf{RETit = \beta_0 + \beta_1\, CIA_{it} + \beta_2\, ACI_{it} + \beta_3\, CIA_{it} * ACI_{it} + \beta_4\, FSZ_{it} + \beta_5\, GRT_{it} + e_{it}}$$

Where:

RET_{it} = Stock Returns of firm 'i' in year 't'
CIA_{it} = Client importance of firm 'i' in year 't'
ACI_{it} = Auditor Committee Independence of firm 'i' in year 't'
FSZ = Firm size of firm 'i' in year 't'
GRT = Growth Opportunities of firm 'i' in year 't'
$\beta_0 - \beta_5$ = Regression model coefficient of Independent Variables
e_{it} = error term of firm 'i' in year 't'

Results and Discussion

Descriptive Statistics

The descriptive statistics is presented in Table 1

Table 2

Descriptive Statistics

Variable	No.	Min.	Max.	Mean	Std. Dev.
RET	192	-1	1,435	115.28	172.11
CIA	192	0	1	.3117	.3187
ACI	192	.1666	0.5714	0.3852	0.1062
CIA*ACI	192	.00006	0.5	0.1193	.1367
FSZ	192	9.09	11.59	10.5332	.6262
GRT	192	-16.92	27.48	4.8895	6.2103

Source; STATA output results

Table 2 shows a minimum of -1% and a maximum of 1.435% for RET which means that the minimum annual returns on stock prices of firms under study is negative (-1%), and the maximum stock returns for the same period for the same set of firms is N 1,435% with a mean value of 115.28% and a standard deviation of 172.11%. Client importance has a minimum of 0 with a maximum of 1. The mean value of client importance is .3117 with a standard deviation value of .3187. Audit committee independence has a minimum value of 0.1666 representing 16.66% and a maximum value of 0.5714 representing 57.14%. This shows that some of the sampled companies have about 16.66% of the composition of their audit committee members to be independent directors while some of the sampled companies have about 57.14% composition of their audit committee members to be independent directors. The mean value of the audit committee independence is 0.3852 representing 38.52%. This means that the sampled companies have an average of 38.52% of the composition of their audit committee members to be independent directors whereas the rest of the members of the committee i.e. 61.48% are made up of shareholders and executive directors with a standard deviation of .1062 representing 10.62%. From Table 2, the minimum value of the firm represented by the firm size is 9.09 which stands at N1.24b and a maximum value of 11.59 which stands at N3.89b. The mean value of the firm size is 10.5332 which stands at N7.07b. It is therefore observed that, firms selected for this study are relatively large. Firm size determines the level of investor confidence, the larger the firm, the easier for investors to get information about the firm. This also influences the perception of the quality of the audit report of a firm. From Table 2, the minimum value of -16.92 and the maximum value of 27.48 represents -1,692% and 2,748% growth rate respectively. The firms also have a mean value of 4.89

Correlation Matrix of the Study Variables

Table 3 shows the Pearson correlation matrix results of the study showing the relationship between the dependent and the independent variables. It also shows the relationship among all pairs of variables in the regression model.

Table 3

Correlation of the Dependent Independent and Control Variables

Variable	RET	CIA	ACI	FSZ	GRT
RET	1.0000				
CIA	-0.0442	1.0000			
ACI	-0.0608	-0.0175	1.0000		
FSZ	0.2881	0.1125	0.0449	10000	
GRT	0.4610	0.0395	-0.0583	0.2506	1.0000

Source: STATA output results

From Table 3 the highest correlation coefficient is 0.4610 between Auditor Independence and Firm Size, the coefficients of the rest of the variables are below 0.8 meaning that, the variables have no correlation problems.

Multiple Regression Tests

Here the results of regression analysis on the dependent, the independent variables and the moderating role of the audit committee independence on the relationship existing between Client importance and Stock returns are discussed.

Table 4

Breusch-Pagan/cook Wersberg Test for Heteroscedasticity

Chi2(1)	Prob>chi2	Null(Ho)
207.98	0.0000	Rejected

Table 4 Shows a P Value of less than five (P<0.05) meaning that the data used for this study has heteroscedasticity issues. Panel Corrected Standard Error (PCSE) was used to correct the heteroscedasticity presence in the data (Beck & Katz,1995).

Table 5

VIF and TV for Multicollinearity test

Variable	VIF	TV ($\frac{1}{vif}$)
FSZ	1.09	0.918373
AUI	1.08	0.927508
GRT	1.02	0.981702
ACI	1.01	0.992046
MEAN VIF	1.05	

Table 5 shows the (VIF) with Tolerance values. The independent variables for the model are all below the bench mark of "10" considered to be harmful for regression analysis. The VIF mean of 1.05 supports this position.

Table 6

Wooldridge Test for Autocorrelation

F (1.15)	Prob> f	Null Ho
29.389	0.0001	Rejected

In Table 6 the Wooldridge Test for Autocorrelation show the result of P value of less than 0.05 (P<0.05) meaning that the data set used for this study has autocorrelation issues. Panel Corrected Standard Error (PCSE) regression as suggested by Beck and Katz (1995) was used to correct the autocorrelation issue.

Table 7

Hausman Specification Test

Chi2 (5)	Prob>chi2	Null Ho
29.51	0.0000	Rejected

Source: STATA output results

The Hausman specification test suggests a fixed effect model as can be seen in table 4.6 for Hausman specification test. However, the study cannot use the model because the data set has heteroscedasticity and autocorrelation problems. When a data set has such issues, Panel corrected Standard Error can be used to handle the problem as suggested by Moundigbaye et al. (2018)

Table 8
Summary of the Panel corrected Standard Error Regression

Variable	Coef.	Z Values	Prob> z
CIA	-178.505	-2.05	0.041
ACI	-217.996	-1.43	0.152
CIA*ACI	376.8522	1.71	0.088
FSZ	57.8526	5.46	0.000*
GRT	11.0966	3.2364	0.001
R^2			0.2545
Prob.>f			0.0000

NOTE: indicates significance at 1 percent (P<0.01), indicates significance at 5 percent (P<0.05)

Regression Summary

From Table 8, the results show that the coefficient of determination R2 stands at 0.2545 meaning that 25.45% of the systematic variations in the dependent variable Stock Returns over the period under review was explained by the independent variables. The unexplained part of the dependent variable which is 74.55% cannot be explained due to the exclusion of some other independent variables that can also explain the changes in the dependent variable but are not included in this paper. The P Value of 0.0000 shows that the PCSE regression model overall is statistically significant at 1% level. From the table CIA*ACI is positively but insignificantly related to the dependent variable (β= 376.85, P= 0.088), on the other hand the coefficient of CIA (β = -178.505, P = 0.041) is negative but significantly related with Stock Returns. Audit Committee Independence also have a negative and insignificant relationship with Stock Returns (β = -271.99, P= 0.152). The Firm Size and Growth have a positive and significant impact on Stock Returns (β = 57.85, P= 0.000; β =11.09, P =0.000) respectively.

Hypotheses Testing

From Table 8, the results show that Client importance has a significant but negative effect on the Stock Returns for the firms under study (β = -178.505, P=0.041). Therefore, Hypothesis Ho1, is rejected meaning that Client importance has a significant negative effect on Stock Returns. This shows that, greater Client importance is associated with stock returns. That is to say that a unit increase in client importance is associated with a value 178 unit's decrease in stock returns thereby showing that Client importance have a negative impact on stock returns. The implication of these results is that, the auditors hired for audit purposes by firms selected for this study are compromising their independence for what is referred to as economically important clients. The possible explanation to the outcome of this result could be attributed to the fact that auditors are generally less willing to lose clients who contribute significantly to their fee income but more willing to lose clients who do not contribute much to their fee income (Chen, et al, 2010). The results here lend support to the previous works of Li (2009); Gaver and Peterson (2007) who found a significant relationship between Clients importance to the auditor and Stock Returns. However, Chung and Kallapur (2003) and Craswell et al., (2002) did not find a significant relationship between client's importance to the auditor and Stock Returns.

From Table 8 the results show that the Audit Committee Independence does not significantly moderate the relationship between Client importance and Stock Returns (β = 376.85, P= 0.088), therefore hypothesis H02 is accepted. The implication of this result is that, Audit Committee Independence cannot effectively moderate the relationship between Client importance and Stock returns. This insignificant outcome of the moderating result negates the prediction of the Auditors theory of inspired confidence which looks at an auditor as a confidential agent who is expected to conduct an independent examination and then express his expert opinion based on this examination. If that confidence is lost then investors will no longer have faith in the reports which will impact negatively on the RET of the firm. Audit committee working in conjunction with external auditors are expected to work together to produce reports that are of high quality capable of checking the incidence of clients' importance.

Implications of the Findings of the Study

The study shows some evidence that, Audit Committee Independence cannot effectively moderate the relationship between Client importance and Stock Returns of consumer goods firms listed on the Nigeria Stock Exchange. Most studies in Nigeria, conduct studies on Client importance but relate them to variables other than stock returns. It is expected that the moderating role of the Audit committee independence should improve the quality of financial reporting resulting into the production of high-quality audit reports which is expected to impact positively on the relationship between client importance and Stock Returns. Client importance has a negative but insignificant effect on Stock Returns and again Audit committee independence cannot moderate the relationship between client importance and stock returns. The implication of this is that majority of the audit firms that are auditing these firms are more likely to allow their clients more discretion in financial reporting. This is because majority of the audit firms that are auditing

negative but insignificant effect on Stock Returns and again Audit committee independence cannot moderate the relationship between client importance and stock returns. The implication of this is that majority of the audit firms that are auditing these firms are more likely to allow their clients more discretion in financial reporting. This is because majority of the audit firms that are auditing these firms selected for this study rely on the sales volumes of their clients to allow for an economic bond between them. From descriptive statistics, the average sampled firms that are been relied upon by auditors to provide their income is only 68.87%.

Conclusion and Recommendations

From the findings of this paper, we conclude that, Auditors hired by the firms under review are compromising their independence to the Clients that have hired them for what is referred to as economically important clients with high volume of sales as these clients contribute significantly to their fee income. They are therefore unwilling to loose such clients compared to their clients with lower volume of sales. We also conclude that, the independent audit committee members are not efficient in their oversight functions of effectively monitoring the management of firms. This could be because the members of the audit committee themselves may not possess the pre-requisite experience in financial matters and may not be truly independent from management. The moderation by the Audit committee independence cannot therefore automatically lead to higher audit quality reports. The Audit committee has to be truly independent to be able to complement each other to bring out an audit report that is of high quality. We therefore recommend that, the FRCN, SEC in their next review of their codes should make a provision for Independent directors coming from outside the firms who are not committed or involved in one way or the other with the firm should constitute the majority of the Audit committee members; that the audit committee that is involved in the appointment, re-appointment and remuneration of external auditors should go for an audit firm whose character and integrity is beyond question and also based on their previous performance with their clients. Audit firms that have solid reputation will be very unwilling to employ auditors who will be willing to compromise their stand. The audit firm itself would not like to engage in any activity that will soil its name and reputation.

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Effect of Corporate Tax on the Relationship Between Capital Structure and Firm Value of Deposit Money Banks in Nigeria

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Abstract: *The study examined the moderating effect corporate tax on capital structure on firm value using listed deposit money banks in Nigeria. Expos-facto research design was adopted in this study. The total population of the study constitutes all the deposit money banks operating in Nigeria which are twenty-two (22) in number as at 30th April, 2020 and sample were drawn through purposive sampling technique. Thus, the sample size of the study comprises of all fourteen deposit money banks quoted on the Nigerian Stock Exchange as at 30th April, 2020 except Jaiz bank because the annual financial statement of the bank is not available for all the periods of sampling. Data were sourced from the audited financial statements of the deposit money banks over the period of 11years spanning from 2009 to 2019. The data were analysed through panel data regression. The study found that interactions of corporate tax on debt ratio and equity ratio have insignificantly increased the effect of debt ratio and equity ratio on the firm value. However, the interaction of corporate tax on debt-equity ratio has insignificantly decreased the effect of debt-equity ratio on the firm value. It was concluded that the role corporate tax insignificant effect on the relationship between capital structure and firm value of deposit money banks in Nigeria. The implication of this is that the effect of tax shield does not increase the value of the Nigerian deposits money banks. In view of this, the study recommends that the management of deposit money banks should strike a balance between debt and equity as a component of the capital structure in order to reduce the effect of bankruptcy cost and maintain reasonable tax shield benefit.*

Keywords: Capital structure ,deposit money banks, panel data Regression, corporate tax, firm value.

Introduction

One of the major objectives of a firm among the corporate finance theorists is to maximize the shareholders' value. Shareholders' value is the current price of the firm's outstanding shares. In order to achieve this objective firm's management should take rational financing decisions regarding optimal capital structure which in turn would minimize its cost of capital (Goyal, 2013). Firm value can represent the potential growth of a firm as well as the efficiency of daily business operation. Many investors always referred to firm value in making the decision of investment due to its ability to provide the intrinsic value of the firm. However, in the modern corporation, firms operate in a larger society where there is possibility of conflict of interest among the stakeholder such as shareholders, managers, employees, customers among others due to their different objectives. In spite of this, the objective in corporate finance can be stated broadly as maximizing the value of the entire business, more narrowly as maximizing the value of the equity stake in the business or even more narrowly as maximizing the stock price for a publicly traded firm. As such the study on the determinants of the firm value is attracting to the investor, shareholders, economic policy maker, and corporate finance theorists among others.

In view of this, Miller and Modigliani (1958) posit that in a perfect market, the capital structure of the company is irrelevant and therefore, has no influence on the value of the company. However, their theory was based on numerous and quite restrictive assumptions which make their conclusions work on paper more than off it. In the real world, markets are far from perfect, transaction costs exist, and there are agency costs of debt and equity. Those and other facts have somewhat cast a shadow on the capital structure irrelevance principle.

Contrary to this opinion, the pecking order theory of Myers and Majluf (1984), states that there is a correlation between capital structure and firm's value. This is because a firm's value can increase if the right form of capital is used. This theory advocates that firm's value can be affected positively if a capital structure hierarchy is followed that is, financing with internal fund when available instead of financing with external fund and when internal fund is completely depleted, debt should be preferred to equity because of the low transaction cost, tax benefits and other advantages attached to it. The trade-off theory also states that there is a relationship between capital structure and firm's value. This is because a firm's value can increase if the proper debt equity mix is used in the firm. Also, Pandey (2004), states that the capital structure decision of a firm influences its shareholders return and risk. Consequently, the market value of its shares may be affected by the capital structure decision. The objective of a firm should therefore be directed towards the maximization of its value

by examining its capital structure or financial leverage decision from the point of view of its impact on the firm value. However, there exist conflicting theories on the relationship between capital structure and firm's value. Thus, consensus has not been reached as such the study remains afresh earnestly awaiting further investigation. Based on this, the main objective of the study is to examine the effect of capital structure on firm value within the context of listed deposit money banks in Nigeria; to examine the moderating effect of corporate tax on the relationship between the capital structure and firm value. In line with these objectives, the following research questions are stated as follow: Does capital structure affects firm value? What effect does corporate tax has on the relationship between capital structure and firm value? The research hypotheses are formulated as follow: capital structure has no significant effect on firm value; interaction of corporate tax with capital structure has no significant effect on firm value. To answer these questions and test the hypotheses the remaining part of the study is structured thus: section two reviewed literature on capital structure and firm value, section three outlines the methodology adopted for the study. Data analysis and discussion were presented in section four while section five concludes the paper and proffer recommendations.

2.0 Literature Review

This section presents the conceptualisation of the key variables, empirical review of related articles and theoretical frame work.

2.1 Conceptualisation

Capital structure is the combination of the debt and equity finance of a company. It can also be referred to as the way a corporation finances its assets through some combination of equity, debt or hybrid securities; that is the combination of both equity and debt. A firm's capital structure is then the composition of its liabilities. The various components of a firm's capital structure according to Inanga and Ajayi (1999) may be classified into equity capital, preference capital and long-term loan (debt) capital. Equity capital refers to the contributed capital; money originally invested in the business in exchange for shares of stock; and retained profits; profits from past years that have been kept by the company to strengthen the balance sheet, growth, acquisition and expansion of the business. Preference capital refers to a hybrid that combines the features of debentures and equity shares except the benefits while debt capital refers to the long term bonds used by the firm in financing its investment decisions while coming up with its principal and also paying back interest.

Firm value is one of the fundamental metrics used in business valuation, financial modelling, accounting, portfolio analysis, etc. Firm value is calculated by adding a corporation's market capitalization, preferred stock, and outstanding debt together and then subtracting out the cash and cash equivalents found on the balance sheet (Ehrhard & Bringham, 2003). Pandey (2004) is of the opinion that the value of a firm is the sum of the values of all its securities. That is, the sum of its equity and debt if it's a leverage firm and the value of only its equity if it is an unleveraged firm. The value of the firm's equity is the discounted value of its shareholders earnings called net income. That is, the net income divided by the equity capitalization rate or expected rate of return on equity. The net income is obtained by subtracting interest on debt from net operating income. On the other hand, the value of debt is the discounted value of interest on debt. On the other hand, corporate tax is one of the factors that reduce profitability of firms and in order to maximize the profitability, the tax burden should be minimize within the limit that does not violate the rule (Pohan, 2018). This will enable the firm to maximize the welfare of the shareholders or investors. According to Alfandia (2018), corporate tax is the actual tax rate that must be paid by the company compared to the profit generated by the company.

2.2 Empirical Review

This section presents previous studies relevant to this study which includes but not limited to Chen and Chen (2011), who assessed the influence of profitability on firm value with capital structure as the mediator and firm size and industry as moderators. The used panel regression analysis and it was found that highly profitable corporations are not over-dependent on external funds, and thus profitability has a significantly negative influence on leverage. It was concluded that industry type and firm size interfere the relationship between profitability and leverage.

Collins, Filibus, and Clement, (2012) examined the effect of a firm's capital structure on its market value. Results from the regression analysis showed a significant positive relationship between non-financial firms' market values and their debt-equity ratios. Also, a negative relationship exists between a firm's total-debt/total-capital ratio and its market value, its size positively affects its market value. Hence, the study concluded that firms' leverage positively influence their market values. However the period covered in the study is five years which may be inadequate to make generalisation.

Ogbulu, and Emeni, (2012) examined the impact of capital structure on a firm's value. The ordinary least squares method of regression was employed in carrying out this analysis. The result of the study revealed that equity capital as a component of capital structure is irrelevant to the value of a firm, while Long-term-debt was found to be the major determinant of a firm's value. The study recommended that corporate financial decision makers are advised to employ

more of long-term-debt than equity capital in financing their operations since it results in a positive firm value. However, the result of the regression is not subjected to diagnostic test to validate the assumptions of the ordinary least square.

Wei, Yee, Lee, and Xin (2012) examined effect of capital structure on the firm value of technology sector in Malaysia. The study found that firm value on technology sector in Malaysia is significantly affected by firm size, liquidity and profitability. Profitability variable showed positive significance on firm value. However the period covered in the study is five years which may be inadequate to make generalisation.

Kausar, Nazir, and Butt (2014) examined the impact which capital structure choice has had on firm value of the Pakistan firms listed in Karachi Stock Exchange (KSE). The result of the study showed that capital structure has a significantly negative impact on firms' performance measured P/E. The study more disclosed a noticeable fact that Pakistan firms are either mostly financed by equity capital or a mixture of equity capital and short term financing. However, the result of the regression is not subjected to diagnostic test to validate the assumptions of the ordinary least square.

Cuong, (2014), examined threshold effect of capital structure on firm value: Evidence from Seafood Processing Enterprises in the South Central Region of Vietnam. The study employed an advanced panel threshold regression estimation developed in 1999 by Hansen. The results indicated that triple threshold effect exists between debt ratio and firm value. However, when ROE is selected to proxy firm value, the result shows that there exists double thresholds effect between debt ratio and firm value. The study concluded that the relationship between capital structure and firm value has a nonlinear relationship represents a convex Parapol shape. The finding from the study was detailed and was in line with the objectives of the study.

Kulati (2014) examined the relationship between capital structure and firm value for companies listed at Nairobi Securities Exchange. Descriptive analysis was used to analyze the data. The study used a regression model to predict the extent to which the identified independent variables affect the dependent variable. The study found out that there capital structure and size were positively influencing the firm value of companies listed at the Nairobi Securities Exchange. The study recommends that in order for a firm to increase its value it must increase it growth and it size. However the period covered in the study is five years which may be inadequate to make generalisation.

Kodongo, Mokoaleli-Mokoteli, and Maina, (2014) investigated the relationship between leverage and the financial performance of listed firm in Kenya. The study found reasonably strong evidence that leverage significantly and negatively affects the profitability of listed firms in Kenya. However, leverage has no effect on Tobin's Q. The study concluded that sales growth and firm size are important factors driving firm value. The finding from the study was detailed and was in line with the objectives of the study.

Sutrisno, (2016) conducted research on capital structure determinants and their impact on firm value evidence from Indonesia. The results showed that factors which significantly determined capital structure were fixed asset structure, leverage, profitability, and size, while company growth did not influence capital structure. Meanwhile, with capital structure as a moderating variable, asset structure, leverage, and profitability significantly influence the firm value, while company growth and company size did not influence the firm value. However the period covered in the study is four years which may be inadequate to make generalisation.

Adenugba, Ige, and Kesinro, (2016), examined the relationship between financial leverage and firms' value, as well as evaluate the effect of financial leverage on firms' value. The study revealed that there is significant relationship between financial leverage and firms' value and that financial leverage has significant effect on firms' value. The study concluded that financial leverage is a better source of finance than equity to firms when there is need to finance long-term projects. The study therefore recommends that financial leverage be optimized by firms to aid maximization of firms' value. *However, the result of the regression is not subjected to diagnostic test to validate the assumptions of the ordinary least square.*

Ater, Kisakaand Cyrus Iraya, (2017) examined the moderating role of macroeconomic factors on the relationship between capital structure and value of non-financial listed firms at the Nairobi Securities Exchange. The study used stepwise multiple regression analysis and it was that macroeconomic factors have strong influence of on the relationship between capital structure and firm value. The study concluded that firm growth has a significant moderating role and thus is a critical tool that can be used by management when doing capital structures adjustments to ensure efficiency as firms' value changes.

Almahadin and Oroud (2019) investigated the moderating role of profitability in the relationship between capital structure and firm value in Jordan. The study used panel regression analysis and found that the interaction of profitability with the

capital structure is a major determinant of firm value. The study concluded that the interaction effect of profitability with debt ratio as a combined factor on firm value is necessary to capture the possible simultaneous effect of these factors on firm value.

From the literature reviewed it was found that there were limited studies on the moderating effect of corporate tax on the relationship of capital structure and firm value. Against this backdrop the current extend the frontiers of knowledge beyond the relationship between capital structure and firm value. Thus to contribute immensely to the existing literature, the study examines the moderating effect of the corporate tax on the relationship between capital structure and firm value.

2.3 Theoretical Framework

2.3.1 Modigliani and Miller (MM) Irrelevance Theory

The irrelevance theory of Miller and Modigliani (1958) proposition one suggests that changes in the proportion of capital structure do not change a company's value; the value is determined by a company's real assets. MM prove their proposition theoretically under three conditions: outside parties have the same information that managers have, i.e. information symmetry; raising funds from debt is to pay equity, e.g. dividend or share repurchase, or raising funds from equity is to pay debt. The company is not using the proceeds for any other purposes or the investment opportunity is fixed; investors can borrow at the same interest rate as companies. A company's value consists of the total sum of debt and equity and the present value of this is the sum of the present value of debt and the present value of equity. However, a company's value is not affected as long as investors undertake cost and receive payoff from either choice equally. The expected return in the levered company should be higher than that of the unlevered company because the former has higher risk levels as rational investors would tend to borrow and invest in the unlevered company because the unlevered company's share price is cheaper by the same payoff. Thus, the value of the levered company would fall while the value of the unlevered company would rise until the value of these companies becomes equal (Ross, Westerfield, & Jaffee, 2005).

2.3.2 Pecking Order Theory

This theory is explained by asymmetric information between management and outsider investors because it encourages firms to prefer internal finance when funding their investments. This is line with the opinion of Myers and Majluf (1984) who suggest that capital structure choice is driven by the magnitude of information asymmetry present between the firm insiders and the outside investors. The more severe the information asymmetry, the more risk the outside investors are facing and hence the more discount they demand on the price of issued securities. Consequently, firms will prefer financing through internal funds and if they do need to raise outside capital, they will firstly issue risk-free debt then followed by low-risk debt. Equity is only issued as a last resort or option because of the cost involved. There are many reasons to prefer internal finance which include; it does not cause any separate costs and do not lower the controlling power of present stockholders either, in comparison to share issue; Internal finance also attract because firm is not obligated to predicate their use on financial market; Other aspect is based on thought that internal finance is concerned as "free capital", which may lead into inefficient investments from point of view of firm owners among others.

2.3.3 Trade-off Theory

As the name on theory also indicates, the idea of Trade-Off theory is to see an optimal compromise between equity and debt. Firms that follow this theory tries to equilibrate between the advantages of debt, like the tax - deductibility of interests and disadvantage like direct and collateral costs of failure. Firms are striving for their goal of balance between debt and equity (Chirinko & Singha, 2000). According to the theory, those firms with high amount of tangible assets and stable revenues, are tended to be financed with debt while firms with mostly intangible assets that could not be used as collateral are tended not be financed with debt. The trade-off theory has become the most acceptable theory to explain optimal capital structure in the real world. It was developed as a response to the original theory of Modigliani and Miller, who maintained an initial stance that the financing decisions of firms do not affect their value, suggesting that firms with higher profits should use more debt, thus substituting debt for equity to take advantage of interest induced tax shields. As such the current study is anchored on Modigliani and Miller opinion in order to validate the assumption of the theory or not.

Methodology

Expos-facto research design was used and the population of the study constitutes all the deposit money banks operating in Nigeria which are twenty-two (22) in number as at 30th April, 2020 and sample were drawn through purposive sampling technique. Thus, the sample size of the study comprises of all fourteen deposit money banks quoted on the Nigerian Stock Exchange as at 30th April, 2020 except Jaiz bank because the annual financial statement of the bank is not available for all

the periods of sampling. Data were sourced from the audited financial statements of the deposit money banks over the period of 11years spanning from 2009 to 2019. The total observation of the study is made up of 11 years' time series data and 13 cross-sectional units amounting to 143 (11x13) observations which is sufficient for panel data model and consistent with the literatures. The model specification for this study incorporates capital structure variables (debt ratio, equity ratio and debt-equity ratio), control variables (board size, firm size, growth opportunity), the moderator (corporate tax) and firm value (Tobin'Q). The study introduce the board size, firm size and firm growth as control variables because these variable have relationship with firm value and evidence have shown in the literature that they can improve the value of the firm. Also, the variables are introduced in order to increase the explanatory power of the model. The model is specified under the

$$tobq_{it} = \lambda_0 + \lambda_1 dr_{it} + \lambda_2 er_{it} + \lambda_3 \mathrm{de}r_{it} + \lambda_4 lbs_{it} + \lambda_5 fms_{it} + \lambda_6 grt_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 3.1$$

$$tbq_{it} = \lambda_0 + \lambda_1 dr_{it} + \lambda_2 er_{it} + \lambda_3 \mathrm{de}r_{it} + \lambda_4 ct + \lambda_5 dr*ct_{it} + \lambda_6 er*ct_{it} + \lambda_7 \mathrm{de}r*ct_{it} + \lambda_8 lbs_{it} + \lambda_9 fms_{it} + \lambda_{10} grt_{it} + \varepsilon_{it} . 3.2$$

Where tobQ is Tobin'Q, dr is the debt ratio, er is equity ratio , der is the debt-equity ratio, ct is the corporate tax, lbs is the board size, fms is the bank size, grt is the growth opportunity, dr*ct is the interaction between debt ratio and corporate tax, er*ct is the interaction between equity ratio and corporate tax , der*ct is the interaction between debt-equity ratio and corporate tax λ1-λ10 represents the coefficients of the variables, ε represents the error term, λ0 represent the constant i is the deposit money banks and t is the time frame in the study.

Table 1
Title

S/N	Variables	Types	Measurements	Sources
1	Firm value: Tobins'Q	Dependent	Market capitalization divided by the book value of total assets	Issa, Elfeky and Ullahc (2019)
2	Capital Structure: a. Debt ratio b. Equity ratio c. Debt-Equity ratio	Independent	a. Total debt divided by total assets. b. Total Equity divided by total assets. c. Total debt divided by total equity.	Ater, etal.(2017)
3	Corporate tax	Moderating	Total tax expenses divided by pre-tax income	Alfandia (2018)
4	Firm size	Control	Logarithm of total assets	Issa, etal (2019)
5	Firm growth	Control	(Total $asset_t$ - Total $asset_{t-1}$)/ Total $asset_{t-1}$	Oyedeko and Zubairu (2019)
6	Board size	Control	Logarithm of total number of board of director	Andersson and Wallgren (2018)

Source: Previous Studies

4.0 Results and Discussion

This section presents the descriptive statistics, regression result and discussion of findings.

Table 4.1: Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
dr	.7797112	.3456911	.0079457	2.54749
er	.213501	.3486872	-1.54749	.9920465
der	7.37384	17.11052	-5.219781	191.2567
grt	.1611404	.6477767	-.9496573	6.610148
fms	5.946065	.4996857	4.860386	6.935605
lbs	1.136367	.0974738	.845098	1.30103
ct	0.508947	1.550644	0.02310	0.527108
tbq	.2848769	.8471968	.0000138	7.136155

Note: dr, er, der, grt, fms, lbs, ct, and tbq, represents, debt ratio, equity ratio, debt-equity ratio, growth opportunity, firm size, logarithm of board size, corporate tax and firm value.

Source: Author's Computation, (2020)

It very explicit from the table that the mean value of all the variables are positive throughout the sampling period and this signifies that all the variable exhibit increasing tendency from 2009 to 2019. The average values of the debt ratio and equity ratio are approximately .78 and 0.21 respectively and this purports that 78% of debt and 21 percent of equity constitute the capital structure. The debt-equity ratio shows total of 7.37384 which reveals that most of the deposit money banks rely on debt as source of fund compare to equity. The growth opportunity and firm size have a value of 16 percent and 594 percent respectively and this implies that there is an improvement in the value of the banks' assets. The result of the board size, corporate tax and firm value reveal that the composition of board size, corporate tax and firm value increases in value within the sampling period. Looking at the standard deviation, the value of debt-equity ratio is the highest volatile among the variable while the board size is the lowest volatile among the variable. After the description of the variables, the study proceeds to estimate the correlation among the variable and the result is reported in the table 2:

Correlation Matrix

Table 2

Correlation Matrix

	dr	er	der	ct	grt	fms	lbs
dr	1.0000						
er	-0.9878	1.0000					
der	0.1389	-0.1341	1.0000				
ct	0.1124	-0.1064	0.0394	1.0000			
grt	0.0948	-0.0817	0.0019	-0.0391	1.0000		
fms	0.3776	-0.3732	-0.0093	0.4912	0.1702	1.0000	
lbs	0.3101	-0.3065	0.1004	0.1490	0.0577	0.4984	1.0000

Source: Authors' Computation, (2020)

The result from the correlation matrix showed the relationship between each pair of independent variables. According to Gujarati and Porter (2009), a correlation coefficient between two independent variables above (+8 or -8) is considered excessive and may indicate existence of multicollinaerity. The table 4.2 showed that all correlation coefficient between the pairs of independent variables are less than (+8 or -8). Thus, suggesting that the independent variables can be fitted into one regression model.

Estimation of Regression Result

Theoretically, three models are proposed to be estimated: the pooled regression, fixed effects and random effects models. These three models cannot be estimated at the same time. Thus, study conducts the random effect against the pooled; fixed effect against the pooled and then the random effect against the fixed effect. The test of the random effects model against the pooled regression model is conducted using Breusch and Pagan Lagrangian multiplier test, the fixed effect against the pooled is conducted using poolability test and then the random effect against the fixed effect is conducted using poolability test and test of random effect against the fixed effect is conducted using hausman test. The test results are reported in Table 4.3 and 4.4.

Table 3

Dependent Variable: Firm Value

Variables	POLS Model	RE Model	FE Model
dr	-.155868	-.0449486	.0112562
	(1.166598)	(1.113865)	(1.152312)
	0.894	0.968	0.992
er	.5348568	`.4055619	.3663016
	(1.152627)	(1.094723)	(1.129886)
	0.643	0.711	0.746
der	-.0012503	.0007505	.0013125
	(.0037169)	(.003506)	(.0036187)
	0.737	0.831	0.717
grt	.0167355	.0097567	.0091613
	(.0983508)	(.0895424)	(.0914283)
	0.865	0.913	0.920
Fms	-.3661127	-.3477293	-.3473997
	(.1523734)	(.1961075)	(.2299135)
	0.018	0.076	0.133
Lbs	-1.358194	-1.489054	-1.461026
	(.7527204)	(.7825093)	(.8319767)
	0.073	0.057	0.082
Diagnostic Test			
R-squared	0.2596	0.2523	0.2448
F-Test	7.95		2.35
	[0.0000]		[0.0349]
Wald chi2(6)		21.63	
		[0.0014]	
Poolability	3.69		
	[0.0001]		
Hausman Test		2.17	
		[0.9032]	
BLMP	20.84		
	[0.0000]		
Heteroskedatic Test			1.5e+05
			[0.0000]
Serial Correlation			11.24
[0.0003]			

Note: POLS represent pooled ordinary least square, RE represent random effect, FE represent fixed effect FEM (R) represent robust result of fixed effect modem. Figures in [] represent p-values, figure in () represents standard error and ** denote significance at 5%

Source: Author's Computation, (2020)

The results depicted in Table 4.3 revealed that the BLMP test supports the fixed regression and the study proceeds to conduct the poolability test to confirm which of the model is appropriate between the pooled and fixed effect model and this indicates that the random effect is appropriate. Thus, the Hausman test shows that random effect is superior to the fixed effect regression. This, the study estimate the random effect model. The result shows the relationship between dr, er, der, grt, fms, lbs and tbq. The objective here is to investigate whether capital structure has a significant effect on firm value of Nigerian deposit money banks. As shown in the Table 4.3, debt ratio, firm size and board size have negative and insignificant effect on firm value while equity ratio, debt-equity ratio and growth opportunity have positive but insignificant effect on firm value of deposit money banks in Nigeria. In the same token, the coefficient of determination show that almost 23 per cent change in the firm value of deposit money banks in Nigerian can be explained by capital

structure measures of debt ratio, equity ratio and debt-equity ratio and the control variables of growth opportunity, firm size and board size. The probability of wald chi-square is 0.0014 which is significant at 5 percent and this implies that the model is fit and therefore generalisation can be drawn from this result. The result of the moderating effect reported below.

Table 4.4: Dependent Variable: Firm Value

Variables	POLS Model	RE Model	FE Model
dr	-.2446699	-.2446699	.1072499
	(2.361503)	(2.361503)	(2.203946)
	0.918	0.917	0.961
er	.7413302	.7413302	.7845148
	(2.342408)	(2.342408)	(2.182345)
	0.752	0.752	0.720
der	-.0019289	-.0019289	-.0020039
	(.0083815)	(.0083815)	(.0077973)
	0.818	0.818	0.798
grt	.0105941	.0105941	-.0144032
	(.1006494)	(.1006494)	(.0927787)
	0.916	0.916	0.877
fms	-.4213872	-.4213872	-.4178413
	(.1841118)	(.1841118)	(.2750841)
	0.024	0.022	0.131
lbs	-1.289714	-1.289714	-1.255236
	(.7667231)	(.7667231)	(.8333024)
	0.095	0.093	0.135
ct	-.0878537	-.0878537	-.1270069
	(.9149976)	(.9149976)	(.8196847)
	0.924	0.924	0.877
drct	.1338603	.1338603	.138881
	(.9233299)	(.9233299)	(.8290594)
	0.885	0.885	0.867
erct	-.114897	-.114897	-.1931224
	(.9122945)	(.9122945)	(.8181036)
	0.900	0.900	0.814
derct	.0000154	.0000154	.0013951
	(.003779)	(.003779)	(.003478)
	0.997	0.997	0.689
R-squared	0.2707	0.2707	0.2344
F-Test	4.90		1.96
	[0.0000]		[0.0431]
Wald		49.00	
		[0.0000]	
Poolability	2.35		
	[0.0349]		
BLMP	0.00		
	[1.0000]		
Heteroskedasticity			1.5e+05
			[0.0000]
Serial Correlation			228.311
			[0.0000]

Note: POLS represent pooled ordinary least square, RE represent random effect, FE represent fixed effect FEM (R) represent robust result of fixed effect modem. Figures in [] represent p-values, figure in () represents standard error and ** denote significance at 5%

Source: Author's Computation, (2020)

From the Table 4.4, it can be observed that the BLMP test support the Pooled and the study proceeds to conduct the poolability test to confirm which of the model is appropriate between the pooled and fixed effect model and this reveals that the fixed effect model appear to be appropriate. The objective here is to investigate whether capital structure has a significant effect on firm value of Nigerian deposit money banks with a mediating role of corporate tax. As shown in the table, debt ratio, equity ratio, interaction of corporate tax with debt ratio and interaction of corporate ratio with debt equity ratio have positive but insignificant effect on firm value while equity ratio, growth opportunity, firm size, corporate tax and interaction of corporate tax with equity ratio have negative but insignificant effect on firm value of deposit money banks in Nigeria. In the same token, the coefficient of determination show that almost 23 per cent change in the firm value of deposit money banks in Nigerian can be explained by capital structure measures of debt ratio, equity ratio, debt-equity ratio, corporate tax, interaction of corporate tax with debt ratio, interaction of corporate tax with equity ratio and interaction of corporate tax with debt-equity ratio. The probability of F-test is 0.0431 which is significant at 5 percent and this implies that the model is fit and therefore generalisation can be drawn from this result.

Table 5

Estimated Model Results

Variables	Without Moderator	With Moderator	%change in Coefficient
dr	-.0449486	.1072499	0.1521985
er	.4055619	.7845148	0.3789529
der	.0007505	-.0020039	-0.0027544

Source: Author's Computation, (2020)

The interactions of corporate tax on debt ratio and equity ratio have insignificantly increased the effect of debt ratio and equity ratio on the firm value. However, the interaction of corporate tax on debt-equity ratio has insignificantly decreased the effect of debt equity ratio on the firm value.

Discussion of Result

It was found that the interaction of corporate tax with debt ratio has increased the firm value. This support the Modigliani and Miller (1958), who maintained an initial stance that the financing decisions of firms do not affect their value, suggesting that firms with higher profits should use more debt, thus substituting debt for equity to take advantage of interest induced tax shields, the value of the levered firm increase as the corporate tax increases due to the tax shield. The second finding conform to the agency cost which arise from the Agency theory postulated by Jensen and Meckling, (1976), as it shown the debt increases and the value of firm increases, in order to minimize the debt agency cost, which is the conflict between the managers and creditors. The theory posit that issuing debt can save tax, as the debt ratio increases creditors would ask for a higher lending rate and increase the restrictions of the debt contract, and so the debt agency cost between the manager and creditors also increases. Thus, the management of deposit money banks must to issue equity as other source of finance in order to reduce the total agency costs are minimized, firm value is maximized. The third finding corroborate with findings of Jensen (1986) who pointed out that debt financing will force managers to pledge interest payments to creditors, which therefore limits the activities of the firm, reduces the managers' excessive investment, and decreases the value of firm.

Conclusion

The study examines the effect of capital structure on banks' market value with an emphasis on moderating effect of corporate tax using listed deposit money banks with the period 2009 to 2019. The study made use of panel data regression with estimation baseline model and moderating role of corporate tax model. It was documented that the interactions of corporate tax on debt ratio and equity ratio have insignificantly increased the effect of debt ratio and equity ratio on the firm value. However, the interaction of corporate tax on debt-equity ratio has insignificantly decreased the effect of debt equity ratio on the firm value. It was concluded that the role corporate tax has insignificant effect on the relationship between capital structure and firm value of deposit money banks in Nigeria. The implication of this is that the effect of tax shield does not increase the value of the Nigerian deposits money banks. In view of this, the study recommends that the management of deposit money banks should strike a balance between debt and equity as a component of the capital structure in order to reduce the effect of bankruptcy cost and maintain reasonable tax shield benefit. The study encourages further research to examine the moderating effect of bankruptcy cost on the relationship between capital structure and firm value.

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Assessment of the Financial Soundness of Selected Insurance Companies in Nigeria: A Caramel Model Approach

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Abstract: *This study assessed the financial soundness of life insurance companies in Nigeria using the CARAMEL model. The objective of this study was to comparatively rank the financial soundness of life insurance companies using the CARAMEL model. The descriptive and correlational research designs were employed in the study. A sample of eight life insurance companies were selected using the purposive sampling technique to cover a period of 9 years spanning through the years 2011-2019. Data analyzed using ratio analysis revealed that Lasaco Insurance Plc ranks the highest in capital adequacy, African Alliance Plc had the highest mean ratio in reinsurance and actuarial issues while Leadway Assurance ranked first in management soundness. Standard Alliance Plc had the least expense ratio while FBN Insurance ranked the highest in liquidity analysis. In the overall CARAMEL ranking, FBN Insurance ranked the highest as the most financially sound insurance company in the sample. It is recommended that policymakers and supervisors should enforce policies capable of improving the financial soundness of life insurance companies in Nigeria.*

Keywords: *CARAMEL, insurance, rank, financial soundness, Nigeria*

Introduction

The analysis of the financial soundness of the insurance sector has generated interest in the past couple of years especially as a result of the increasing integration of financial markets both internally and globally. Financial soundness increases the insurer's ability to meet its client's needs and projects a better self-image of the firm while reducing the likelihood of failure and insolvency. The insurance industry is distinct from other financial institutions as it specializes in spreading financial losses. Policyholders obtain insurance protection to guard against the occurrence of risk events of which they are apprehensive about (Cummins et al. 2017). Das et al. (2003) assert that the insurance plan is founded on the probability theory where the premium, which is also the price of insurance, is set before knowing the exact cost of the insurance product. Aduloju et al. (2008) opine that if insurance companies are perceived as safe and well managed in the market place, they are likely to obtain more favourable terms and conditions in its relationship with investors, creditors, insureds and even reinsurers.

Owing to the high growth rate of the insurance sector, many models have been developed by insurance regulators and supervisors to evaluate and control business activities in the industry and ensure that business activities are targeted towards achieving economic growth (Smajla, 2016; Kramaric et al. 2019). Such evaluation has been carried out using published financial reports (statement of financial position, income statement and cash flow statement). Most of these measures have proven inconsistent in giving a true picture of the financial soundness of these companies.

The International Monetary Fund (2002) has reviewed indicators suggested by regulators for diagnosing the soundness of the insurance industry. One of such indicators is the CARAMEL model. According to Das et al. (2003) in the IMF-Background paper, the CARAMEL model is an apt measure of financial soundness in the insurance industry. It involves the use of quantitative measures which are attuned to measuring the financial position of the insurer. In order to tackle the problem of insurance business failure and determine the insurance company(ies) that are more financially sound, the researcher deems it fit to adopt this model. Thus, this paper is set out to assess the financial soundness of life insurance companies in Nigeria using the CARAMEL framework. The objective of this study is to evaluate and rank the financial soundness of life insurance companies in Nigeria using the CARAMEL model.

The rest of this paper is structured into literature review, research methods, results and discussion, conclusion and recommendation.

Literature review

This section consists of the conceptual, theoretical and empirical reviews.

Conceptual Review

Assessing financial soundness is the ease with which financial analysts and investors study the mechanism of a firm's financial position in order to evaluate its overall performance. (Udom et al., 2015; Kramaric et al., 2019). It is the assessment and surveillance of the strengths and vulnerabilities of financial systems with the objective of enhancing financial stability aimed at limiting the likelihood of failure of the financial system (IMF, 2004). According to Schinasi (2004, p.10) in the International Monetary Fund (IMF) working paper, Financial Stability can be defined as "a condition in which an economy's mechanism for pricing, allocating and managing financial risks (credit, liquidity, counterparty, market etc) are functioning well enough to contribute to the performance of the economy..." (Schinasi 2004, p.10)

Financial stability is capable of not only creating an added value system in the insurance industry but also creating a competitive environment and deeper market penetration (Ajemunigbohun & Aduloju, 2017). Ubom et al. (2018) maintain that financial capacity is the financial limit of the organization's ability to absorb losses with its own funds or borrowed funds without becoming insolvent.

The CARAMEL Model

CARAMEL is an acronym for capital adequacy, asset quality, reinsurance and actuarial issues, management soundness, earnings and profitability; and liquidity (Ansari & Fola, 2014; Dar & Bhat, 2015). It was Das et al. (2003) in the IMF working paper who proposed the CARAMEL model as a framework for the evaluation of financial soundness of insurance companies. It was duly endorsed by the IMF for adoption by regulatory and supervisory bodies in their assessment of the financial stability of insurance companies (Ansari & Fola, 2014). The CARAMEL framework is equivalent to the CAMEL framework adopted in the banking industry (Smajla, 2016). The components of the CARAMEL model are discussed as follows:

Capital adequacy*:* Ansari and Fola (2014) consider capital as a shield which protects the insured and promotes the soundness of the financial system. According to Das et al. (2003), although no international standards exist for measuring the capital adequacy of the insurance business, the IMF has approved the share capital/mathematical reserves and share capital/total assets as indicators for measuring the capital adequacy of the life insurance industry.

Asset quality: For the insurer, asset quality is the measure of reliance on equity to build sound and quality asset portfolio of the company (Surya & Sudha, 2020). A high asset quality ratio indicates sound financial position over time with decreased tendency of insolvency. This is because a high asset quality ratio implies that a large proportion of total assets is provided by equity and the firm is less dependent on external sources of income (Ansari & Fola, 2014; Jansirani & Muthusamy, 2019). Similarly, a low ratio indicates the contrary which is an unfavourable position for creditors as it depicts a lower margin of safety and security of their funds. This implies that the lower the ratio, the less secure the long-term loans and the greater the risk of loss (IMF, 2002; Das et al., 2003).

Reinsurance and Actuarial Issues: Das et al. (2003) approved the risk retention ratio as an appropriate indicator for the measurement of reinsurance and actuarial issues. The risk retention ratio reflects the overall underwriting strategy of the life insurer and indicates what proportion of risk is passed on to the reinsurers. It is calculated as a ratio of the net premium to gross premium. A high ratio shows that more risk is transferred to the reinsurer whereas a low ratio indicates otherwise (Ansari & Fola, 2014; Surya & Sudha, 2020).

Management Soundness: In life insurance, management soundness generally refers to operational soundness. Surya and Sudha (2020) asserts that it reflects the efficiency of the working personnel. The management soundness ratio not only reflects the operational efficiency of the life insurer but also shows the cost efficiency of the life business. It also reflects the efficiency of management decisions regarding proper utilization of funds. Thus cost effectiveness and proper utilization of funds implies that the management system of the firm is sound. However, where the management is proven unsound, it could flag potential problems in significant areas such as the management of technical and investment risks (Das et al., 2003). Owing to the difficulty in finding a direct quantitative measure of management soundness, various authors have come up with measures of assessment. Das et al. (2003), and Ansari and Fola (2014) use the gross premium per employee and assets per employee. Here, gross premiums are considered a reflection of the sum total of business activity. Jansirani and Muthusamy (2019) adopt the ratio of operating expenses to gross premium. They argue that since management soundness reflects operational efficiency, this ratio indicates the overall operating efficiency of the firm as an indication of management soundness. Thus, inefficient operations may imply challenges in management.

Earnings and profitability: Earnings constitute a major source of long-term capital for the life insurer. Das et al. (2003) recommend the expense ratio as an appropriate indicator of earnings and profitability for life insurers as it reflects a charge to current profits due to deviations of reality from past actuarial assumptions. This is also strengthened by the works

of Yusuf and Dansu (2014). Ikonic et al. (2011) and Ansari and Fola (2014) opine that a lower expense ratio is preferable as it implies more profits to the company. Moreover, it measures the extent to which the company effectively appropriates output.

Liquidity: This serves as the last component of the CARAMEL model. Liquidity measures the insurer's ability to meet its anticipated short-term obligations to policyholders and other creditors as they arise (Dar & Bhat, 2015). Liquidity, if not properly managed can give rise to liquidity risk. Ukpong and Folarin (2020) define liquidity risk as the risk that a firm, though solvent, either does not have sufficient financial resources available to meet its obligations as they mature or can secure them only at an excessive cost.

In choosing an appropriate ratio for calculating liquidity, Das et al. (2003) in the IMF background paper, adopt the ratio of liquid assets to current liabilities. They consider all liabilities with maturities shorter than one year including insurance product liabilities where policyholders are able to surrender the policy and receive a cash payment as current liabilities. Liquid assets on the other hand, include, cash and cash equivalents, government bonds and quoted corporate bonds and equities.

Theoretical Framework

This work is based on the Hyman Minsky Theory which is also referred to as the Financial Instability Hypothesis (FIH). This theory was developed by Hyman Minsky in the year 1974 and asserts that a fundamental characteristic of the capitalist economy is that the financial system swings between robustness and fragility and these swings are an integral part of the processes in which business cycles are generated. The optimism created during periods of economic prosperity creates a speculative euphoria leading to bubbles which if not effectively managed will later burst. When this happens, financial crisis is inevitable occasioned by progressive recklessness in financial activities during the periods of boom. With this theory, it is believed that the swings, booms and bursts that are a part of financial systems are inevitable in a free market economy but may be controlled by the government or other supervisory bodies through regulation and appropriate tools (Udom et al., 2015). In the study of financial soundness, the robustness and fragility of the financial system as a result of the swings proposed by this theory are observed.

Empirical Framework

In this section, empirical works on the CARAMEL analysis of the financial soundness of insurance companies are analyzed. A couple of works have been carried out using the CARAMEL model in recent times. For instance, Chen and Wong (2004) investigate the determinants of the financial health of Asian insurance companies. Using firm size, investment performance, operating margin, change in asset mix, change in product mix and insurance leverage to test financial stability, they discover that firm size, change in asset mix, investment performance and change in product mix have a statistically significant impact on life insurer's financial health. Similarly, Ikonic et al. (2011) adopt the CARAMEL model in analyzing the performance of insurance companies in Serbia. They discover that profitability is determined by the level of capital. In a related study, Ansari and Fola (2014) assess the financial soundness of seven registered life insurers in India using the caramel model over a period of 5years. Their study indicates that there is a significant difference between capital adequacy, asset quality, management efficiency, earnings and profitability and liquidity position in private and public life insurance companies.

Cummins et al. (2017) explore the association between life insurer's soundness and competition using the Boone indicator covering ten European Union countries for the period 1999 to 2011. Their findings reveal that competition not only re-allocates profits from inefficient to efficient insurers, but also promotes the soundness of the EU life insurance markets. However, the effect of the competition is greater for weak insurers than it is for more financially healthy ones. Kramaric et al. (2019) assess the determinants of insurer's soundness in selected countries in central and eastern Europe. The scope of their study covers life, non-life and composite insurers operating in Croatia, Hungary and Poland over the period 2013 – 2017. Their study shows that the soundness of Croatian insurers is positively influenced by the size of the insurer. Moreover, reinsurance positively affects soundness in Hungary and Poland.

Methodology

Research Design

A quantitative approach was adopted for this study using the descriptive and correlational research designs. The descriptive design was adopted because the researcher sought to describe the current status of life insurers using the CARAMEL model whereby systematic information was provided for each company as required by the model. The correlational research design was adopted in order to determine the level of relationship between the components of the CARAMEL model using statistical data.

Population and Sample Design

The population for this study consisted of all the 18 incorporated life insurance companies in Nigeria as at the year 2019. The purposive sampling technique was employed in selecting a sample of eight life insurance companies. As some of these

companies are not core life insurance companies, only their life business was considered. The companies were selected based on their market share and overall market penetration. The selected companies were: African Alliance Insurance Plc, AXA Mansard Plc, FBN Insurance Ltd, Lasaco Assurance, Leadway Assurance, Mutual Benefits Life Insurance, Niger Insurance and Standard Alliance Insurance Plc.

Secondary data were sourced from annual reports accessed from the websites of the select insurance companies and the Nigerian Insurance Association (NIA) Digest. Data were sourced over a period of 9 years (2011-2019). This period captures the last 9 years prior to the COVID 19 pandemic and its attendant economic downturn.

Description of Variables

Variables for this study were selected in line with the literature and theory on which the study is based, taking into consideration the availability of data. The CARAMEL model, which is the model for the analysis consists of six (6) basic parameters. These parameters constitute the variables used for this study and their description are not only as proposed by

Table 1

CARAMEL model indicators

S/n	Variable	Description	Indicator of measurement
1.	C	Capital adequacy	Capital/total assets
2.	A	Asset quality	Equities/total asse
3.	RA	Reinsurance and actuarial issues	Net premium/gross premium
4.	M	Management soundness	Operating expenses/gross premium
5.	E	Earnings and profitability	Expense/net premium
6.	L	Liquidity	liquid assets/current liabilities

Sources: Das et al. (2003); Smajla (2014), Dar and Bhat (2015) and Jansirani and Muthusamy (2019)

Results and Discussion

In this section, the results of the analysis carried out to test the financial soundness of the select eight life insurance companies using the CARAMEL model are presented. Table 2 illustrates the ratio and ranking for capital adequacy for the life insurers.

Table 2

Capital adequacy ratio (C)

s/n	Company	2011	2012	2013	2014	2015	2016	2017	2018	2019	Mean	Rank
1.	African Alliance Ins Plc	53.13	49.63	26.54	20.20	21.83	7.02	0.05	65.97	67.95	34.70	3
2.	AXA Mansard	46.70	18.51	17.12	16.17	12.12	13.41	11.33	12.61	13.88	17.98	5
3.	FBN Insurance	70.52	53.14	31.63	26.15	43.23	24.62	17.65	12.62	8.87	32.04	4
4.	Lasaco Assurance	50.15	43.65	41.59	48.23	41.35	39.85	44.32	36.72	34.73	42.29	1
5.	Leadway Assurance Plc	12.15	11.2	5.84	4.63	5.82	9.14	4.63	4.35	3.3	6.78	8
6.	Mutual Benefits Ins. Plc	16.42	12.15	11.82	11.15	8.63	13.12	13.02	11.38	14.53	12.47	6
7.	Niger Insurance	9.24	9.48	8.58	6.65	7.56	7.19	11	8.27	6.77	8.3	7
8.	Standard Alliance Plc	84.14	45.23	30.13	18.20	20.15	13.23	39.12	40.02	38.32	36.50	2

Source: Author's computation from annual reports of the selected c ompanies

Das et al. (2003) but also in line with the works of Smajla (2014), Dar and Bhat (2015) and Jansirani and Muthusamy (2019). The variables, their description and the corresponding indicators of measurement as used in the study are presented in Table 1.

Table 2 shows the ratio of capital adequacy for the 8 insurance companies studied defined by capital to total assets. The companies are ranked according to their mean values with 1 (one) assigned to the company with the highest mean and 8 the lowest (Jansirani and Muthusamy, 2019). This ratio indicates the proportion of total assets funded by shareholder's funds. Total assets consist of the sum of non-current assets, current assets and investments. A high ratio tends to indicate sound financial position. It also indicates that a large proportion of total assets is provided by shareholder's funds; a confirmation that the firm is less dependent on external sources of income. Low capital adequacy ratios such as those experienced by Leadway Assurance, Niger Insurance and Mutual Benefit Insurance implies that these companies are dependent on sources other than share capital to finance their assets.

As shown in table 2, Lasaco insurance ranks the highest in the capital adequacy component of the CARAMEL model. It can be observed that over the years, it maintained a fairly stable ratio. This shows the consistency at which capital has been invested to generate assets. In contrast, that of AXA Mansard fluctuated from about 46.7 in 2011 to as low as 11.33 in 2017 ranking 4th in average. However, Leadway Assurance ranked lowest in average. A declining trend can also be observed among the companies. Smalja (2016) opines that such trends may pose a threat to the long-term survival of the

Asset quality

Table 3 shows the asset quality ratio of the companies.

Table 3

Asset quality ratio

s/n	Company	2011	2012	2013	2014	2015	2016	2017	2018	2019	Mean	Rank
1.	African Alliance Ins Plc	54.96	51.19	28.55	22.79	22.79	8.71	0.68	7.66	28.09	25.05	5
2.	AXA Mansard	49.40	33.10	31.63	24.52	23.20	20.39	17.45	20.04	24.46	27.13	4
3.	FBN Insurance	81.24	57.57	32.51	27.47	45.38	26.38	21.17	16.97	16.36	36.12	3
4.	Lasaco Assurance	52.39	45.4	42.74	49.0	42.10	40.16	46.84	49.75	44.16	45.84	1
5.	Leadway Assurance Plc	13.05	12.40	6.23	5.74	6.32	10.49	13.66	9.44	8.25	9.51	8
6.	Mutual Benefits Ins. Plc	17.82	13.06	12.72	11.09	9.88	14.63	14.06	15.19	21.79	14.47	7
7.	Niger Insurance	14.08	24.19	25.20	26.48	31.71	22.85	20.49	16.39	1.41	20.31	6
8.	Standard Alliance Plc	89.07	46.24	33.25	19.37	21.07	14.46	38.25	39.61	32.42	37.08	2

Source: Author's computation from annual reports of the selected companies

Asset quality measures the ability of equity funds to build quality asset portfolio for the company given by the ratio of equity shareholder funds to total assets. As with the capital adequacy ratio, a higher asset quality ratio not only implies sound financial position but also that a large proportion of total assets is provided by equity. This means the firm is less dependent on external sources of income. From table 3, it can be observed that similar to the capital adequacy analysis, Lasaco ranks highest in the asset quality ratio analysis, closely followed by Standard Alliance Plc and FBN Insurance which rank 2nd and 3rd respectively.

Reinsurance and Actuarial Issues

The analysis of the ratio of reinsurance and actuarial issues is presented in table 4.

Table 4

Ratio of reinsurance and actuarial issues, RA

s/n	Company	2011	2012	2013	2014	2015	2016	2017	2018	2019	Mean	Rank
1.	African Alliance Ins Plc	98.76	98.74	98.85	99.35	99.35	99.91	90.28	98.09	90.27	97.07	1
2.	AXA Mansard	93.92	80.84	76.24	77.03	79.03	72.17	69.87	70.23	71.86	57.38	8
3.	FBN Insurance	97.67	96.09	94.21	96.16	96.46	96.82	91.86	98.09	95.16	95.84	3
4.	Lasaco Assurance	67.55	73.35	75.67	60.17	71.29	45.57	60.11	57.52	60.56	63.53	7
5.	Leadway Assurance Plc	84.39	96.16	99.09	98.12	99.28	99.42	98.21	98.03	97.81	96.72	2
6.	Mutual Benefits Ins. Plc	99.11	96.37	97.02	96.89	97.15	96.02	84.66	91.32	90.34	94.32	4
7.	Niger Insurance	95.86	97.11	97.45	96.70	99.59	94.26	51.00	125.08	89.44	94.05	5
8.	Standard Alliance Plc	82.52	70.98	68.38	64.34	88.99	89.49	88.19	92.02	90.53	81.72	6

Source: Author's computation from annual reports of the selected companies

companies. In the asset quality analysis, some companies recorded very low (9.51, 14.47, and 20.31) ratios. Jansirani and Muthusamy (2019) also recorded similar results in their study of the financial soundness of insurance companies in India. This indicates that these companies majorly depend on external sources for financing their assets.

From table 4, it can be observed that most of the life insurance companies have RA values in the range of 90% and above. This shows that most of the companies have a high-risk retention ratio and tend to keep back most of their risks. Jansirani and Muthusamy (2019) assert that insurers believe that rather than pay for reinsurance, such premium could be reinvested to yield returns which could go a long way in ensuring timely settlement of claims. As shown in the table, African Alliance Plc ranks the highest with 97.07 closely followed by Leadway Assurance. African Alliance with a risk retention ratio of 97.07% has only ceded 2.93% of risk to its reinsurers. A high-risk retention ratio is proof of a high-risk bearing capacity of the insurer which implies that most of the risks are retained by the company without out-sourcing to reinsurers. Obalola and Abass (2016) assert that there is a joint significant relationship between the demand for reinsurance and the overall solvency of a firm.

The high-risk retention ratios observed with the companies (97.07, 95.84, 96.72, 94.32 and 94.05) indicate that these companies rarely opt for reinsurance. This may be because the insurers prefer containing the risk themselves and investing the money received as premium for future returns. Such returns could in turn enhance timely settlement of claims thus boosting their overall insurance performance. On the other hand, AXA Mansard, with a risk retention ratio of 57.38% appeared to be the most patronizing of reinsurance services in comparison with the other companies.

Management soundness

The analysis of management soundness of the companies is presented in table 5.

Table 5

Management soundness ratio (M)

s/n	Company	2011	2012	2013	2014	2015	2016	2017	2018	2019	Mean	Rank
1.	African Alliance Ins Plc	13.69	28.31	17.90	15.25	15.0	11.56	10.43	34.01	31.85	19.78	4
2.	AXA Mansard	25.0	36.8	11.43	40.79	14.69	43.92	14.37	15.23	20.48	24.75	6
3.	FBN Insurance	12.98	25.90	28.36	20.92	19.0	23.83	16.7	6.32	6.24	17.81	3
4.	Lasaco Assurance	6.50	21.51	26.02	26.99	12.0	33.25	20.8	27.0	28.14	22.47	5
5.	Leadway Assurance Plc	1.06	6.87	5.54	6.78	5.0	7.15	5.87	4.64	4.78	5.30	1
6.	Mutual Benefits Ins. Plc	4.34	23.58	49.14	56.75	63.0	45.3	33.7	18.48	14.78	34.34	8
7.	Niger Insurance	4.34	13.81	51.56	34.15	26.39	40.30	50.56	10.15	13.86	27.24	7
8.	Standard Alliance Plc	4.07	3.51	5.26	7.18	3.0	4.79	3.21	22.3	18.51	7.98	2

Source: Author's computation from annual reports of the selected companies

In measuring management soundness, the ratio of operating expenses to gross premium is adopted in line with the works of Alamelu (2011) and Jansirani and Muthusamy (2019). Using the operating expenses to gross premium ratio, a lower ratio is expected to form a better prospect for a sound insurance company. To this end, the companies are ranked with 1(one) representing the lowest mean value and 8, the highest. Table 5 shows the distribution of operating expenses to gross premium ratios for the 8 life insurance companies over the years of study and their average ranking. Most of the companies reported a low ratio, as expected, which indicates efficiency in their management operations. It also shows that the companies incurred less operating expenses in generating premiums for their business.

It can also be observed that data for the companies were sparse and uneven over the years. This may be attributed to the uneven expenses incurred by the companies and the comparative effect in generating premium for the businesses. However, Leadway Assurance seemed to have the healthiest management as it topped the ranks in this component.

Earnings and Profitability

In Table 6 the ratio of earnings and profitability measured by expenses/net premium is presented. It shows the expense ratios for the 8 life insurance companies for the period of study, their mean ratios and their ranking.

Table 6

Earnings and Profitability (E)

S/n	Company	2011	2012	2013	2014	2015	2016	2017	2018	2019	Mean	Rank
1.	African Alliance Ins Plc	13.86	28.67	18.11	15.35	15.35	11.57	28.63	35.73	49.61	24.10	5
2.	AXA Mansard	56.61	15.07	14.76	12.24	13.79	13.35	14.20	14.40	14.96	18.82	4
3.	FBN Insurance	13.29	26.96	30.10	21.75	20.19	24.61	7.74	6.45	6.54	17.51	3
4.	Lasaco Assurance	9.63	29.32	34.39	44.87	16.32	12.97	6.63	46.92	46.82	27.54	6
5.	Leadway Assurance Plc	1.26	7.15	5.59	6.90	4.62	7.19	6.0	7.22	6.61	5.84	2
6.	Mutual Benefits Ins. Plc	4.38	24.65	50.65	58.57	65.2	47.18	16.07	31.23	27.61	36.17	8
7.	Niger Insurance	8.43	35.13	16.23	27.46	24.78	24.63	15.92	8.12	146.87	34.17	7
8.	Standard Alliance Plc	4.93	4.94	7.69	11.16	3.73	5.35	1.78	1.88	1.65	4.79	1

Source: Author's computation from annual reports of the selected companies

Table 6 shows that the expense ratio for the companies are fairly low over the period of study. A low ratio is an indicator of profitability for the company as it implies that the company is operating at a low cost. In essence the lower the ratio, the greater the profitability of the company and vice versa. Standard Alliance Plc records the lowest mean ratio, ranking highest closely followed by Leadway Assurance Plc. The low values of these companies together with that of FBN Insurance and AXA Mansard assurance is an indication of the low cost of expenses relative to the net premium received. In essence, most of the companies can be considered financially sound from the analysis of their earnings and profitability. However, huge fluctuations were experienced in the expense ratio of Niger Insurance culminating in 2019 with a value of 146.87 being the highest expense ratio for the distribution.

The analysis of the expense ratio indicated that Standard Alliance (4.79), Leadway Assurance (5.84) and FBN Insurance (17.51) seemed to be operating at a lower cost as compared to other life insurers. These low ratios are indicators of profitability for the companies and their cost-effective operations. This is in agreement with the work of Jansirani and Muthusamy (2019). The high values incurred by Mutual Benefit (36.17) and Niger Insurance (34.17) indicates that these companies incurred the most expenses in generating premium.

4.5 Liquidity

This ratio measures the ability of the firm to settle its short term financial obligations timely. Table 7 is a representation of liquidity ratios for the 8 companies within the study period.

Table 7

Liquidity ratios (L)

s/n	Company	2011	2012	2013	2014	2015	2016	2017	2018	2019	Mean	Rank
1.	African Alliance Ins Plc	214.56	197.41	71.98	81.03	69.44	107.3	97.33	90.42	76.06	111.78	6
2.	AXA Mansard	131.58	141.51	137.41	124.48	122.13	116.78	111.8	116.69	126	125.38	3
3.	FBN Insurance	286.05	222.69	299.42	158	175.52	131.39	124.71	118.03	117.97	181.53	1

4.	Lasaco Assurance	198.67	173.85	179.31	198.81	167.09	162.47	181.73	172.8	151	176.19	2
5.	Leadway Assurance Plc	105.44	105.76	97.1	93.91	106	111	105.99	109.82	108.18	104.8	8
6.	Mutual Benefits Ins. Plc	249.86	112.94	103.55	84.95	108.47	114.85	89.3	116.65	126.97	123.06	4
7.	Niger Insurance	103.25	123.01	125.76	124.14	132.73	124.57	72.31	85.01	91.97	109.19	7
8.	Standard Alliance Plc	256.71	174.1	103.35	49.39	116.13	108.79	39.05	81.68	89.68	113.21	5

Source: Author's computation from annual reports of the selected companies

From table 7, it can be observed that the companies have fair liquidity ratios mostly beyond 100% on average. This is an indication of their fair liquidity status. None of the companies were able to attain a liquidity status of 2:1 or 200% on average. FBN Insurance had a ratio of above 200% only for three years (2011-2013). The liquidity dropped consistently thereafter. African Alliance, Mutual Benefits and Standard Alliance only attained 200 percent mark in 2011 and decreased thereafter. On the whole, it can be observed that the liquidity status of the companies has consistently reduced from 2011. As at 2019, companies like African Alliance (76.06), Niger Insurance (91.97) and Standard Alliance (89.63) did not achieve at least 100 percent liquidity. On average, FBN Insurance tops the rank with a mean ratio of 181.43 closely followed by Lasaco insurance. This analysis revealed that most of the companies did not attain their optimum liquidity position and may not be in an immediate position to meet their current liabilities effectively.

4.6 Overall ranking of life insurance companies based on the CARAMEL model

In order to summarily analyze the financial soundness of the life insurance companies and rank their performance via the model, a composite ranking is done using the ranking of each company per parameter. This is arrived at by a combination of the rankings from the various parameters of the CARAMEL model and the subsequent ranking based on the average of their individual rankings per parameter. This composite ranking is illustrated in table 8.

Overall ranking of life insurance companies based on the CARAMEL model

S/N	Insurer	C	A	RA	M	E	L	Avg.	Rank
1.	African Alliance Ins Plc	3	5	1	4	5	6	4	4
2.	AXA Mansard	5	4	8	6	4	3	5	6
3.	FBN Insurance	4	3	3	3	3	1	2.83	1
4.	Lasaco Assurance	1	1	7	5	6	2	3.67	3
5.	Leadway Assurance Plc	8	8	2	1	2	8	4.83	5
6.	Mutual Benefits Ins. Plc	6	7	4	8	8	4	6.17	7
7.	Niger Insurance	7	6	5	7	7	7	6.5	8
8.	Standard Alliance Plc	2	2	6	2	1	5	3	2

Source: Author's analysis

Table 8 shows the assessment of the financial soundness of the life insurance companies using the CARAMEL model and their overall ranking. In addition to bringing to bear the individual ranks of each company under each parameter assessment under the model, the averages of the ranks are made and an overall ranking is carried out in order to effectively gauge the performance of the company in comparison with other companies. From the table, it can be observed that Lasaco Assurance and Standard Alliance Plc consistently held the first and second positions respectively in both capital adequacy analysis and asset quality analysis. Similarly, Leadway Assurance maintained the lowest position in both categories. This indicates that the former companies are in a better position both in terms of the quality of their assets and the strength of their capital to absorb losses. FBN Insurance topped the list in liquidity analysis while consistently maintaining the 3rd position in at least 3 parameters of the model and emerged with the first position in the overall average of the model. This implies that using the CARAMEL model, FBN Insurance can be considered the most financially sound of the 8 companies under study. Standard Alliance Plc ranked 2nd while Niger Insurance and Mutual Benefits Insurance ranked last and second-last respectively.

5. Conclusion

This study was carried out to analyze the financial soundness of life insurance companies in Nigeria using the CARAMEL model. Eight life insurance companies were selected for the analysis based on their market size, market penetration and availability of data. The study was conducted to cover a period of 9 years. The CARAMEL model which was adopted for analysis was proposed for the insurance industry by Das et al. (2003) in their IMF background paper.

Findings revealed that Lasaco Insurance topped the list for both the capital adequacy and asset quality analysis with averages of 42.29 and 45.84 respectively. African Alliance Plc ranked highest in reinsurance and actuarial issues with a mean score of 97.07. In the earnings and profitability analysis, Standard Alliance Plc ranked the highest while FBN Insurance with 181.53 was the highest ranked in the liquidity analysis. In the overall analysis where the life companies were ranked using their ranking from the assessment of the different components of the model, FBN Insurance ranked the highest as the most financially sound life insurance company, followed by Standard Alliance Plc.

5.1 Recommendations

Based on the findings generated from the study, the following are recommended:

i. Insurance companies should seek to generate more capital from equities to enhance their financial position and project a better self-image.
ii. Insurers should seek to enforce more controls on their overall expenses to register more profits.
iii. Insurers should also seek for ways to improve their liquidity position as very few of them met the recommended 2:1 ratio of assets and liabilities.
iv. Regulators and supervisors should work towards the institutionalization of a benchmark for the appropriate measurement of the different parameters of the CARAMEL model for a more generalized analysis.

5.2 Contribution to knowledge

This paper contributes to the existing literature in two major ways. Firstly, within the limit of research works and to the best of the researchers' knowledge, this work appears to be the first to analyze financial soundness of life insurance companies in Nigeria.

Secondly, the CARAMEL model is a recent development and is still only barely applied globally. Prior works on the model, such as that of Alamelu (2011), Ghimire (2013), Smajla (2014), Dar and Bhat (2015), Jansirani and Muthusamy (2019) and Surya and Sudha (2020) have been carried out in India, Croatia, Hungary and other Asian countries. Thus, it is the first research of its kind to be applied to the Nigerian insurance sector. So far, most of the analysis on financial soundness in Nigeria has been based on one or two ratios from the balance sheet. This is barely sufficient for adequate analysis and creates a huge gap. However, by using this model to assess the financial soundness of life insurance companies in Nigeria, the researchers hope to have been able to bridge that gap.

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Audit Committee and Firms Performance in Nigeria

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Abstract: *This study analyses the effects of audit committee on firm's performance in Nigeria. Cross-sectional survey design covering a sample of size of fifty-one (51) listed companies in the Nigerian Exchange Group is utilised for the study. None of the tested attributes affects firms' performance at .05 level of significance. Gender diversity is the worst of all the criteria tested. Finding depicts the mean scores of the variables tested at gender diversity $\mu = 0.28$. Audit Committee competence: $\mu = 0.61$. independence: $\mu = 0.5$, efficiency: $\mu = 0.76$., the firms failed at $\mu = 0.11$. The linear regression analysis shows that firms are reporting negative performance despite the observance of corporate governance codes with a beta of -.038 for Audit committee competence and -.023 for gender diversity. The results show that corporate governance is not meeting the desired objective in the area of the audit committee independence and efficiency at β of .037 and .075 respectively. Gender analogousness leads to firms' failure at β of -.027. To reduce corporate failure, a review of the attributes of corporate governance regarding audit committee is important by exploring directors' commitment to firm performance beyond mere bookkeeping practice.*

Keywords: Audit Committee, Assurance assignment, Corporate governance, Firm performance, Gender diversity, Independence.

Introduction

The corporate failures arising from ownership selfishness in Carillion and British Home Stores (BHS) of 2018, in the United Kingdom and the 2002 to 2006 Cadbury Plc corporate fraud in Nigeria with severe economic effects such as job losses call for concern. For instance, the failure of BHS led to 11000 jobs losses and the shutting of 164 stores (UKEssays, 2019). Dibra (2016) opines that the financial crisis is often caused by financial malpractices, concealment of material facts from investors, and sub-optimal positions against investors' best interests. Agyei and Owusu (2014) argues that corporate failure can occur even with robust systems that clear control direction. Responsible corporate boards and shareholders rights can quickly fail without a solid corporate governance mechanism. Hence, an assurance job to protect the investor's interest is necessary.

Consequently, the Financial Reporting Council of Nigeria dispensed the Nigerian Code of Corporate Governance (NCCG) in 2018 (Financial Reporting Council of Nigeria, 2018). The Securities and Exchange Commission afterwards established the SEC Corporate Governance Guidelines (SCGG), of which guideline number 6 deals with the audit committee. All corporate organisations are to develop an independent and competent audit committee to contribute to the assurance assignment in the corporations (Securities and Exchange Commission, 2019)

According to Zraiq et al. (2018), an audit committee comprises independent directors who display a clear review of the quality of the financial reports. Deloitte (2011) explains that an audit committee augments investors' confidence in the organisation's processes and practices. Obiyo and Torbira (2011) aver that corporate governance mechanism emphasises the need for financial statements correctness through the establishment of the audit committee. However, despite the steps taken to ensure appropriate corporate governance practice, not much is achieved, and the costs of non-compliance with the code continue to increase. For example, the audit committee failed to prevent Cadbury fraud. (Chukwunedu, & Okafor, 2011; Okaro & Okafor, 2013).

The value of the audit committee in achieving the principles of corporate governance continues to increase. Bouaine and Hrichi (2019) argue that audit committee is necessary for improved financial reporting to align stakeholders' interests. The audit committee enhances the board contributions towards firm performance (Achraf et al., 2021). Mohammad et al. (2018) aver that an audit committee engages in oversight and monitoring roles associated with corporate policies and programmes. Hence, the board requires a strong commitment from their audit committees to carry out the critical oversight functions in companies in the current complex environment (Mohammad et al., 2018). Given the preceding, a variable that may constitute the benchmark for corporate governance measurement in an organisation is the audit committee competence.

This study is imperative because accounting scholars hold divergent views on the audit committee and firms' performance association. For instance, findings in Qeshta et al. (2021) indicate no significant relationship between financial performance and audit committee independence. On the contrary, Obiyo and Torbira (2011) find a significant relationship between corporate governance and return on equity. Nevertheless, further developments since 2011 necessitate this current study. Moreso, the audit committee, relieves the board of the control and growth function in a corporation (Qeshta et al., 2021). Hence, this study is important to attract foreign investors and improve the economic developmental statistics in Nigeria.

Furthermore, this study enhances an in-depth understanding of audit committees and firms' performance activities in a company. This study focuses on the audit committee's attributes of independence, efficiency, competence and gender diversity viz-a-viz firm performance. This study should show how the audit committee variables could affect performance in financial reporting and timely information to boost investors' morale for firm performance. Therefore, this study would highlight the implications of the factors on investment for a better appreciation of firm activities by investors in their profit pursuit. At the same time, this study will be an extension of prior studies such as Zraigfdsaq et al. (2018); Boubaker et al. (2014) in currency.

Moreover, studying the audit committee and firm performance factors is essential in educating potential investors on local conditions and business practices in Nigeria. Accountants, Lawyers and other related professionals shall benefit from this study. This study guides institutions such as the Financial Reporting Council of Nigeria and the Securities and Exchange Commission. It could encourage foreign direct investment to assist the investors' decision to establish a local presence. The findings from this study offer information to regulatory authorities, private and institutional investors, academics and politicians. The likely knowledge to be gained would improve decision making. This study could improve stewardship, enhance social welfare, and encourage a corporate atmosphere in the face of high corporate failures. The study benefits students and researchers as an improvement to the dearth of literature available in the area under focus. The outcome should provide a reference for the business community, company directors and policymakers. This study covers Nigeria, a developing economy with an emerging capital market that attracts foreign investors. The scope could have covered the whole of corporate organisations in Nigeria but for logistic constraints. Hence, this study examines the effect of the audit committee on firm performance.

Problem Statement

Incessant fraudulent financial reporting has led to closure of many firms with the negative aftermath on the economic development of Nigeria in terms of unattractive environment to local and foreign investment. The situation has culminated into the multiplier effect of low productivity resulting from deteriorating investment. For instance, if the audit committee does not play its oversight role, there could be poor financial reporting that will negatively affect firm performance to the detriment of the corporation. Therefore, it has become necessary to improve on board oversight activities through the audit committee. The study is inspired from the multi-dimensional phenomenon that audit committee performance should correlates with firm performance.

Aim and Objectives

The study aims at improving the prospects for corporate success towards the actualization of the Nigerian poverty alleviation strategy as per the National Poverty Reduction with Growth Strategy (NPRGS)-2021-2031 scheme, through improved corporate governance by focusing on fraud mitigation avenue in the corporate environment Therefore, the objective is to analyse the effects of audit committee attributes on firm's performance. A research question is articulated for this study as follows: What is the effect of the audit committee attributes of independence, efficiency, competence and gender diversity on firms' performance? The question is addressed based on the test of hypotheses formulated for this study.

Literature Review

Conception of Corporate Governance

Corporate Governance is a dynamic term viewed by various authors from different perspectives. For instance, Goel (2018) explains that corporate Governance is the procedure by which organisations appraisals their performance; it is the framework that encourages commitment, fairness and compliance according to the board, government, management and stockholder's relationship in any organisation. However, the concept identifies the rules and procedures for decision-making, such as establishing an audit committee, board composition, and shareholding structure (L'huillier, 2014). Obiyo and Torbira (2011) opine that the cardinal importance of a proper corporate governance practice is imperative in any business development strategy. The Nigerian government, over time, has reviewed the Code of Corporate Governance Best Practices repeatedly to further protect investors' funds from being mismanaged. The provision includes board and management roles, the shareholders' rights and privileges and the audit committee's role in quoted companies.

Audit Committee

The audit committee is currently under critical focus because of the necessity to support moral and ethical conduct in business affairs, to create a legal, social climate and promote appropriate Governance in firms. The Companies and Allied Matters Act (CAMA), No.3 CAP.A2. Law of the Federation of Nigeria (L.F.N.) (Federal Government of Nigeria, 2020), The Federal Government of Nigeria (2007)-Investments and Securities Act 29, L. F. N. (Federal Government of Nigeria, 2007) and Sarbanes-Oxley Act (2002) (SOX) (Hoag et al., 2017) promote the audit committee establishment. Obiyo and Torbira (2011) aver that corporate adherence to ethical standards is crucial, necessitating firms to have an active audit committee. The audit committee's functions include reviewing the audit requirements and authorisation of the internal auditor to investigate any activities of concern (Bouaine & Hrichi, 2019).

The audit committee requires financial expertise to carry out its functions. Board of directors, specifically the audit committee establishes oversight mechanisms for financial reporting in firms. (Accenture Plc, 2019). Corporate scandals are traceable to careless board members who lack the prerequisite expertise to understand business complexities. For instance, Idigbe (2018) encourages organisations to include a financial expert on the audit committee. Zraiq et al. (2018) assert that financial expertise is vital to the smooth running of a business organisation. Hence, this study argues that a competent audit committee with financial experts is crucial for adequate internal controls.

Audit Committee Independence

The specific responsibility of the audit committee is to review the annual financial statements of an entity independently before presentation to the board of directors (SOX, 2002). Hence, to achieve the investors' ultimate goal of maximising the firm's performance, the audit committee's independence is critical to a successful working relationship. Auditor independence entails the fair representation of non-executive directors in the control aspect of the organisation for effective monitoring, improved decision making and better strategic actions to enhance firms' performance. The audit committees are independent bodies to safeguard investors' interest in a firm. Auditor's independence is crucial because users of financial statements, such as investors, are interested in assurance and need to trust the quality of audited financial statements (Salawu, 2020). Furthermore, there have been interesting divergent views on whether board independence affects firms' performance. Talpur (2018) finds that audit committee independence does not significantly affect the firms' performance. In contrast, Zraiq et al. (2018) argue that auditors independence affects firms' performance. Independent internal control in a gender diverse environment could promote sanity in an organisation.

Gender Diversity

The presence of female directors in boardrooms assists firms to explore access to resources based on expertise and human diverse and dynamic attributes, which complement one another. Gender diversity portends the presence of female members in addition to male members in the audit committee. Gender diversity in a firm is a performance strategy as it focuses on fairness, equal opportunity for all to reach the height of their potentials and contribute to a worthy, stable, happy environment. It affords experience sharing for the mutual benefit of the firm and the workforce. Hence, this study observes that gender diversity stimulating business-going-concern through a broader talent pool, diversified views in decision making to achieve innovation, creativity and avoidance of gender stereotypes in organisations. Hence, scholars such as Boubaker et al. (2014) advocate gender diversity in corporate Governance for a satisfactory firm performance because of the benefits. However, Báez et al. (2018) aver that gender diversity affords emotional intelligence in line with modern business strategy.

Notwithstanding the gender diversity benefits such as collaboration and customer loyalty based on fair representation and reputation, this study observes that the profile of a company's leadership team is crucial because its success depends on the quality of its decision-making. The overall interest of the firm should guide the decision-makers. Emotion should not dominate the organisation. Board decisions are more reliable with the positive effect of a gender diverse audit committee on a firm's performance.

Audit Committee Competence

This study focuses on the audit committee towards showcasing the audit committee's usefulness in the crucial role of checks and balances in the day-to-day activities of a firm. Nonetheless, the audit committee's role in firms' performance comes into play, especially with the passage of the Sarbanes–Oxley Act (SOX, 2002) which was enacted to improve corporate performance and reinstate investors' confidence (Hoag et al., 2017). However, despite the Act, audit committee competence is still under scrutiny due to continuing high-profile misappropriations and financial malpractices in corporate organisations. Gorshunov et al. (2021) argue that the list of corrupt corporations has continued to increase in corporations such as Dell and Nissan. Given the likely poor firm performance challenge, it is necessary to continue to investigate audit committee competence to bring sanity to corporate entities in the best interest of the investors.

Audit Committee Efficiency

The intense attention on audit committee efficiency in listed corporations cannot be overemphasised due to the pressure for effective firm performance. Efficiency is needed for checks and balances towards ensuring the effective functioning of the business apparatus. Audit Committee efficiency could minimise excesses in line with the Organisation's established

internal controls and compliance with regulations (Almasarwah et al., 2022). Hence, the crucial assignments of audit committees, as enjoined by the Nigerian code of corporate governance, require efficiency. The Federal Government of Nigeria (2018) highlights the different roles, including efficient financial reporting, the appointment of external auditors, control and compensation, and trust functions for boosting investors' confidence. Meeting attendance is used to gauge committee effectiveness because attendees spend time for the corporate objectives actualisation. Audit committee efficiency is a crucial attribute for roles playing in firm performance (Afenya et al., 2022).

Firms Performance

The performance of a firm is critical to its sustainability and crucial to investment decisions. Selvam et al. (2016) opine that the firms' performance is a piece of strategic management information because of its relevance to the investors who invested their funds to pursue profit. Firm performance deals with ensuring reasonable and adequate liquidity (Chijoke-Mgbame et al., 2020). Firm performance is measured primarily on the liquidity and profitability terms because of the association between liquidity and profitability in a firm (Okafor, 2017). Raymond et al. (2015) opine that liquidity and profitability management are germane to a business going concern. Selvam et al. (2016) examine the importance of profitability performance as the ability of a business to earn a profit from the revenue generated by a business after the overheads.

Consequently, improvement in the performance of firms affords the creation of strategies and necessary techniques that are appropriate for the business sustainable profit position. Prihatiningtias (2012) explains that firm performance includes social, boardroom and environmental performance. Al-Matari (2014) argues that performance measurement is more than accounting but multi-dimensional because it is more critical to all vested parties, either investors, employees, or customers. Selvam et al. (2016) measure firm performance from three broad dimensions of financial, strategic and corporate governance performance, but the study is not empirical.

Bouaine and Hrichi (2019) measure firm performance as return on asset, company size and debt level. Bouaine and Hrichi (2019) relied on agency theory, but particular attention was not paid to its doctrine and relevance to the study. This study is expected to provide an in-depth analysis of the connection between agency theory, the resource dependency theory and corporate governance. Mohd Ali et al. (2017 examine audit committee attributes among 250 Malaysian listed companies between 2005 and 2015, the study finds that audit committee and risk committee members who have financial knowledge are likely to be involved in restatement practices. Thus, the findings indicate that the audit committee characteristic and risk management committee offer less benefit than the corporate governance mechanism anticipated. The study does not rest on any established theory of business management.

Gani et al. (2017) find that audit committee enhances shareholders returns and improves companies' performance. Furthermore, Kılıç and Kuzey (2016) explain that a common finding is that gender diversity does not affect financial performance. Wamba et al. (2014) focus on microfinance institutions in Cameroon. They find that the female directors have a significant and negative impact on the performance measures of cooperatives, private firms, for-profit non-governmental organisations (N.G.O.) and mutual insurance companies. This negative effect of female directors is due to their higher risk aversion level relative to their male counterparts.

Theoretical Framework and Hypotheses Development

The theoretical framework aligns with the Agency and Resource dependency.

Agency theory: The proponents of Agency theory are Stephen Ross and Barry Mitnick in 1973, almost concurrently but independently (Shapiro, 2005). The applicable doctrine of this theory in this study concerns stewardship. Because increased boardroom independence and improved monitoring of agents (managers) could strengthen the firms' control mechanism, Shapiro (2005) argues that the agency theory emphasises the need for a firm to establish rules which dampen moral hazard, irresponsible behaviour and recklessness to improve the development of corporate policy.

There are divergent views over what constitutes an effective corporate governance mechanism that encourages agents or managers to constantly act in the best interest of shareholders pursuing profit maximisation. For instance, Panda and Leepsa (2017) argue that the agency theory has some limitations in actualising its doctrine of stewardship. Nonetheless, the theory suffers from some hindrances in its conceptualisation as it concerns the interest of investors in their pursuit of profit, without adequate attention to the cost-benefit analysis of business operations. Panda and Leepsa (2017) explain that investors' role in a firm is limited, so they may not influence corporate performance satisfactorily.

Kultys (2016) notes controversies about agency theory in corporate Governance. Agency theory restricts managers' autonomy, which is crucial to value creation. For example, this study observes that Cadbury Plc corporate crisis indicates that managers that act as shareholders' agents ignored the interests of other stakeholders and the sustainability of their firms. Such managers distort the firm's records sometimes to report high profits and hide the actual situation on the ground to the detriment of the organisation. The advocates of SOX (2002) argue that managers are too powerful, necessitating the Anglo- American reforms in corporate Governance. However, some scholars aver that strict adherence to corporate Governance in line with agency theory has implications on the going concern of the corporation (O'Kelley et al., 2018). Zalina and Yusof (2016) explain that agency theory as applicable to corporate Governance should accommodate local content applicable to athletic development.

However, whatever the agency theory's criticism, its doctrine of stewardship is crucial to corporate performance. The study argues that female directors are more active and stricter in monitoring corporate performance from control dimensions. Hence, the lessons of the agency theory guide the choice of the independent variables of audit committee independence, financial expertise and gender diversity. Nonetheless, resource dependence theory could compliment agency theory in minimising agency problems.

Resource dependency theory: Resource dependency theory teaches that an organisation cannot operate in isolation but must relate to its environment to obtain quality and improved resources from diverse sources. The proponents are Pfeffer and Salancik in 1978 (Drees & Heugens, 2013). The theory explains that an organisation is an open system that could be influenced by external factors and the environmental contingencies which could affect its performance (Drees & Heugens, 2013). In this study, the environment is the business organisation that is pursuing firms' performance. Based on the application of this theory, improved synergy should arise from the male and female interaction in the corporate environment with added competitive advantage. Therefore, the theory applies to this current study because of its message about the working environment. Investors' reward and agents' stewardship principle guide the choice of the dependent variable of firm performance in this study. This study, therefore, develops specific hypotheses for testing.

The need for integrity of the audit committee's job output requires some level of independence that will afford an unbiased opinion. Zraiq et al. (2018); Salawu (2020); Talpur (2018) note that the fraction of the audit committee members representing the Shareholders compared to total members relates to the level of independence enjoyable by the committee in carrying out its duties. Hence, in adding to the debate, this study hypothesised that:

H_{01} Audit committee independence does not significantly affect firms' performance.

Furthermore, Idigbe (2018) asserts that the audit committee contributes towards good Governance and enhances financial reporting reliability. The study explains that the number of meetings organised is a gauge of a dynamic monitoring mechanism used to minimise judgment errors in top management decisions. The study argues that regular meetings aid the board in identifying and solving the problematic issues early because it promotes efficiency by exposing the grey areas that need attention timely to avert firm failure. Hence, the expressed logic is tested in

$H_{02.}$ Audit committee efficiency does not significantly affect firms' performance.

Financial literacy aids efficiency in understanding business operations. However, it requires possession of financial expertise for meaningful competence (Bouaine & Hrichi, 2019). Hence, this study hypothesised that:

H_{03}: Audit committee competence does not significantly affect firms' performance.

According to Boubaker et al. (2014), gender diversity is vital as it ensures adequate representation of women in the workplace to affect firm performance positively. Francoeur et al. (2019) find that gender diversity has no effect on firm performance. Pathak et al. (2021) find that relations-focused miscellany connects with lower fraud incidents in firms' financial reports. The arguments call for further contribution. Hence, this study hypothesised that:

H04: Audit committee gender diversity does not significantly affect firms' performance.

Research Methods

The structure of the research is descriptive based on secondary data. The listed companies on The Nigerian Stock Exchange as of 1st March 2021, are 168 companies ((topforeignstock.com, 2021). However, the study sample size is 51 listed companies based on sample size calculator, in which the confidence level is 95%, and the confidence interval is 10%. The sampling technique is multi-staged; the convenience sampling technique focuses on all the listed manufacturing companies in the first stage. The second stage is stratified random sampling to select from each group. Eventually, there are cases of incomplete information and non-filing of returns timely. Hence, a sample of fifty-one (51) active companies This study utilises copies of the company's annual report for five years 2015 to 2019 for data analysis.

The data analysis is done with descriptive and inferential statistical techniques. A correlation coefficient matrix is performed to assess the incidence of multicollinearity of the study variables using Karl Pearson coefficient correlation statistics, *r*. Data analysis rests on Linear regression statistical analysis because the relationship between the dependent and the independent variables is linear. A regression assesses whether independent variables account for variability in a dependent variable, which is the essence of this study. Moreover, linear regression is essential and straightforward because of its stout prediction and precision power (Field et al., 2012). The study meets the requirement for Linear regression analysis in terms of a large sample size. Fagbemi et al. (2013) explain that the term "linear" means that an equation of a straight line of $y = a + bx$ which applies to this study. Where a and b are constants, x is the independent variable, and y is the dependent variable, in which case the values of y are dependent on the value of x from a mathematical function. Therefore, the independent variables are the audit committee attributes variables, while the dependent variable is the firm performance. The statistical analyses are employed using the SPSS, IBM version 23.

Econometric Model

Taking a lead from Bouaine and Hrichi (2019) and Boubaker et al. (2014), the regression analysis is performed using firm performance as the dependent variable which is a function of audit committee on competence, independence, efficiency and gender diversity as the determinants. The econometric model drawn is stated as follows:

$$\textbf{FIRM PERF} = \beta_0 + \beta_1 \textbf{ACCOMPE} + \beta_2 \textbf{ACIND} + \beta_3 \textbf{ACGD} + \beta_4 \textbf{ACEFF} + \textbf{e} \qquad (10)$$

B1> 0, β2> 0, β3> 0, β4> 0,

Where the β_0 = Intercept coefficient and β = Coefficient for each of the dependent variables and ε is the error term.

FIRM PERF = natural log of growth in shareholders fund; ACCOMPE = Audit Committee competence; ACIND = Audit Committee Independence; ACGD = Audit Committee Gender diversity; ACCEFF = Audit Committee Efficiency, β_0 = Intercept coefficient; β_1 = Coefficient for Audit committee competence. β_2= Coefficient for Audit committee independence; β_3 = Coefficient for Audit committee gender diversity; β_4 = Coefficient for Audit committee efficiency.

Definition of Variables

Following the trend in Bouaine and Hrichi (2019), firm performance is the dependent variable, and it is measured as the fraction of profit before tax to capital employed for 2015 to 2019 for each of the 51 companies sampled.

The independent variables are gauged in line with the expectations in code of corporate governance best practices provisions as obtained in the Federal Government of Nigeria (2018)- *Nigerian Code of Corporate Governance* as follows:

Competence: A competent audit committee is one with at least one member with finance knowledge. Hence, competence is the proportion of audit committee members with knowledge of finance to the total number of audit committee members for 2015 to 2019.

Independence: Audit committee independence is the proportion of audit committee members representing shareholders to the total number of audit committee members in each of the 51 companies sampled for 2015 to 2019.

Gender diversity: is the proportion of female members to the total number of audit committee members in each of the 51 companies sampled for 2015 to 2019. Efficiency is the proportion of the number of meetings attended by audit committee members to the total number of meetings held in each of the 51 companies sampled for 2015 to 2019.

Data Analysis

Table 4.1 shows that audit committee competence is present in most of the listed companies analysed (AC competence: μ = 0.61). The level of the audit committee independence is average (AC independence: μ = 0.5) and that gender diversity is very poor (AC gender diversity: μ = 0.28) in the listed Companies. Efficiency of the audit committee is very high (AC efficiency: μ = 0.76). The abysmal result posted for gender diversity appears to have affected firm performance very poorly (Firm performance: μ = 0.11).]

Table 1

Descriptive Statistics of the dependent and independent variables

Description	Mean	Std. Deviation
AC competence	.61	.41
AC independence	.50	.11
AC gender diversity	.28	.18
AC efficiency	.76	.18
Firms' performance	.11	.15

N= 51 Minimum = 1; Maximum = 2

***Source*: SPSS output, 2021.**

Table 2 shows that the correlation between firm performance and Audit committee competence, efficiency, independence and gender diversity records a coefficient of 40.3%, 49.8%, 71.6% and 69.4% respectively. Senaviratna and Cooray (2019) explain that a coefficient of ± 80% indicates serious multicollinearity problems that could be harmful to the regression analysis results. However, in this study, no such result manifests.

Table 2
Correlation matrix of firm performance and the independent variables

		Firmperformance	AC Competence	ACEfficiency	AC Independence	AC Gender diversity
Firm Performance	Pearson Correlation	1				
	Sig. (2-tailed)					
AC Competence	Pearson Correlation	-.120	1			
	Sig. (2-tailed)	.403				
AC Efficiency	Pearson Correlation	.097	-.138	1		
	Sig. (2-tailed)	.498	.336			
AC Independence	Pearson Correlation	.052	-.236	-.036	1	
	Sig. (2-tailed)	.716	.095	.801		
AC Gender diversity	Pearson Correlation	-.019	.010	.144	-.128	1
	Sig. (2-tailed)	.694	.744	.313	.369	

Furthermore, Table 5 shows a Variance Inflation Factor (VIF) of not above 10 and tolerance levels of not below 0.1 for all the independent variables tested. Senaviratna and Cooray (2019) aver that a common rule of thumb for measuring collinearity is that VIF of 10 or higher with a tolerance of .10 or less is unsatisfactory because it indicates that the X that is producing the Y is difficult to determine. Therefore, the results in Table 5 show no collinearity and are therefore, dependable.

The R-square in Table 3 shows that 0.023 is the proportion of firms' performance predicted by the influencing factors. The adjusted R-squared of -.062 is less than one, not absolute cynical and fragile. The result indicates that .062 is the proportion of the firms' performance that is predicted by the audit committee attributes implies that other factors could affect firms' performance in Nigeria.

Table 3:
Model Summary of the regression analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.150[a]	.023	-.062	.16007	1.685

Predictors: (Constant), AC efficiency, AC independence, AC gender diversity, AC competence
b. Dependent Variable: Firms' performance

Source SPSS output, 2021.

Table 3 shows that the standard error of the estimate is low at .16 when compared with the acceptable threshold of less than .5, implying that the observations are closer to the fitted line, and as such the line of regression is of proper fit and reliable. The Analysis of variance (ANOVA) results in Table 4 shows a statistically significant F-value of 0.265. This result suggests that the model has significantly predicted the regression results at a .05 level of significance. In Table 4 the Df (degree of freedom) recorded is 4, this implies that the model explains a significant fit of the variables at a degree of freedom of 4. The sum of squares report is 0.027 which is negligible. It shows that a substantial rate of responses is accounted for in the model. The mean square report for the regression is 0.007 which is the sum of squares divided by the degree of freedom. The ANOVA result implies that the model statistically significantly predicts the result of the regression.

Table 4
ANOVA[a] of the study dependent and independent variables

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.027	4	.007	.265	.899[b]
	Residual	1.179	46	.026		
	Total	1.206	50			

a. Dependent Variable: Firms' performance

b. Predictors: (Constant), ACefficiency, ACindependence, ACgenderdiversity, ACcompetence
Source SPSS output, 2021.

In Table 5, the β coefficients post negative not statistically significant effects for Audit committee competence and gender diversity at a .05 level of significance; Audit committee independence and efficiency post not significant effect on firms' performance at a .05 level of significance. Hence, the hypothesis is supported for all the tested audit committee attributes of independence, efficiency, competence and gender diversity as they do not have significant effect on firms' performance.

Table 5
Coefficients of the dependent and independent variables

	Unstandardized Coefficients		*Standardized Coefficients*			*Collinearity Statistics*	
Model	B	Std. Error	Beta	*t*	*Sig.*	Tolerance	VIF
1 (Constant)	.072	.160		.446	.657		
AC competence	-.038	.057	-.100	-.662	.511	.923	1.084
AC independence	.037	.198	.028	.185	.854	.926	1.080
AC gender diversity	-.023	.125	-.027	-.183	.855	.964	1.037
AC efficiency	.075	.127	.088	.592	.557	.957	1.045

Dependent Variable: Firms' performance
Source: SPSS output, 2021.

The resultant values are input into Model 1 as follows:

FIRM PERF = 0.072 + -.038 ACCOMPE + .037ACIND+ -.023ACGD + .075 ACCEFF.

The result supports Abe (2017), which finds that falsehood and lack of transparency affect bank collapse despite adherence to corporate governance codes. Idigbe (2018) argues that the idea of an audit committee though laudable, has not achieved the set objective for several reasons, including board manipulations. Zraiq et al. (2018) find that the relationship between the audit committee and firm performance measures is positive but not statistically significant. Al-Hadrami et al. 2020) find that audit committees influence corporate decisions significantly. Boubaker et al. (2014) argue that it is essential to accommodate diversity in an organisation to avert firms' failure. Besides, the neglect of gender diversity is counter-productive as it is affecting firm performance negatively. This study supports the common findings that female directors improve earnings performance based on improved board's efficiency (Apfelbaum, 2016; Gavious et al., 2012).

Hence, this study summarises that investors' attitude and genuine intention to drive business are critical to meaningful firms' performance. The results posted for all the audit committee attributes are below expectation, the board should ask questions. A gender-balanced audit committee would be vocal enough to direct the organisation's affairs to fruition since such a board will take proactive actions to reduce risks that deprive good corporate governance.

This study has implications for accounting practice in financial reporting because it exposes audit committee challenges. For instance, the Financial Reporting Council of Nigeria (FRCN) (2018) only mandates a plan to achieve gender diversity instead of making it an explicit requirement in the audit committee composition. Therefore, FRCN (2018)'s mandate is weak. Riggins (2019) opines that the undulations of 2018's corporate failures are enormous on the society, which calls for concern. Therefore, researchers need to motivate stakeholders such as the Securities and Exchange Commission, Nigerian Stock Exchange, Corporate Affairs Commission and other policymakers to craft changes towards the way forward in improving corporate governance. Corporate organisations could draw necessary lessons from scandals associated with corporate failures to prevent a repeat in their organisations. This study is of benefit to the general public based on the revelations evidenced in the findings.

Conclusion

This study concludes that the audit committee competence, efficiency, independence, and gender diversity do not significantly affect firms' performance. Hence, they need to improve given an enabling environment such as directors' obligation to corporate sustainability and adhere to the established code of corporate governance. A gender-balanced audit committee promotes an ethical atmosphere for corporate success.

Given the findings, the tempo of compliance with the corporate governance mechanism should improve. Gender diversity should be a compulsory requirement in the Corporate Governance Code of best practice. The demand for information by investors should be met by improved audit committee efficiency. There should be an assurance of integrity, focusing on oversight and open communication through the sustenance of the audit committee's competence and independence. The operational aspect of the audit committee is the main focus of this study. It is, therefore, suggested that scholars could explore other areas of corporate governance mechanism, such as the board influence on corporate sustainability and the individual component of firm performance relating to working capital management in further studies.

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Effect of Intangible Assets on Market Value of Listed Manufacturing Companies in Nigeria

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Abstract: *The economic turmoil that caused recession which Nigeria has experienced in 2016 may have significant effect on the change drive of micro and macroeconomic environment which is represented by intangible asset. This study examined the effect of intangible assets on market value of listed manufacturing companies in Nigeria. The study uses correlational research design and the population of the study comprises of seventy-six (76) manufacturing firms from which 45 companies listed on the Nigerian Stock Exchange between 2012-2019 form the sample for the study. The study used panel data and employed the uses of least square estimation technique based on modified Ohlson price valuation model. The study revealed that book value before intangible asset, research and development, brand name indicates a significant positive relationship and at the same time they are more in market value. The finding of this study implies that there is an increase in market value and intangible assets of listed manufacturing companies in Nigeria. The study recommends that companies should submit their annual report on time in order for the aim of reporting to be of relevance. In line with Research and development, the management of listed manufacturing companies should organize regular training and re-training programmes for managers and workers of the companies should be encourage in order to be more innovative.*

Keyword: Book Value before Intangible Asset, Research and Development, Brand Name and Market value

Introduction

Accounting is considered as one of the vital means used by corporate firms in communicating to the users of financial information for taking economic decision making. Users of accounting number analyze assets, liabilities and equity of the firms in order to make informed economic decisions. These analysis of assets, liabilities and equity for taking any economic decision has been expressed and considered in literature as market value (Benjamin,2017). Also, the usefulness of accounting information in the financial statement has been expressed as market value. This term has been used as the measure of the utility of accounting figures in respect to the equity valuation. This means that the concept of market value is used to reflect the main function of accounting numbers that enable all user of accounting information in the valuation of securities to make rational decisions.

The change in macro and micro economic environment, globalization has caused a paradigm shift in intangible assets by making some of the construct of intangible asset which include: research and development and brand name as one of the major drives of market value. For example, research and development is one of the components of intangible assets that make the companies to be more creative or innovative and concentrating on product quality and customer needs (**Petros, Sotiria, Spyros and Constantin, 2020).** The paradigm shift has made the mode of production using innovation to have direct or indirect effects on the manufacturing firms. This may likely be the reason why the companies expend huge amount of resources on innovation in order to be more viable and competitive especially the manufacturing companies (**Ogbodo et al., 2020)**

Brand name is another component that makes manufacturing companies more unique through the use of advertisement, marketing, distribution and promotional activities as value generating assets. The success of the firm focuses largely on customers patronage looking at the nature of listed manufacturing companies in Nigeria and how stiff the ongoing competitions are. It clearly shows that companies need to invest in the value generating assets in order to be more competitive and to remain viable in the future (Lev & Daum, 2004, Martin, 2020). Therefore, this means the use of brand name in creating more awareness about the products development that aid the companies in gaining competitive advantage over others firms (Ahmet, 2017; Aloy & Olusoji, 2016).The motivation of the study is as a result of the increasing role of intangible assets in creating more value for the manufacturing companies in today's economy. The regulatory authority such as stock market and the various accounting standard setting bodies are trying to see how financial position can be improved by enhancing the construct of intangible assets. Empirically, the study aims at evaluating the extent at which intangible assets are useful to the users of statement of financial position that serve as part of

capital market research. Thus, the increasing rate of innovation, advertisement, marketing and promotional activities which are all related to research and development and brand name in the manufacturing firms have triggered a study in this area. As a result of the change in both micro and macroeconomic environment through the use of various intangible assets constructs (research and development and brand name) that increase the market value of the firms, the major challenge with this environment is that any increase or decrease that affect accounting numbers are mainly caused by increase or decrease that affect business and accounting system and these are hardly reflected in the financial position of the firms (Kimouche, 2016). It is only some intangible assets that represent the change drive and products that affect manufacturing companies that are clearly reflected. Therefore, even the economic turmoil that causes recession which Nigeria has experienced in 2016 may have significant effect on the change drive and product which is represented by intangible asset of the firms as it falls within the scope of the study. this calls for the need to determine the extent to which financial position is affected and its future performance that are supposed to be reported in financial statements

The study has evaluated the new variables introduced such as research and development and brand name. The study may find that brand name is considered to have more market value than research and development. Findings of this study are expected to help accounting standards setters and managers to appreciate the role of accounting information on intangibles assets in companies' valuation and, to understand their importance; they are also expected to provide some lights about the investors needs of information.

Literature Review and Hypotheses Development

The Concept of Intangible Assets

Haji and Ghazali, (2018) define intangible asset as non-physical assets of the organization that cannot be touched or physically handle. In the words of **Robert** (2014), **intangible assets are non-physical asset of the companies that cannot be seen or touched.** According to **Sheila (2011),** International Accounting Standard Board (IASB) has stated that, some intangible assets categories such as human capital, customer loyalty and employee competences are not qualified for recognition in the Financial Statement. However, International Accounting Standard (IAS 38) explains the way intangible assets should be valued using its feature such as intangibility, controllability and flow of economic benefits. In addition, CAP C20 LFN 2004 Schedule 11 states some intangible assets such as Patent rights, licenses, trademarks and similar rights should be included in company financial statement, if they are incurred for valuation. Marrano et al (2009) argues that intangible assets can be viewed as the non-monetary assets of the organization that comprises computerized information, innovative property and economic competence. **Roya** Randall (2009) used the term intangible assets interchangeably as intellectual capital, accounting valuation, performance measurement and human resources are used as *human asset*. In the word of Anson (2007) who defined intangible assets as those assets like patents, trademarks, copyrights, brand names, logos, and other elements that constitute the firm´s goodwill.

The Concept of Market Value

Ogbodo, Osisioma and Benjamin (2020) stated that the effect of accounting information content on price in relation to changes in book value and market value has been considered as market value. Nik and Norhayat (2019) said that market value is the ability of accounting numbers to show the incremental effect of value of security, in the security market. Ali, Maher and Abdelfettah (2018) affirmed that it encompassed the changes in book value and market value in relation to market value. Olubukola, Uwalomwa, Jimoh, Ebeguki and, Olufemi (2016) asserted that market value is an idea and pillars that are related to relevance and reliability. In this content it means the difference among book value per share, market value. Barth, Beaver and Landsman (2001) opine that, financial information can be considered as value relevant once it can be termed as accounting numbers that is related to current company value. On the other hand, this implied that accounting numbers and company value are mutually exclusive, that means when accounting information may not be considered as value relevant once the financial reports have not fulfilled their primary objectives. Sami (2016) define market value as the accounting information that summarized information concerning accounting numbers and underlying market value.

Book Value Per Share and Market Value

Ali, Maher and Abdelfettah (2018) opine that book value is the earnings and cash flow measure of firm value that indicate an increase in $R^{2.}$. while, **Ali (2017) viewed** book value per share as an indication that there is increase or a decline in company value. Andriantomo and Yudianti, (2013) define book value per shares as the excess of total asset over total liabilities divided by the outstanding share of the firms. Rozendal (2012) defined book value as net assets or shareholders equity that was arrived at as a result of the difference between total assets and liabilities. Keener (2012), states that book value per share can be seen in terms of the firms surrogate abandonment value or predictor of future earnings when the current earnings have many short-term components. This definition is referred to as the incremental change over time that took place as a result of book value per share. This leads to development of hypothesis as follows;

$H_{O1:}$ Book value per share has no significant effect on market value of listed manufacturing firms in Nigeria.

Research and Development and Market Value

Petros, et al. (2020) opined that, research and development activities foster radical and incremental innovations in the manufacturing companies, the radical innovations may increase the firm productivity. Yudong (2017) and Hanran, (2014) averred that research and development as intangible asset has contributed to yielding a positive result more especially in reducing cost of production. This was done as a result of technological change that is related to manufacturing companies. Similarly, Kyle, (2013) opined that research and development, is the way of transforming the mode of production that become cost effective without altering the qualities of the product. This also, include the kind of innovation that would aid in improving the old versions and qualities of the existing products, it involves discovering and developing new method of production. While, studies have documented that the concept of research and development can be viewed from the perspective of intellectual market-base intangible assets. This has significantly contributed to the firms knowledge in terms of product development. Baraldi, Cantabene and Peran, (2009) stated that research and development is the knowledge that aid in the production of goods and services that drives economic growth. The process of investment in research and development is considered as input and innovation is the *output*. OECD (2005) defines research and development as an activity that involves the innovation process not the innovation. This leads to development of hypothesis as follows;

$H_{O2:}$ Research and development has no significant effect on market value of listed manufacturing firms in Nigeria.

Brand Name and market Value

Martin, (2020) opined that brand value is the benefit derived by company in advertisement the products of the company to consumers which prevents expensive competition. Brand value provides the company with legal protection concerning the products unique characteristics which increased its market value. Ali (2014) stated that brand value can be defined as the market value derived from the brand loyalty as a result of awareness and perceived quality. Ahmad and Iqbal, (2013) opine that brand value is a means of creating market value by attaining to the competitive advantage in the long run. According to Stephen (2001) brand value was defined as a bridge between what has occurred in the past and what may occur in the future that aims at creating market value by distinguishing between the different products of the producers. This leads to development of hypothesis as follows;

$H_{O3:}$ Brand name has no significant effect on market value of listed manufacturing firms in Nigeria.

Empirical Review

H_{O1} Book value per share has no significant effect on market value of listed manufacturing firms in Nigeria.

Ogbodo et al. (2020) investigated *the relationship between book value per share and market value of 60 listed manufacturing companies on the Nigerian Stock Exchange (NSE) over the period* 2010 to 2019. *The study used Ordinary Least Square (OLS) regression analysis in analyzing the data. The results of the study revealed that there is a significant positive relationship between book value per share and market value.* Ali, Maher and Abdelfettah (2018) investigated the *book value per share and market value* using listed manufacturing companies in Tunisian over the period 2010 to 2016. The study used Ohlson (1995) model in analyzing the data of 24 listed companies. The result of the study indicates that book value per share has significant positive relationship with market value. **Ahmadi (2017) assessed the relationship between** book value per share and market value of the listed manufacturing firms on Tunisian Stock Exchange over the period 2010 to 2015. The study used Ohlson (1995) model in analyzing the data the result of the study indicates a significant negative relationship between book value and market value. Basil, Petr and Masairol (2016) analysis the relationship between book value per share and market value using a Singapore listed manufacturing companies over the period 1994-2013. Ohlson (1995) model were used in analyzing the data. The result of the study indicates significant positive relationship. Mgbame and Ikhatua (2013) examine the relationship between book value per share and market value of 100 firms in the manufacturing sector over the period of 2000-2010. The finding of the study indicates that book value per share and market value has significant positive relationship.

H_{o2} Research and development has no significant effect on market value of listed manufacturing firms in Nigeria.

Petros, Sotiria, Spyros and Constantin (2020) examined the impact of Research and development and market value of listed Greek firms using 139 firms over the period 2006-2017. The study used the Ohlsons equation to investigate the changes in stock prices. The result of the study indicates that research and development expenses do not have any significant influence. Dennis, Tami, Baljit and Chuan (2018) evaluated the effect of capitalizing research and development on market value of 1,102 listed manufacturing firms in USA over the period 2006-2016. The result of the study indicates that research and development have significant effect on market value. Lianzan and Francis (2016) examined the impact of research and development using high-tech industries spanning over the period 1990-1999 and

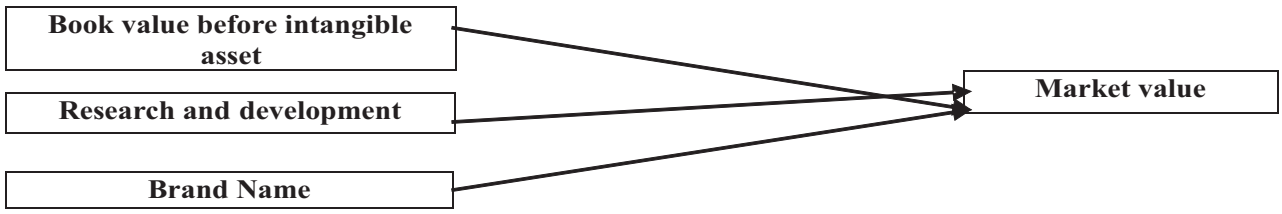
then 2000-2012. The study used regression in analyzing the data, The results of the study indicated that most of the companies used research and development expenses to increase the market value of their firms. Rindu (2015) investigates the relationship between research and development and market value. The study used STATA12.0 in analyzing the data of 189 listed manufacturing firms on the floor of the Indonesia stock market over the period 2007 to 2009. The result of the study indicates research and development has significant positive relationship with the market value of the firms.

H_{O3} Brand name has no significant effect on market value of listed manufacturing firms in Nigeria.

Samer et al. (2020) examined the relationship between brand name and market value using 1100 firms across 10 different industry sectors in US and Europe between 2013- 2017. The study used regression as a method of data analysis. The result of the study shows a significant positive relationship between brand name and market value. Grazia, Andrea and Vittorio (2018) evaluate the significance of brand name in increasing the market value of 2,518 listed manufacturing companies in Australia, Brazil, India, South Korea and Netherlands over the period 2008 to 2015. The study used STATA 13.0 in analyzing the data used for the study. The findings of the study indicated a significant positive relationship between brand name and market value. Dirk, (2014) examine the relationship between brand name and market value of the companies listed in Germany over the period 2008-2010. The study used STATA 13.0 in analyzing the data. The result of the study indicated a significant positive relationship between brand name and market value. Abubakar and Abubakar (2014) *investigated the impact of brands name on market value of* 37 **listed High-Tech companies in Nigeria for the period of** *seven years (2005-2011)***.** The study used *Edward, Bells and Ohlson Price model in analyzing the data.* The s result of the study indicated a significant positive relationship.

Signaling Theory

Morris (1987) and Spence (1973) was among the first (Miller and Rock ,1985; Ross ,1977 and Akerlofs, 1970) scholars that developed the theory and the emergence of the theory was to address the issue of information asymmetry between the preparers of financial reports and various users in the markets. The main idea behind signaling theory is to send meaningful information **(Olugbenga, Olusola, Zacchaeus & Oluwagbemiga, 2014).** Berhardt, Douglas, and Robertson (2007) said the information content hypothesis, which is referred to as signaling theory advocates that corporate announcement may have information content. Company may use book value per share and market value to send a signal that would change expectation of investors about the future prospect of the company in a situation where the markets are imperfect. Promotional activities and advertisement (brand name) may be uses as a tool that will send a signal by conveying information about the products of a company. When this happens, it will reflect change in stock price as it is publicly announced. Therefore, this has shown that signaling theory is one of the theories that can be uses to underpin the study.



This study adopted correlational research design. In line with the positivist approach, the design was used to describe the statistical relationship between two or more variables. The population of the study comprises of seventy-six (76) manufacturing firms listed on the Nigerian Stock Exchange as at 31st December 2019. Consequently, only 45 firms met up with the criteria of one availability of data, secondly the company must be quoted within the period of the study and thirdly must not be technically suspended. Thus, the remaining 31 were not selected. The data for this study were obtained from secondary source and extracted from the published annual reports and accounts of the sampled companies. The data on the dependent variable (market value) were collected from market value of the companies using market value of 31 march (three months, 90 days) after accounting year end of the sampled firms.

The invariant *price model (Ohlson.1995) and return (Easton and Harris, 1991) models have been commonly used in accounting research when studying market value,* The study used invariant Ohlson (1995) price valuation model because it can be modified to capture other variables apart from book value per share. The model is widely used in evaluating the market value (Okafor, Anderson & Warsame,2016; Alade, **Olweny & Oluoch,** 2017). The model suggests the use of market value per share (market values) as the dependent variable, while, the model allowed for the incorporation of other variables in showing the incremental effect of book value per share before intangible asset, research and development and brand name as independent variables.

Table 1
Variables of the Study and their Measurement

Variable Acronym	Variable Name	Variable Measurement	Sources
SPHit	Market value	Is the market value of company, measured by its market value after three months (90 day or 31 st March after the financial year-end).	Ohlson (1995), price
RDMit	Research and Development	$Y = AL^{\alpha 1}K^{\alpha 2}$ Where: Y is value added, L= labour (total employment); K= stock of tangible capital and A= scalar representing knowledge.	Griliches,(1984); Bloom and Van Reenen, (2002); Greenhalgh and Longland, (2005); Greenhalgh and Rogers, (2007); and Dwivedi, (2013)
BRNit	Brand Name	Cost of advertisement and promotional activities.	Grazia et al(2018), Dirk,(2014)Abubakar and Abubakar, (2014)
BVS_IAit		Book value per share before intangible assets and goodwill if any intangible assets is not recognized in financial statement.	Kimouche and Rouabhi(2016); Ahmet(2017)

Source: Computed from the data collected from reports and accounts of the sampled companies

$$SHP_{it} = \beta_0 + \beta_1 BVPS\text{-}INA_{it} + \beta_2 RDV_{it} + \beta_3 BRN_{it} + \varepsilon_{it} \quad (1)$$

Where:

SHP_{it} – Stock price 3 months (90 days after the end of fiscal year t, where year t is the event year;

BVSH - INA_{it} = Book value per share during period t. before (intangible assets reported plus goodwill

RDV_{it}= Research and Development

BRN_{it}= Brand Name

β_0 = The intercept

ε = Statistical error

(Nadana,2010; Kimouche & Rouabhi,2016).

Data Presentation and Analysis

Table 4.1 Descriptive Statistics

Variable	Obs	Mean	Std.dev.	Min	Max	**Skewness**	**Kurtosis**
SHP	358	2.28969	1.592567	.0100503	6.956545	**0.0000**	**0.4276**
BVS_INA	358	2.65531	.235556	1.614277	3.12085	**0.0000**	**0.0042**
RD	358	.1362821	.0432985	.0008112	.2410345	**0.0000**	**0.0000**
BRN	358	.6902575	.1223847	.1267833	.915976	**0.0000**	**0.0000**

Source: Computed from the data collected from reports and accounts of the sampled companies

Market values in March indicate that the average of book value per share is N2.7, brand name is .69k and research and development is .14k which is the lowest. This implies that the companies have performed well. Research and development revealed how weak the listed manufacturing companies in term of staff training and bring in a new innovation. The standard deviation of market value is N1.59 which is high and the lowest standard deviation is research and development which is .04k. Book value per share standard deviation of .23kobo shows a wider dispersion. The standard deviation of .13kobo showed that listed manufacturing companies had a little paradigm shift from the old method of production. The standard deviation of brand name of .12 kobo and a mean value of .69kobo indicate a small dispersion standard deviation from the mean. This variation indicated the significant role market values are playing in increasing market value of intangible assets of listed manufacturing companies in Nigeria. The minimum value is N.01 and maximum value of N6.9 indicated that some companies have low market value, while other companies' price appreciated. This implies that generally, the Nigerian listed firms with regard to their market values are not concentrated around same value, suggesting how widely different the firms are valued by the market participants at the stock market. The minimum of N1.61 and maximum N3.12 showed that companies under manufacturing companies are still trying in spite the economic crisis experience during the period of the study. This implies that book value per share of the companies has influenced market value which induced shareholders and prospective investors to patronize more share of listed manufacturing firms in Nigeria. It also showed that book value per share has increased the market value of manufacturing companies. The minimum of 0 and maximum of .24kobo implies that research and development have increased the market value. The brand name indicates how stiff competitions are in the

listed manufacturing firms in Nigeria. The minimum of.12kobo and maximum of .91kobo implies that there is an increase in revenue or turnover of some sample companies around period of study. Thus, it further implies that, the cost incurred as a result of advertisement or promotional activities positive effect in increasing the market value of the listed manufacturing companies in Nigeria. Lastly, looking at the result of the skewness and kurtosis it indicates that the data is normally distributed.

Table 4.2 Correlation

	SHP	BVS_INA	RD	BRN
SHP	**1.0000**			
BVS_INA	**-0.6021**	**1.0000**		
RD	**-0.0433**	**0.4763**	**1.0000**	
BRN	**-0.1283**	**-0.2954**	**0.4585**	**1.0000**

Source: Computed from the data collected from reports and accounts of the sampled companies

Table 4.3 explains the correlation between the independent variables themselves. The correlation shows a relationship between book value per share before intangibles and market value. Research and development, book value per share before intangible assets which constituted (0.6021, -0.0433 and 0.4763) revealed that those who have negative are considered as weak relationship, while, like research and development show a strong relationship. The relationship between brand name, research and development which showed a strong relationship which constituted (-0.1283, 0.2954 and 0.4585), this implied that the amount spent on brand name has led to the increase in market value.

Regression Result

Table 4.3 Regression Result

Variable	Beta Coeff	T-value	Prob	VIF	1/VIF
Constant	**9.590824**	**12.19**	**0.000**		
BVS_INA	**-2.533368**	**6.18**	**0.000**	**1.18**	**0.850676**
RD	**11.70942**	**4.25**	**0.000**	**1.17**	**0.852112**
BRN	**-1.60578**	**-2.84**	**0.005**	**1.15**	**0.180423**
R^2	**0.6297**				
F-Stat	**36.08**				
Prob.	**0.0000**				

Source: Computed from the data collected from reports and accounts of the sampled companies

to affirm the model that was adopted, Hausman specification test was carried out and the result of the Hausman specification test indicated that fixed effect is more appropriate as it significant. The result of the Hausman specification test showed Prob= 0.000, Wald chi2 =94.29. Also, breusch and pagan/cook-weishergh test was conducted and it further affirmed that fixed effect is more appropriate as the wald chi2 =127.31 and prob. =0.0000. Therefore, this affirmed that fixed effect model fit the model for predicting, market value, book value before intangible assets, brand name, research and development. Since the results are relatively good the fixed effect can be interpreted.

Book value per share have shown a little decreased in the market value per share looking at the coefficient which has a negative sign (-2.533368) and the t-value of (-9.47) this could be attributed also, to the recession experienced and it is in line with the work of (Renato, Alex and Matteo 2013). However, the significant level of (0.000) indicated that despite that they are more market value. Research and development indicated that there is an increased in the market value per share since it has positive coefficient (11.70942) and t-value of (6.18) this could be attributed also, to the increased in level of

innovation and it is in line with the work of (Rindu, 2015, **Lianzan et al., 2016,** Dennis et al., 2018 and **Petros et al., 2020)**. However, the significant level of (0.000) indicated that research and development are market value. In relation to brand name, the cost incurred in association with promotional and other marketing activities like advertisement have increased, indicating that it has significant positive effect on intangible asset considering the coefficient of (-1.605078) and significant positive relationship with market value of (t-value= -2.84 and p-value=0.005) show a decrease in the amount spend on advertisement and promotional activities. The significant level indicates has increased the market value of brand name of the listed manufacturing companies in Nigeria. Considering the coefficient of determination which is the adjusted R^2 (0.63%) has theoretical implication which shows that they are capable of generating resources for the companies externally which increased the market value of firms.

Multicollinearity test was also carried out to determine whether in the regression model there is a harmful correlation between the independent variables or not (Ghozalim, 2007 & Santoso,2017). This can be detected based on the variance inflation factor (VIF) and tolerance test (1/VIF). When VIF is not more than ten (10) and tolerance test1/VIF is less than one (0.10) it indicates absence of harmful multicollinearity. For this study, there is no theoretical threshold to indicate the presence of multicolinearity as no value exceeded the threshold of VIF above 10 and tolerance test (Gujarati, 2004).

Test of Hypothesis

The result in the Table 4.3 shows that, the coefficient of book value per share before intangible assets which indicates a movement from the same direction. This may be attributed to some loss made by companies after the annual general meeting which affects investor decision in association with the market value. Thus, the significant level of (0.000)1% shows the fitness of the model in increasing the BVS_INA. The significant level of 1% indicate that despite the fluctuation in the market value per share of the companies, the market value of listed manufacturing firms in Nigeria was more value relevant. Therefore, the null hypothesis which stated that book value per share before intangible asset have no significant effect on listed manufacturing is hereby rejected.

In listed manufacturing firms in Nigeria, as a result of innovation, the amount spent on research and development has increase the market value of market value of the listed manufacturing companies. Thus, the significant at (0.000)1%. Therefore, research and development has increased the market value and intangible asset. The significant level of the study has also provided evidence of rejecting the null hypothesis which state that research and development has significant effect on market value of listed manufacturing firms in Nigeria.

In respect to brand name, the significant level (0.005)1% have depicted that brand name is among the intangible asset variable that increase the market value and intangible assets of the listed manufacturing firms in Nigeria. This also confirmed that they are valued by investors when they value firms. The significant level provides us with evidence of rejecting the null hypothesis which stated that there is no significant relationship between brand name and market value of the listed manufacturing firms in Nigeria.

Discussion of Findings

The study found that book value per share in relation to hypothesis that stated that market value of share in the listed manufacturing is significantly affected by their book value per share before intangible asset. This implies that the companies have performed well. This finding is in line with the previous result of (Basil, Petr and Masairol 2016, Keener 2017, Ali, Maher and Abdelfettah, 2018) who found in USA, Singapore, Tunisian that book value per share before intangible asset has significant positive relationship with market value. Thus, it differs from the finding of Ahmadi (2017) who carried out study in Tunisia and found a statistical insignificant relationship between BVS_INA and market value. Theoretically, the result also suggests that in relation with the signaling theory any slight changes would have effect on the market value. Therefore, once this announcement is made it will have effect on BVS_INA Thus, this also affects market value in the stock market. Therefore, this hypothesis is linked with book value per share before intangible asset to market value.

The result with regard to research and development, it is in line with the hypothesis that firms listed in the manufacturing are significantly affected by their research and development. The finding of the study is in relation with the resource base viewed theory which aid in increasing firms' creativity and innovation processes that impact on market value per share of manufacturing firms. It further buttress that signaling theory is saying, if research and development can be harnessed by putting the resources of the organization such as land, labour, material with knowledge, competence, skill and innovation together, the firms would increase market value of the company. This implies that little paradigm shift from the old method of production. The finding is in line with the work of (Isamu and Oshihiko 2005; Tsoligkasa, and Tsalavoutas 2010; **A**lexandru, 2011) in Japan, Romanian, who reported a negative insignificant relationship of research and development. While, the result of the study contradict the finding of (Dennis 2000; Harald 2014; Fabio 2014 and Rindu 2015); who

carried out the study in UK, Swedish, Italian, and Indonesia.
With respect to brand name which found that firms listed in the manufacturing firms are significantly affected by their brand name in Nigeria. this implies that implies that, the cost incurred as a result of advertisement or promotional activities positive effect in increasing the market value of the firms. This finding is in line with the previous result of (Roger 2011; Kothari, Mehta and Sharma 2013; Abubakar and Abubakar 2014; Dirk, 2014, Brooke 2015; Aloy & Olusoji, 2016, Grazia, Andrea and Vittario 2018) who found in Germany, India and Nigeria, that brand name has significant relationship with market value per share. Theoretically, the result also suggests that brand name is associated with signaling theory where it optimizes the value of the firm by enhancing the firm's ability to remain more competitive. The finding on the other hand is inconsistent with that of (Ovidiu,2000 and Eunjoo 2011) who carried out a study using Romania firms.

Conclusion and Recommendations

As the study examined the effect of intangible assets on market value of all quoted manufacturing in Nigeria, the study show that market value studies have provide insights into how accounting number reflect information concerning all the variables used in this study. The study shows significant increase in market value of the companies as against (BVS_INA, RVD and BRN) have contribute to increase both the validity and reliability of accounting information concerning market value of share. This implies that Book value per shares before intangible asset, research and development have increase market value. also, it implied, the amount of money spent on training employee to be more innovative has significantly impacted on company's growth and aid in increasing the market value per share of the listed manufacturing firms in Nigeria. Brand name despite the mega amount expended on marketing, promotional and advertising activities the companies has made a significant progress

This paper recommends that companies should submit their annual report on timely bases so regulatory authorities such as (FRCN, SEC and NSE) so that it will aids them in taking decision concerning compliance with period of announcement stated by law. With respect to research and development management of listed manufacturing companies should organize regular training and re-training programmes for management and staff of all listed firms on importance as well as need to make them become more innovative. The step is foreseen to enhance innovation looking at the statistical level and most importantly investors on accounting information 'consumed' to drive their investment decision in the stock market. Through this process, the market capitalization is not only envisioned to improve but will also lead to increased shareholders' investment in listed manufacturing companies. This is also expected to be a booster for both manufacturing companies and Nigeria stock markets.

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A Phenomenological Examination of Corporate Failure in Nigeria: Does Internal Control System Matter*

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Abstract: *The study used a phenomenological approach to examine whether the absence of an instituted adequate internal control system was a possible cause of failure of microfinance banks in Nigeria. The study used a descriptive research design because the research analytically explained the phenomenon and an interpretive method of research was used because the research questions were directed at respondents and written sources concerning issues in the past. Snow balling was the purposeful nonprobability sampling technique that was used to sample the population of the study. Semi structured interview was used to collect data from seven (7) key informants of failed microfinance banks; explicitation was used as the technique of data analysis. Findings revealed that the microfinance banks that failed did not really have an instituted internal control system. Based on this finding, the study concludes that internal control system matters in averting failure of microfinance banks. The study strongly recommends that section 6.5 of the Central Bank of Nigeria central bank of Nigeria CBN code of governance for microfinance banks (2018) should include instituting an internal control system because it is the tool the internal audit uses to assess risk management function of microfinance banks.*

Keywords: Corporate failure, Microfinance Banks, Phenomenological Constructivism

Introduction

Corporate failure is generally considered a situation that extinct institutions or companies and so financial institutions take very seriously managerial steps or strategies that keeps them away from failing. This is because these institutions are considered the framework of economic activities or the bedrock of a nation's development. Particularly institutions like microfinance banks are considered agents of grassroots development in emerging and developing economies. Nigeria, demonstrated its interest in the support to finance economically active unemployed youths, rural dwellers, women, and small businesses through microfinance banks. Wachukwu et al. (2018) evidenced that microfinance banks' existence increased individuals' income and enhanced job creation (Garba, 2019). However, these banks experienced failure as a result of several factors like fraud, earnings management, bankruptcy, poor organisational culture, insolvency, illiquidity, nonperforming loans, poor credit procedures, lack of staff training and development, conflicting schedules for employees, lack of access to information, poor record keeping, absence of strategic business and management models and poor performance (Abei, 2021; Rashid, 2020; Emokpae, 2020; Techuigoua, 2018; Sunday et al., 2018; Okaro et al., 2017).

Specifically, in the year 2015 Nigerian Deposit Insurance Corporation (NDIC) report revealed that weak corporate governance practices induced the failure of microfinance banks. As a result, the number of microfinance banks in Nigeria has greatly reduced to less than three hundred from more than a thousand that were granted licenses by the CBN since 2005 to date. It is important to note here that corporate governance codes and professional code of ethics are a source of mandatory policies of internal control system of a company. The growth of such company is highly dependent on an effective and efficient system of internal control (Kwayie, 2015) the absence of which results to failure (Amissah, 2017) especially when the behavior of the operators is not govern by a code of ethics.

Unfortunately, most of the microfinance banks that failed did not oblige making codes a source of policies for banking operations. Consequently, they experienced poor record keeping, fraud, lack of strategic managerial principles, inadequate staffing and segregation, misplaced priority and values, increased nonperforming loans and credit risk and several other factors that led to their closure. From this context the following questions arise:

i. Do microfinance banks have an instituted internal control system?
ii. How committed are the board of directors, management and staff to the implementation of an internal control system of microfinance banks?
iii. How aware are microfinance banks' board of directors, management and staff of the importance of the corporate governance code as a mandatory source of policies for their internal control system?
iv. To what extent does banking code of ethics govern their behavior?

Studies that examined microfinance banks focused on credit risk management (Trung, 2021; Okaro et al., 2017;

Akwaa-Sekyi & Gene, 2016) financial performance (Abisola, 2022; Otoo et al., 2020; Ndiaye et al., 2019; Sunday et al., 2018) financial reporting quality (Abed et al., 2020) resilience (Emokpae, 2020) fraud detection and prevention (Abei, 2021).

This study is different because it is focused on failed microfinance banks. The study seeks the experience of stakeholders of failed microfinance banks in Nigeria to show how an inadequate internal control system causes corporate failure. This is the gap this research has identified from the literature.

The findings of this study provide fresh evidence on the strategies that can be deployed to avert corporate failure. Regulators like the Financial Reporting Council of Nigeria FRCN will find the findings of the study as empirical evidence that supports its effort on the Nigerian code of governance it issued in 2018. Also, Central Bank of Nigeria CBN, particularly its financial policy and regulation department will find the findings of this study as a measure of their candid oversight efforts in microfinance banking operations. The management of existing microfinance banks will use the findings of the study to evaluate and sustain their positions towards averting failure in the future.

This study is made of five sections; this section is the introduction which includes the background, problem and gap identified by the study and its significance. To help address the questions rose in section 1, relevant literature is reviewed in section 2, Section 3 presents the paradigm, design, method, sampled population and technique of data collection and analysis. Section 4 presents the qualitative data and discusses the findings there from. Section 5 concludes, discusses policy implication of findings and draws recommendations.

2. Literature Review

The study is a phenomenological examination of the issue of interest of the research which is corporate failure and internal control system. Because the paradigm or philosophy of this research is constructivism, an integration of literature is adopted to discuss the issues using dearth empirical studies that used primary or secondary sources of data; hence concepts and theories are not presented as sections.

2.1 Internal Control System and Corporate Failure

Internal control system is instituted across all units of activities internal or external of any institution or company to ensure effectiveness and efficiency of operations as well as mitigating or inhibit any risk that can stall or bring about its collapse, closure or failure. According to the Committee of the Sponsoring Organisations (COSO, 2013) an internal control system is instituted to guarantee reasonable assurance of management of assets (human and financial) towards achieving the goals and objectives of a company. The consequence of not achieving a reasonable assurance attracts corporate failure (Amissah, 2017). Failure can be experienced where a company is ineffective, lacks proper supervision and poor marketing approaches (Eyo, 2018) or lacks strategies for monitoring and evaluating its operations. Unavoidable failure occurs with bad policies due to managerial incompetence or deliberate sabotage (Ennon, 2020). This is why COSO (2013) recommends for an institution or company to ensure that the system of internal control instituted anchor five components. These are discussed seriatim:

2.1.1 Control Environment: COSO (2013) documented that when the control environment component is articulated well by ensuring that the line of authority and the duties of each employee as well as the objectives and goals of the company are clearly communicated and well comprehended by each employee, the other four components of the internal control system (control activities, risk assessment, monitoring, communication and information) will be effective and efficient to achieve the overall goal of the company. Literature documents studies that have evidenced this position by showing how internal control system influence financial performance. There are little or no studies on internal control system and corporate failure of microfinance banks.

In 2014, the study of Tchuigoua found that segregation of authority and duties of making the chairman of the board separate from the chief executive officer increased profitability of microfinance institutions. The study relied on regression as a technique to analyse the quantitative and quantified qualitative data from the financial statements of 215 microfinance institutions from 2003-2009. Similarly, Sunday et al. (2018) examined 36 microfinance institutions that made the population of the study out of which 33 were selected as the sample size that attracted a survey of 356 respondents that relied on multistage random sampling. Structural equation modeling as the technique of data analysis was adopted to show that internal control system influences financial performance. Furthermore, ***Ndiaye (2019)*** used a mixed approach to combine quantitative data from financial statements and quantified data from questionnaire administered through mailing to 118 respondents of 110 microfinance institutions in Senegal. They used Cronbach's alpha to test for internal consistency of the questionnaire they administered. T-test and OLS are technique of data analysis employed. They found that internal control system influences profitability of microfinance institutions. Also, Agbigbi (2016) *administered structured questionnaire to managers and finance officers of 24 microfinance institutions. They used descriptive statistics to show that ICS influences performance.*

From another perspective, Emokpae (2020) used pragmatic realism, mixed methods design, non-probability sampling

technique that is purposeful sampling with snowballing to examine why some microfinance banks are resilient in times of adversity while others are not. The study found that resilience is premised on observing regulatory guide line (code of corporate governance which is mandatory source of internal control system policies), good work culture and business model, good governance and ethical behavior of managers and directors of the banks anything short of these characteristics promotes failure of microfinance banks in times of adversity. Earlier, Tchuigoua (2018) used a cross-country sample of 253 microfinance institutions from 2001-2011, employed quantified data from rating websites and quantitative data from financial statements and relied on regression technique of data analysis to show empirical evidence that corporate governance effectiveness can inhibit earnings management and improve earnings quality which is very pivotal in promoting earnings ability of banks to avert failure.

2.1.2 Control Activities: This component ensures control takes place in all units and function. The line of authority and the segregation of schedules and policies identified for the company are implemented by this component. Controls like authorization, supervision, verification, approval and reconciliation are the features of this component. The study of Abei (2020) evidenced that verification prevents fraudulent activities. Abei employed a qualitative case study of 8 microfinance institutions in Cameroun and thematic analysis was used to analyse primary data collected from 14 semi structured interview conducted. Analysis revealed that internal control system can reduce fraud incentive, opportunity, rationalization, and capability.

2.1.3 Risk Assessment: This component is used to identify possible risk that can affect the company as a result of change introduced by technology or regulatory authorities or vulnerable activities like having no internal audit in place to vet all transactions. The study of Okaro et al. (2017) examined 18 banks selected out of the 72 microfinance banks that constituted the population of the study. They used survey as the research method to administer structured questionnaires to 135 employees and used descriptive statics to present findings that showed microfinance banks have a week internal audit function that promotes poor risk management.

2.2.4 Monitoring: This component is used to ensure proper record keeping by ongoing supervision, separate evaluation and enquiry activities. The study of Abei (2020) used primary sources of data that had semi structured interview to collect responses from 8 microfinance institutions in Cameroun. Thematic analysis revealed that internal control system cannot reduce fraud when poor monitoring and week monitoring practices existed in the banks. Additionally, Tchuigoua (2014) Used secondary sources of data from financial statements of 215 MFIs rated by planet rating between 2003-2009 and quantified the qualitative data in the statements to evidence that regular board meetings promotes monitoring activities that prevent financial recklessness that can lead to failure of a company.

2.1.5 Information and Communication: This component is used to establish the flow of information through communication and feed back in real and on time so that employees' responsibility can be discharged efficiently. Weekly, monthly and annual reports that contains operational and compliance related information is made available for all staff to access. This is done to better articulate staff behaviors towards sustaining achieving company goals and objectives. In 2017, the study of Okaro et al. Used structured questionnaire on 138 respondents from a sample of 18 banks and revealed descriptively that lack of access to information and training of staff exposed microfinance banks to risk of failure.

3. Methodology

3.1 Research Design: This research relies on phenomenological constructivism paradigm because the study is examining issues from the perspective of the actors who are directly involved in the issues examined not variables from the context of a theory. The descriptive research design is used in this study because the researchers analytically explained the phenomenon examined. The research method is interpretive because the research questions are directed at respondents and written sources concerning issues in the past so that an understanding of the phenomenon investigated can be better understood towards forecasting the future.

3.1.1 Technique of Data Collection: The technique of data collection is semi structured interview. The choice of the technique is that it can aid direct investigation and examination of the issues in question. The procedure applied includes an in-depth interaction with key informants on their experiences as mangers, directors, board members, administrative staff, marketer, and customer.

3.1.2 Technique of Data Analysis: Explicitation was relied upon as technique of analysis through; (i) critical review of the whole answers to the research questions. (ii) Delineate the review to capture the most relevant answers to the question (Creswell, 1998). (iii) Group answers into separate themes (Hycner, 1999). (iv)Summarise each theme into a full context with a heading. (v) Use tables to present findings showing distinct and common themes of informants (Groenewald & Schurink, 2003).

3.2 Sampled: 7 key informants were interview this is because Boyd, (2001) and Creswell, (1998) recommends 2 to 10 participants as adequate for a phenomenology study and for the achievement of saturation. The research considered the experience of these informants as key because they experienced the closure of their banks by the revocation of their banking licenses by the CBN. Their individual responses based on their experiences in banking operations, revealed a great deal of awareness on why they experience failure. This is why the research considered the key informants knowledgeable enough to address the research questions raised. Snow balling, a purposeful non-probability sampling technique was used to select the key informants.

4. Results and Discussion

This section presents the results and discussion. Table 1 shows the interviewees, their experience, expertise, academic and professional qualification of the key informants.

Table 1:
Key informants and work experience

Interviewees	Failed Banks officials and others interviewed	Experience	Qualification	Professional Qualification	Expertise
1	Director	6 years	BSc	None	Humanities
2	Customer	5 years	BSc	None	Languages
3	Marketer	6 years	OND	None	Sales
4	Account officer	5 years	BSc	ICPAN	Finance
5	Credit officer	7 years	HND	None	Administration
6	Manager	8 years	BSc	None	Education
7	Chairman Board of Director	5 years	HND	None	Civic

Source: Field work, 2022

Table 2 - 4 shows the theme and findings from the interview. Columns 1 and 2 of the tables show the emerged themes and findings respectively. Columns 3 to 9 shows the key informant interviewee numbers indicated in Table 1. The columns are used to reveal which key informant the theme originates from and is indicated with small letter x.

Table 2
Risk Assessment, Information and Communication components of the internal control system

Theme: Violation of Primary Objectives		**Interviewees from table 1**						
Column C 1	**Column C2**	**C3**	**C4**	**C5**	**C6**	**C7**	**C8**	**C9**
Theme	**Findings**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Granting credit to economically active poor	Credits are mostly granted to friends and families not to the economically active poor that are meant to access such facility. There is really no enforcement or internal procedures to check that	x		x	x	x	x	x
	Some CEO and MD divert funds for personal use, specifically funds are invested into personal ventures. The working environment permits such acts.			x	x	x	x	

	High rate of insider borrowing that eventually increased low liquidity level for operations was experienced. Banks did not communicate clear pro poor policies for all to comprehend. There is no internal audit function	x		x	x	x	x
	Lack of training and development of staff on microfinance banking and credit granting and recovery skills	x		x	x	x	x
	Employment of staff from commercial banks that run MFB with investment and retail banking skills instead of mobilizing savings and efficient delivery of credit to the economically a ctive poor individuals	x		x	x	x	x

Source: Field work, 2022

The primary objective of microfinance banks was disregarded, **interviewee 1** expressed 'when enforcement procedures are not clearly in place banks grant loan to more family members and friends than to women, unemployed youths and small businesses. Additionally, **interviewee 5** also said 'some banks experienced the withdrawal of funds by CEO for personal pursuit because the working environment permitted that, there is no internal audit function to support an internal control system instituted to check that.

Table 3

Control Environment, Control Activities and Monitoring Components of the Internal Control System

Theme: Poor Management of Operations		**Interviewees from table 1**						
Themes	**Findings**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Weak controls	No code written in clear terms to guide the behavior of staff including the board and management. Professional qualification is not really a necessity, in some banks only 1 or 2 staff is CIB members, consequently outright theft is experienced. There is no control culture or system	x		x	x	x	x	
	Board members also serve as manager or CEO, the credit officer is also the account officer in some banks. Same family members are on some boards and where a separation of management exist same family member will be chairman and MD	x		x	x	x	x	x
	Access to credit is not based on threshold and loans are granted without collateral.			x	x	x	x	
Poor recruitment culture	Poorly skilled directors without finance, credit and administrative skills are mostly nominated to serve banks	x		x	x	x	x	x
	Nepotism in hiring personnel in some banks		x	x		x	x	x

Lack of expertise	Board and management lack finance and credit management skills as a result banks experience more lending than savings	x		x	x	x	x	x
	Bank capital is used to finance overhead and staff expenditure instead of revenue generated from loan interest			x	x	x	x	x
Poor board oversight	Colluding with customers to grant bogus loan and no remittance of payment into bank account but into staff account. Also, inactive customer account is granted loan	x	x		x	x		x
	Poor credit vetting, and poor repayment culture influenced by sharp practices resulting to diminish capacity to recover loan				x	x	x	
	Customer diverting loans to fund wedding, birth, burial ceremonies and payment of school fees instead of genuine business ventures	x	x	x	x		x	
	Some marketers collect money from customers without remitting to the bank or collect bribes from customers without enforcing loan repayment.	x			x			x

In explaining managing of banking operation, interviewee 6 expressed that 'in clear terms there are really no codes guiding the behavior of staff and management including the board, in a way control of activities is lacking most board members and management are not members of chartered institute of bankers CIB because it is not mandatory, management and the board are not separated the chairman is also the CEO and in some instances same family members serving as chairman and MD. Board and management lack expertise. There is really no instituted internal control system. Interviewee 5 also explained that "board members and management lack credit management and finance skills this influence poor vetting and repayment procedures.

Table 4

Control Environment Component of the Internal Control System

Theme: Managerial Principles and Strategies		**Interviewees from table 1**						
Theme	**Findings**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Vision and Mission	Interpretation of the vision and mission of microfinance bank was more with Government intention to create the banks to support poverty alleviation and empowerment but in practice those whom the banks were created to serve were not served rather board and management benefited.	x	x	x	x	x	x	x
	Goals of the banks are typically not in harmony with the goals of employees, management and sometimes with that of the board. This creates conflict of interest that results in insider borrowing and fund diversion for personal use	x			x	x	x	

Business Models	Largely no model exist that can capture how credit is granted and repayment achieved. The traditional individual customer model not customers in a group model is what is operational in the banks.	x		x	x	x	x	x
Business Strategies	No strategies in place to attract collaboration between customers, marketers and the bank for a successful loan grant and repayment. Also, no strategy in place to encourage a customer make loan repayment as at when due. Again, no strategies in place to mak e customers partners in bank progress to generate more revenue to grant more loan that will attract more frequent, stable and sustainable interest rate	x	x	x	x	x	x	x

Source: Field work, 2021

Regarding managerial principles and strategies, interviewee 4 revealed that 'the mission was misdirected on family and friends rather than on small businesses to access credit facilities. Interviewee 1 further explained that "the bank operate traditional business model that transacts with a single customer or individual rather than community group customers like women association of mama put businesses". Interviewee 7 also revealed "the absence of business strategies that can foster collaboration and partnership between customers, marketers and management of banks".

Addressing Research Questions

On the first question do microfinance banks have an instituted internal control system? The study found that most of the banks that failed had no system of internal control instituted. Table 2 revealed the findings on the absence of the risk assessment component that resulted in the violation of the primary objectives of microfinance banks led to their failure as a corporate body. This finding supports Okaro et al. (2017) who evidenced that poor credit risk management encourages failure.

On the second question how committed are board of directors, management and staff in the implementation of an internal control system of microfinance banks? The study found little and no commitment respectively in some banks. Table 3 revealed that absence of the control environment, control activities and monitoring components of the internal control resulted in poor board oversight, week control and sharp practices that led to their being closed down. This finding supports Abei (2020); Emokpae (2020); Tchuigoua (2014) who documented that lack of verification, disregard for regulatory guidelines, poor ethical conduct and the absence of segregation of duties influences failure.

On the third and fourth questions how aware are microfinance banks board of directors, management and staff of the importance of corporate governance code as a mandatory source of policies for their internal control system? And to what extent does banking code of ethics govern their behavior? The study found that they are not aware and are mostly not members of the chartered institute of bankers CIB. Table 3 revealed the absence of the control environment component resulted in weak controls due to the absence of code written in clear terms to guide their behavior couple with the fact that management and board members do not have professional qualification. Table 2 revealed the absence of risk assessment component that resulted to lack of training and development of staff that consequently led to their failure. This finding supports Okaro et al. (2017) who revealed that the absence of training on risk management attracts failure.

Implication of findings on policy

The findings of the study show that the absence of an instituted internal control system resulted in the failure of some microfinance banks in Nigeria. This implies that the policy on instituting an internal control system to strengthen the risk management frame work of a company as directed by the financial reporting council of Nigeria FRCN in the code of governance (2018) is on the right direction and should be implemented and sustained by existing microfinance banks. Secondly, the findings implied that the policy mandated by the CBN code of governance for microfinance banks (2018) is not adequate as it did not include the instituting of an internal control system by microfinance banks.

Conclusion and Recommendation

The study used a phenomenological approach to examine whether the absence of an instituted adequate internal control system was a possible cause of failure of some microfinance banks in Nigeria. Findings revealed microfinance banks that failed did not really have an instituted internal control system. Based on this finding, the study concludes that internal control system matters in averting failure of microfinance banks. The study strongly recommend that section 6.5 of the

CBN code of governance for microfinance banks (2018) should include instituting an internal control system because it is the tool the internal audit uses to assess risk management function of microfinance banks.

Secondly, CBN should make it mandatory for nominees into microfinance board to be members of CIB or any managerial professional body like ANAN or ICAN. This will enhance the reform in the aspect of expertise of management and board of microfinance banks. Thirdly, microfinance banks should develop business models that encompass community association patronage, partnership and collaboration towards revenue generation and credit management. Fourthly, strategies that include interest free loans that promote and attract ethical customers should be pursued by microfinance banks.

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Liquidity Risk and Profitability of Listed Deposit Money Banks in Nigeria

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Abstract: *A strong liquidity risk management strategy is critical for the banking sector, since inefficient management and monitoring may hurt both the bank and the broader economy. Earlier research has shown both positive and negative effects of liquidity risk on a bank's profitability. This research analyses the liquidity risk and profitability of Nigeria's publicly traded Deposit Money Banks. Profitability is quantified using return on assets, while liquidity risk is quantified using total loans to deposits and deposit less loans to deposits ratios throughout the 2016-2020 timeframe. Secondary data were extracted from audited financial statements of six (6) Deposit Money Banks (DMBs) sampled out of fourteen (14) banks were utilized to create a panel of 30 observations. Multiple regressions were used to analyze the data after adjusting for fixed/random influences. The study demonstrates a substantial positive link between total loans to total deposits and profitability, whilst deposit less loans to total deposits demonstrated a negative and negligible relationship with the profitability of Nigeria's listed deposit money banks. The Hausman specification test returns an insignificant value, indicating that the panel result after adjusting for randomness best fits the population, indicating that the fixed effect hypothesis was rejected. The Lagrangian Multiplier (LM) test for Random Effect Model (REM), on the other hand, was employed to decide between the REM and the robust Generalized Least Square (GLS). The report so suggests that regulators, management, and other stakeholders should checkmate and limit liquidity risk since it has an overall statistical inference on the profitability of Nigeria's listed deposit money banks.*

Keywords: Deposits less loans to deposits, Liquidity risk, Loans to deposits, Nigerian Deposit Money Banks, Profitability

Introduction

Banks, as financial intermediaries, play critical roles in any nation's economy. Banks' importance to the economy is essentially determined by their capacity to mobilize deposits and provide credit to variety of economic entities. Mobilizing cash from the surplus sector of the economy and lending to the deficit sector of the economy is basic banking operations and credit institutions' most lucrative assets. Banks operate in several markets where the economic environment is defined by impediments to effective liquidity management (Bassey & Ekpo, 2018).

Effective liquidity management is critical to banking operations because illiquidity can result in a loss of confidence in the banking system, which hurts the capital market and the overall economy. To avoid this, deposit money banks must manage liquidity efficiently and effectively. Liquidity risk is particularly frequent for banks since it is very simple for banks to lose liquidity, as depositors may withdraw cash at any time (Muhammad & Yusuf 2020) . Apart from depositors, banks have additional liquidity risk in that their cash reserves may be depleted by meeting obligations to businesses that have previously made lending commitments, referred to as credit lines, which can be drawn from the bank when required.

According to Bagh et al. (2017) , a business should guarantee that it does not suffer from a liquidity crisis and also avoids having an excess of liquidity. Failure of a business to satisfy its commitments owing to a lack of liquidity may result in diminished creditworthiness, a loss of creditor trust, or even in the loss of legal tangibles, ending in the company's collapse. Excessive liquidity is likewise detrimental; idle assets generate no revenue. The finances of the businesses will be required to find an appropriate balance between excessive liquidity and a lack of liquidity, Bagh et al., 2017).

The word liquidity is often used interchangeably by researchers; Berger and Bouwman (2018) define asset liquidity as the ease with which an asset may be converted to cash; Xu (2011) defines bank liquidity as a bank's capacity to match deposit withdrawals and pay off obligations as they mature. Additionally, Kroszner (2018) defines liquidity as the capacity to enhance the value of marketable securities and satisfy obligations when they mature. While some researchers, such as Charles (2018), argue that liquidity and solvency are the banking industry's divine twins, an illiquid bank may become bankrupt. Liquidity is described in this work as a bank's capacity to match deposit withdrawals, make loans accessible to

investors, and pay off obligations when they mature.

Liquidity is seen as a barometer of a bank's performance, and its inefficient management is a significant issue for both banks and the economy as a whole (Ofeimun & Okele, 2019). Apart from the drop in profit, the long-term repercussions of inadequate liquidity management include a loss of trust in the banking sector, which would have a detrimental influence on the capital market and the whole economy (Sofekun, 2011). The study of Ofeimun and Okeke (2019) , uses these two liquidity risk proxies because these two risks (loans to total deposit ratio and deposit less loans to deposit ratio) are highly sensitive to banking operations and the broader economy, and their improper management can result in disaster not only for the banking sector, but for the entire country. Loans to deposit ratios indicate the percentage of deposits used for loans, while deposit less loans to deposit ratios indicate the percentage of money available for withdrawal after loans have been made.

A few research have examined the relationship between these two variables (total loans to total deposits and deposit less loans to total deposits) in isolation. Additionally, prior research included delisted or non-existent deposit money institutions such as Keystone banks, Polaris Bank, and Diamond Bank. More recently, the first bank's corporate governance failure resulted in the board's dissolution. This study will span five years (2016-2020), incorporating the corporate governance changes brought about by the new code of corporate governance, which defines the risk committee's responsibilities in minimizing liquidity risk, as well as evaluating the risk strategies employed by listed deposit money banks during the COVID-19 pandemic era.

Additionally, there are varying results in the literature on the liquidity risk and profitability of banks on a national and worldwide scale. (Abang-Anoh, 2012; Bagh et al., 2017; Dzapasi, 2020; Ejoh et al., 2014; Emmanuel & Stephen, 2020; Khalid et al., 2019; Muhammad & Yusuf, 2020; Onyekwelu & Okeke, 2019; Onyekwelu et al., 2018; Sandino, 2019; Sanyaolu et al., In Nigeria, the majority of research has focused on current ratios, liquidity ratios, loans and advances to total deposit ratios, and deposit ratios as indicators of liquidity risk. The deposit less loans to deposit ratio is introduced in this research as a measure of liquidity risk. Similarly, studies undertaken in Nigeria have emphasized the management of liquidity risk and financial performance. Financial success is quantified using accounting-based metrics such as ROA, ROE, and NOPM. Additionally, the current research applies the ROA accounting-based approach to ascertain the profitability of listed deposit money banks in Nigeria as a function of liquidity risk.

The study's primary objective is to analyze the effect of liquidity risk on profitability of listed Nigerian deposit money banks. Specific objectives include to:

i. investigate the effect of loan-to-deposit ratio on the profitability of Nigeria's listed deposit money banks.
ii. ascertain the effect of the deposit less loans to deposit ratio on the profitability of Nigeria's listed deposit money banks.

From the study's specific objectives, the following hypotheses are expressed in null form.

$H0_1$: The loan-to-deposit ratio has no significant effect on the profitability of Nigeria's listed deposit money banks.

$H0_2$: Deposit less loans to deposit ratio has no significant effect on the profitability of Nigeria's listed deposit money banks.

This research is critical for regulators, managers of publicly traded deposit money institutions, investors, and other stakeholders. The remainder of the research is divided into five sections: a literature review in section two, methodology section three, results and discussion in section four, and conclusion and recommendation in section five.

Review of Literature

Numerous academics from across the world have researched liquidity risk and profitability, and some of them are analyzed to identify gaps in the study. Lartey et al. (2013) conducted research from 2005 to 2010 on the relationship between liquidity and profitability of listed banks in Ghana. Seven of the nine banks on the list were chosen for the research. The research was purely descriptive. It made use of a longitudinal temporal dimension, more precisely the panel approach. The primary research approach used to acquire secondary data for the study was document analysis. The financial statements of the seven sampled banks were analyzed, and pertinent liquidity and profitability measures were calculated. Time series analysis was used to identify the trend in liquidity and profitability. The profitability ratio was regressed on the primary liquidity ratio. The analysis discovered a very small positive correlation between the liquidity and profitability of Ghana's publicly traded banks. There is a need to do comparative research in Nigeria, since due to the economic and developmental contrasts, this conclusion may lack external validity.

Mehmed (2014) evaluated liquidity risk and its effect in the banking industry of Bosnia and Herzegovina from 2002 to 2012. The research sampled seventeen out of twenty-eight commercial banks in the country. Multiple regression analysis was used to determine the statistical significance and explanatory power of chosen variables utilizing a variety of data analysis approaches. The research discovered that liquidity risk had some effect on the extent to which banks were exposed to liquidity risk. The study recommended that, commercial banks should further determine which variable should be employed to reach the target level of liquidity. Similarly, Dezfouli et al. (2014) investigated the influence of liquidity risk on the profitability of banks in the Iranian banking system from 2005 to 2011. The research sampled 18 banks and used

the following proxies for liquidity (Non-Performing Loans) ratios, liquidity ratios, liquidity gap ratio, capital ratio, and bank size) as well as return on asset and return on equity as proxies for performance. It was determined via the use of a four-step econometric model and a GMM linear forecasting model that there is a strong relationship between the liquidity risk proxy and performance.

Alshatti (2015) evaluated the influence of liquidity management on profitability in Jordanian commercial banks for the period 2005 to 2012. Thirteen institutions were selected to represent Jordan's commercial banks as a whole. The investment ratio, quick ratio, capital ratio, net credit facilities/total assets, and liquid assets ratio serve as liquidity indicators, while return on equity (ROE) and return on assets (ROA) serve as profitability indicators. To test for a unit root in a time series of the study variables, an augmented Dickey-Fuller (ADF) stationary test model was utilized, followed by hypothesis testing using regression analysis. The empirical findings indicated that growth in the quick ratio and investment ratio of available funds had a favorable impact on profitability, however, the capital ratio and liquid assets ratio had a negative effect on the profitability of Jordanian commercial banks. The study's results may be confined to Jordanian commercial banks, raising concerns about the study's external validity.

Emeka and Werigbelegha (2016) conducted an empirical investigation of liquidity management and bank profitability in Nigeria from 1989 to 2013. The research used the ordinary least squares (OLS) approach of econometrics. The research showed that aggregate bank deposit, a proxy for liquidity, has a substantial positive relationship with banks' return on assets in Nigeria. Additionally, the analysis demonstrates a positive significant link between the broad money supply (a proxy for liquidity) and banks' return on assets in Nigeria. The report makes no mention of the sort of bank being examined, since there are deposit money banks, microfinance banks, and mortgage banks, among others.

Bagh et al. (2017) examined the liquidity management and profitability of Pakistan's publicly traded banks. The study's primary purpose was to investigate the link between liquidity management and the profitability of publicly traded banks. Current ratios, advances to deposit ratios, cash deposit ratios, and deposit to assets ratios were used to assess liquidity management, while return on asset (ROA) and return on equity (ROE) ratios were used to assess the profitability of the listed banks. Secondary data were gathered from thirty (30) banks that were randomly selected. The data set spanned the years 2006 to 2016. The link between liquidity management and profitability of the studied banks was examined using descriptive statistics and correlational research methodologies. The research discovered that advances to deposit ratio have a positive and substantial effect on ROA but have a negative effect on ROE. This demonstrated contradiction in the models' conclusions. The study recommended that financial institutions establish rules and initiatives to improve their liquidity management practices. While the research was done in a developing economy, the period covered should be expanded to account for the period and environment gaps.

In Nigeria, Ayunku (2017) discovered a statistically significant association between the loan-to-deposit ratio and the banks' performance (ROA). The stationarity of the variables was determined using the Augmented Dickey-Fuller (ADF) unit root test. The research period was 2005–2014, and data were gathered and analyzed using panel multiple regression models (FE) and (RE). It was advised that regulatory bodies such as the central bank of Nigeria (CBN) establish and enforce suitable liquidity policies to maintain sustainable liquidity in the country's banking industry. This research seemed to be outdated, necessitating the need to conduct a fresh study that would extend the period covered by the previous one and include new elements that may affect the performance of listed deposit money institutions in Nigeria.

Enekwe et al. (2017) assessed the liquidity risk and financial performance of a sample of Nigeria's publicly traded banks. The study's primary purpose was to determine the influence of liquidity risk on the financial performance of a sample of Nigerian deposit money institutions. Deposits, cash, liquidity-gap, and non-performing loans served as proxies for liquidity risk, while net operating margin (NOPM) served as a proxy for financial success. Five (5) banks were chosen utilizing the convenience sample approach from a population of twenty (20) listed deposit money banks as of 31st December, 2015. The study was conducted ex-post facto, using data gathered from public annual reposts and accounts for six (6) years and analyzed using ordinary least square regression. Deposits were found to have a positive and significant impact on the financial performance (NOPM) of listed deposit money banks in Nigeria, and thus it was recommended that DMBs increase their customer deposit base by making their products and services more accessible. Given that less than a quarter of the total population was considered in this study, the sample may not represent the entire population. The new research will sample a larger number of DMBs and extend the study period to account for recent developments in Nigeria's banking industry.

Alalade et al. (2020) examined the effect of liquidity risk on the profitability of Nigeria's listed deposit money banks (DMBs). The study's primary objective was to ascertain the effect of liquidity risk on the profitability of Nigeria's publicly traded deposit money banks. The study used an ex-post facto research approach and covered the decade from 2009 to 2018. The population of the research consisted of all fifteen (15) listed deposit money banks, of which fourteen (14) were sampled and data were acquired from their audited annual reports and accounts. A panel data regression analysis was used to determine the statistical link between the study's variables. After conducting all relevant diagnostic tests, the researchers concluded that liquidity risk has a major impact on the profitability of publicly traded deposit money institutions. The study discovered that the total loans to total deposits ratio have a positive and significant effect on profitability (ROA). As a result, the study recommended that management of listed deposit money banks develop

strategies to improve cash flow management and maintain an optimal level of return on assets. Several of the study's listed deposit money banks have been delisted, reducing the population to 14 DMBs. This necessitates a re-evaluation of past results in light of the present structure and number of listed DMBs in Nigeria.

According to Wuave et al. (2020), sound risk management and monitoring systems should be established to ensure that listed deposit money banks avoid liquidity crises that could result in financial crises. This was the conclusion of an examination investigating the influence of liquidity management on deposit money institutions in Nigeria. The research was conducted over nine years, from 2010 to 2018. Liquidity ratios, loan-to-deposit ratios, cash reserve ratios, and deposit ratios were used to quantify liquidity management, whilst ROE and ROA were used to quantify financial performance. The research analyzed data from the audited annual reports and accounts of the selected deposit money institutions using panel regression analysis. The study's findings indicate that the load to deposit ratio (LTDR) has no discernible impact on the financial performance of the two models tested: the random effect model (REM) and the fixed-effect model (FEM). While this is recent research, it used banks that have since been delisted from the Nigerian stock market. This might affect the inferences drawn about the whole population in subsequent research.

Akintola et al. (2021) examined the effect of liquidity management on the return on equity (ROE) of a sample of Nigerian deposit money banks. The study's primary objective was to ascertain the relationship between liquidity management and return on equity. The current ratio (CR), operating cash flow (OCF), debt ratio (DBR), and loan deposit ratio was used as proxy measures for liquidity management (LDR). Secondary data were taken from eleven (11) DMBs out of the overall population's yearly reports. The data was taken from 2004 to 2017. The ordinary least square regression analysis revealed that LDR has a negative effect on the ROE of Nigeria's listed deposit money banks. Thus, the report proposed that deposit money institutions be penalized for failing to fulfill the apex bank's minimal liquidity requirement. Although this research spanned a substantial length of time, additional factors affecting the profitability of listed deposit money banks in Nigeria, such as ROA, were not studied. As a result, new research is required that will apply alternative or additional performance indicators.

Markowitz (1952) is credited with coining the term "risk-return theory" The Risk-Return Theory serves as the foundation for this research; banking is both a risk-taking and profit-generating enterprise, and bank operations should generate profits commensurate with their risk. Although this approach is theoretically valid and virtually widely acknowledged by bankers and regulators, banks in Nigeria have struggled to execute it. Under risky conditions, the conventional notion of risk-return may be used. According to the principle, the greater the risk, the greater the reward, and vice versa. This implies that banks are expected to act sensibly in practically all circumstances. As a result, traditional economic thinking holds that the risk-reward ratio is positive (Brealey & Myers, 1981) Existing research has overwhelmingly shown a favorable risk-reward connection. Given that performance is risk-dependent (high or low). The greater the risk, the greater the return, and vice versa. This is true when a bank's risk appetite exceeds its risk tolerance.

Methodology

Correlational research is employed in this study. Correlational research is a statistical technique that is used to describe the statistical relationship between two or more variables. It is therefore ideal for this research since it enables the examination of predicted correlations between and among variables as well as the formulation of predictions about these relationships. The population of the research is comprised of all fourteen (14) Deposit Money Banks listed on the Nigerian Stock Exchange as of 31st December 2020. Using a selective selection approach, the study selected six (6) Banks. This selection strategy was used because it assures that only banks with comprehensive information on the study's variables are chosen. The duration of the study is five (5) years (2016-2020). This period was selected due to the collapse of many banks, including Diamond Bank, and the implementation of a new corporate governance law in 2018. Additionally, this is a period when the profitability of deposit money institutions in Nigeria was most adversely impacted by the worldwide epidemic (COVID-19). The study used balanced panel data from secondary sources solely because it is a quantitative study employing a positivist paradigm and the majority of the data required for analysis can be extracted adequately and conveniently from the audited financial reports of the selected firms during the study period. Regression is used to analyze the study's model.

Table 1

Variable Measurement s

S/N	Variable	Type	Measurement	Source
1	Profitability (ROA)	Dependent	Profit after tax by total asset	Alalade et al., (2020); Muhammad & Yusuf, (2020)
2	TLTTD	Independent	Total loan to Total Deposit ratio	Bagh et al. (2017); Khalid et al. (2019)
3	DLLTD	Independent	Deposit less loans to deposit ratio	Arif & Anees (2012)
4	Firm Size	Control	Natural Log of total Asset	Ayunku (2017)

Source: Fieldwork, 2022.

The regression model for testing the hypotheses of this study is presented as follows:

$ROA_{it} = \alpha_{it} + \beta_1 TLTTD_{it} + \beta_2 DLLTD_{it} + {}_{it} + \beta_3 FS_{it} + \mu$

Where:

ROA = Return on Asset
TLTTD = Total loans to total deposit ratio
DLLTD = Deposit less loan to tot al deposit ratio
FS = Natural log of total assets
α = Constant term
it = Represents panel and time identification of a given firm "i" at time "t"
β1, β2, β3, = the parameters being estimated by the regression: while μ is the random error or residuals from the regression estimates.

Results and Discussion

Table 2

Descriptive Statistics

Variable	Obs	Mean	Std.Dev	Minimum	Maximum	Skewness	Kurtosis
ROA	30	0.0264	0.0159	0.0008	0.0591	0.2169	2.0794
TLTTD	30	0.6414	0.1305	0.2748	0.9807	-0.0661	2.2705
DLLTD	30	0.3506	0.1921	0.0193	0.7252	0.0985	2.1205
FS	30	21.757	0.6548	20.538	22.884	-0.1973	1.9353

Source: Extracted from STATA 1 6 output, 2022

Above are the descriptive statistics of the study. The table 2 shows the nature of the data used. The return on asset (ROA) shows a mean value of 0.0264 with a maximum and minimum value of 0.0591 and 0.0008 respectively. This shows that, sampled deposit money banks recorded a maximum ROA of 5.91% during the period of this study. The total loan to total deposit (TLTTD) ratio revealed an average value of 0.6414 with a maximum and minimum value of 0.9807 and 0.2748 respectively. This shows that, most listed deposit money banks in Nigeria gave out at least 27.48% of total deposits to institutions and individuals as loans. However, some of the sampled DMBs had more than half of their deposits in form of loans.

Similarly, the deposit less loan to total deposit (DLLTD) ratio showed an average value of 0.3506 with a maximum and minimum value of 0.7252 and 0.0193 respectively. This indicates that, listed DMBs in Nigeria invested on an average 35.06% of deposits by individuals and institutions in loans and advances considering the total amount of money deposited. This ensures that, total loans do not exceed total deposits in a period. The firm size which was used as a control variable, showed a mean value of 21.757 with a maximum and minimum value of 22.884 and 20.538. This indicates that listed DMBs in Nigeria during the period of this study reported an average of 21.757billion in assets. However, some of the sampled DMBs recorded as high as 22.884billion in assets. The Skewness and kurtosis values were used to ascertain the normality of the data used. The proportion of all the Skewness and kurtosis values fall between -1.96 and +1.96 indicating that the data are normally distributed.

Table 3

Correlation Matrix

Variable	ROA	TLTTD	DLLTD	FS
ROA	1.0000			
TLTTD	-0.0472	1.0000		
	0.8044			
DLLTD	0.1205	-0.7871*	1.0000	
	0.5259	0.0000		
FS	0.4772*	-0.4730*	0.5476*	1.0000
	0.0077	0.0083	0.0017	

Source: Extracted from STATA 1 6 output, 2022

Table 3 shows the correlation matrix of the study. This shows the degree as well as the strength of association among the variables. The correlation matrix can also be used in identifying evidence of multicollinearity among the variables. On the direction and strength of association, TLTTD showed a negative and weak correlation with ROA. On the other hand, DLLTD showed a positive but weak correlation with ROA. However, FS showed a positive and moderate correlation with ROA which is significant at 1%. This implies that an increase in the value of assets held by DMBs will increase performance. Generally, none of the correlation coefficients is above 0.80. A correlation coefficient of 0.80 and above

indicate the presence of multicollinearity among the variables. For validation, another test for multicollinearity was considered.

Table 4

Summary of Diagnostic Test

Variable	VIF	Tolerance
TLTTD	2.65	0.377965
DLLTD	2.93	0.340921
FS	1.44	0.695528
Mean	1.92	
Breusch Pagan	**Chi^2 (1)**	**Prob>Chi^2**
Heteroskedasticity	0.78	0.3768
Hausman	0.19	0.9791
Lagrangian multiplier	0.00	1.0000

Source: Extracted from STATA 1 6 output, 2022.

The table 4 shows the various diagnostic tests necessary for invalidating and relying on the outcome of the analysis. In confirming the absence of multicollinearity among the independent variables, the variance inflation test was conducted. A variance inflation factor (VIF) value of between 1 and 10 with a tolerance value of less than 1 shows evidence of no multicollinearity. All the independent variables and the mean VIF values are below 10 and tolerance values less than 1. This confirms the assertion made earlier when the correlation coefficients were observed. Similarly, the absence of heteroskedasticity is one of the linear regression assumptions. The Breusch Pagan test for heteroskedasticity was carried out. A statistically significant value of 0.05 indicates the presence of heteroskedasticity. From the above table, it can be observed that a p-value of 0.3768 is not statistically significant. This means that there is no evidence of heteroskedasticity.
The panel nature of the data used called for a panel data analysis. This resulted in estimating the fixed and random effect models. The Hausman specification test was used in deciding the appropriate model to report between the FEM and the REM. The null hypothesis is, the random effect is appropriate. Given that, the p-value of 0.9791 is not statistically significant we accept the null hypothesis that, the random effect model is appropriate. However, the choice of REM called for the LM test for random effect (Breusch & Pagan, 1980). This is to further validate the REM or the robust GLS. Given that, the p-value of 1.0000 is not statistically significant, the robust GLS is considered most appropriate, hence reported.

Table 5

Summary of Regression Results

Variable	Coefficient	z-statistics	p-values
Constant	-0.3001	-3.08	0.002
TLTTD	0.0169	2.61	0.009
DLLTD	-0.0047	-1.56	0.113
FS	0.0146	3.17	0.002
R^2: within	0.2895		
between	0.8424		
overall	0.2699		
Wald chi^2	26.54		
Prob>chi^2	0.0000		

Source: Extracted from STATA 1 6 output, 2022.

The regression results in table 5 shows the relationship between liquidity risk and performance of listed deposit money banks in Nigeria. Given that, the Wald chi^2 value of 26.54 is statistically significant at 1%, it means that the model is fit and it provides the best linear estimators having verified the assumptions of linear regression. The overall R^2 value of 0.2699 (27%) implies that, a 27% variation in performance of listed deposit money banks in Nigeria is caused by TLTTD, DLLTD and FS only. Indicating that, 73% variation could be accounted for by variables not included in the study. Hence the need to incorporate an error term in the model. It can also be interpreted to mean that, TLTTD, DLLTD and FS explained 27% variation in performance of listed deposit money banks during the period of this study.
The TLTTD ratio showed a beta coefficient of 0.0169 which is statistically significant at 1% (0.009). This implies that, there is a significant positive relationship between TLTTD and performance of listed deposit money banks in Nigeria.

Thus, an increase in the proportion of total loans to total deposits by 1% will result in an increase in the performance of listed deposit money banks in Nigeria by about 1.69% and vice versa. This further provides evidence for failing to accept the null hypothesis one, that total loan to total deposit has no significant influence on the performance of listed deposit money banks in Nigeria. This finding is supported by (Alalade et al., 2020; Enekwe et al., 2017; Muhammad & Yusuf, 2020) the finding, however, contradicts that of (Bagh et al., 2017; Khalid et al., 2019).

On the contrary, DLLTD showed a negative coefficient of -0.0047 and a p-value of 0.113 which is not statistically significant. This means that, a change in DLLTD will not influence the performance of listed deposit money banks in Nigeria. This therefore provides sufficient evidence for accepting the null hypothesis two which states that, deposit less loan to total assets influences the performance of listed deposit money banks in Nigeria. These findings are in line with the studies of (Ayunku, 2017; Emmanuel & Stephen, 2020; wuave et al., 2020) and contradict the findings of (Bassey & Ekpo, 2018; sokefun, 2011).

To avoid misspecification, a control variable based on firm size was introduced. The study indicated that a firm's size of 1% is statistically significant (0.002). This implies that when deposits from people and organizations grow, listed deposit money banks should invest more in assets. This might result in an improvement in asset returns and, therefore, the performance of Nigeria's listed deposit money banks.

Conclusion and Recommendation

According to the risk-return theory, the greater the risk, the greater the return. However, in practice, some high-risk investments can result in lower returns, as demonstrated by our study, which reveals that the liquidity risk of listed deposit money banks in Nigeria result in the banks' profits declining, with one of the reasons being excess liquidity, as demonstrated by Pandy (2007). Researchers discovered that liquidity risk has a detrimental effect on performance in the banking industry. Liquidity risk has a considerable negative influence on the profitability of listed Deposit Money Banks in Nigeria, as shown quantitatively in this research. As a result of the finding, it is recommended that liquidity risk reduction and monitoring be promoted and implemented by the government's regulatory body and all other stakeholders in Nigeria's listed deposit money banks due to the negative effect on profitability. This research does have some drawbacks. Due to the time commitment associated with the work, the study is limited to a single sector of the economy. Increasing the population size may produce a different result. Despite this limitation, the methodology used and the validity of the findings are unaffected. As a result, the study recommends that future research involve other sectors, factors, and period beyond five years.

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Capital Structure, Board Size And Financial Performance Of Listed Deposit Money Banks In Nigeria

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Abstract: *The survival and wellbeing of every organisation is ascertained through financial performance. Meanwhile, it is necessary to maintain an optimum capital structure in order to maximise the value and wealth of every organisation in an ordinary business operation. In this regard, empirical studies have been conducted to investigate the effect of capital structure in relation to financial performances of various organisations in different context with mixe findings. In light of the foregoing, this study employs board size as moderating variable in the relationship between capital structure and the financial performance of listed Deposit Money Banks (DMBs) in Nigeria. The study adopts correlation and ex-post facto as research design. The population of the study consists of 14 listed DMBs in Nigeria and the sample of the study consists of 14 listed DMBs in Nigeria. Purposive sampling technique is employed. Multiple regression model based on pooled Ordinary Lease Square (OLS) robust test is adopted to analyse the panel data obtained from audited financial statements of the sampled listed DMBs between 2011- 2020. The study further reveals that board size moderated the relationship between equity financing ratio and financial performance of listed DMBs in Nigeria. The study reveals that equity financing ratio as moderated by board size influences financial performance. Therefore it is recommended that board members should come up with effective policy towards encouraging debt financing in their organisations with by constant monitoring and evaluation in order to improve their financial performances, which will along way safeguard the interest of the shareholders and management staff.*

Keywords: please include 4-7 keywords

Introduction

It is pertinent that the financial performance has been the major concern of investors, stakeholders and the economy at large. Since, the survival and wellbeing of every organisation can be ascertained through its financial performance. Financial managers adopt effective financial policies to ensure sustainable optimum capital structure in their various organisations in order to improve their performance.

Therefore, it is important to note that studies have been conducted to investigate the link between capital structure and financial performance in an ordinary business operation. Since, the aftermath of Modigliani and Miller Theory of (1958) as the pioneering theory followed by Jensen and Meckling (1976); Myers and Majuf (1984); Brander and Lewis (1986); Harris and Raviv (1990) . Similarly, other studies assert the likely changes in financial performance of an organisation with capital structure in various sectors of the economy including (; Arbabiyan & Safari, 2009; Umar, Muhammad, Tanveer, Saeed & Aslam, 2012; Fosu 2013; Saeed, Gull & Rasheed, 2013; Nirajini & Priya, 2013; Raihan & Dausa, 2014, Abdel-Jalil, 2014; Nikoo, 2015; Oladele, Omotosho & Adeniji, 2017) .

Following the instability in the financial performance of listed DMBs in Nigeria, there have been some corporate financial policy reform exercises among the listed DMBs including consolidation of banks initiated by Central Bank of Nigeria (CBN) in (2004). That policy was meant to prevent imminent systemic crisis and creating a sound banking system which will guarantee confidence among depositors; to ensure trust among investors and to ultimately bring excellent financial performance in the banking sector . Therefore, in order to achieve such established objectives within the banking sector, an individual bank need to come up with effective financial policies to ensure that optimum capital structure is maintained in financing the business operations .

However, despite the effort to revive and to restructure the Nigerian banking system there has been a persistent corporate distress among the listed DMBs in Nigeria over the years due to the instability in their financial performances. Also, in the recent times Punch News Paper (2018) and The Guardian News Paper (2018) reported how Skye bank of Nigeria Plc was taken over by Polaris as initiated by the CBN, and subsequently, Diamond Bank of Nigeria Plc was merged with Access bank of Nigeria Plc.

Studies have investigated the relationship between capital structure and firm's performance in various context

(Pratomo & Ismail 2006 ; Mohammadzadeha, Rahimia, Rahimib, Aarabic, and Salamzadeha 2013 ; Rajha & Alslehat 2014; Akeem et al. 2014 ; Esiemogie, Marry, John, & Samuel 2014 ; Adesina, Nwidobie & Adesina 2015; Sultan & Adam 2015 ; Hassan, Shahid, Akmal & Muhammad 2016 ; Siddik, Kabiraj, & Joghee 2016; Oladele, Omotosho & Adeniji 2017). However, the findings of these studies indicate mixed results. Specifically, Karadeniz, Kandir, Balcilar, and Onal (2009) ; and Heydar, Elham, Vahid and Mohsen (2012) ; Dahiru (2016); and Abdulla (2017) ; Ogiriki, Andabai and Priye Werigbelegha (2018) discove a positive and significant correlation between long term debt financing and performance while, Ajibola, Wisdom and Ol (2018); Uremadu and Onyekachi (2018) ; Ajibola, Wisdom and OL (2018) reveal adverse association between long term debt financing and financial performance.

This indicates the need for incorporating moderating variable to explain the inconsistency in the previous literatures. Consequently, this study adopts board size as a moderator between capital structure and firm performance to moderate the relationship between the capital structure and financial performance of listed DMBs in Nigeria. The reason has been that the number of the directors which constitute the board's size of an organization could affect the viability of the organization in terms of effective or ineffective decision making. In a financial sector especially banks, the board's size often constitutes directors with high skills and technical financial expertise. Therefore, board's size as an attribute of corporate governance affects the quality of decision - making process in running the affairs of every corporate entity such as bank. Meanwhile, capital structure is proxied by equity financing ratio and debt to equity financing respectively and return on assets represents financial performance of the listed DMBs in Nigeria. In line with Baron and Kenny (1987) a moderator should have a direct effect on dependent variable. Nevertheless, some studies focus on the relationship between board size and performance (Juma 2010; Garcia-Ramos & Garcia -Olalla 2011 ; Adams and Mehran 2012; Javeed & Yaqub 2017) and establish that there is a positive relationship between board size and the financial performance. Explaining the relationship between board size as a corporate governance attribute and financial performance, Myers and Majluf (1984)reveal how board members make decisions on preferential bases and how such decisions influence the firms' capital structures in relation to their performance, Also, Zwiebel (1996) and De Jong (2002) describe how managers' action influence a firm's financial performance.

The present study has established that previous studies employ selected attributes of corporate governance mechanism to moderate few variables of capital structure in relation to financial performance. Hence, there is need to examine the moderating role of board size as one of the corporate governance attributes of the relationship between capital structure and financial performance of listed DMBs in Nigeria where equity financing ratio, and debt to equity financing ratio represents capital structure and return on assets represent financial performance. Also, to the best of our knowledge all the related studies with moderating varia bles such as Juma (2010) and Javeed and Yaqub (2017) are conducted in foreign countries from various economic sectors other than banking sector. Hence, this study focuses on the banking sector, considering the significance role of the listed DMBs in Nigerian to the economy growth and sustainability through the provision of financial services to the entire public sector as well as various individual business organizations. In addition, the scope of the previous studies range between 1958- 2017. On the other hand, this study covers the period of ten years from 2011 to 2020; the 2011 is inclusive.

The aim of this study is to examine the effect of capital structure on the financial performance of listed DMBs in Nigeria with moderating role of board size for the period between year 2011- 2020. The following are the specific objectives of the Study:

i. **To investigate the effect of equity financing on financial performance of the listed DMBs in Nigeria;**
ii. **To examine the effect of debt-to-equity financing on financial performance of the listed DMBs in Nigeria;**
iii. **To examine the moderating effect of board size on the relationship between equity financing and financial performance of the listed DMBs in Nigeria; and**
iv. **To ascertain the moderating effect of board size on the relationship between debt-to-equity financing ratio and financial performance of the listed DMBs in Nigeria.**

This study covers the effect of capital structure on the performance of listed DMBs in Nigeria, and the moderating role of board size for ten (10) years, including year (2011-2020) including the…. . The study is anchored on financial performance with return on assets as dependent variable, and independent variable is represented by equity financing ratio, and debt to equity financing ratio respectively. Besides, the study employed board size as a moderating variable, while firm size and firm age represents control variables of the study.

Furthermore, the study serves as a basis for financial decision making among the managers of the listed DMBs in Nigeria, by taking into consideration the findings and recommendation of this study. Accordingly, the findings of the study equally serve as source of information to existing and potential shareholders as it will enable them make rational decision in their investment. Additionally, the study serves as a reference for further research.

Literatures

Financial Performance

It is obvious that the growth and survival the organizations often depend on the level of their performances. Similarly, Suleiman (2013) considered firm's performance as the result of its assessment towards examining the well been and accomplishment of the org anisational goals and objectives. He further explains that financial performance provides a deductive measure through which revenue can be assessed from the business operation. Similarly, Fabian, James and Moshi (2014) opine that profitability provides valuable tool for the evaluation of past financial performance as well as current financial position of a firm. Therefore, the most commonly used performance measure from accounting and finance context includes Return on Assets (ROA), Tobin's Q, Return On Investment (ROI) and Return On Equity (ROE). However, it is noted that return on assets has been widely used in various literatures likeAbbasali, Estandiar, Milad, and Mohammad (2012); Babalola (2014); Muhammad, Zaighum, Saeed and Muhammad (2012) ; Osuji and Odita (2012) ; Khalaf (2013) and Raheel, Shahnaz, Bashir and Umara (2013) . In line with the abov e, this study adopts the definition of Pandey (2001) which considers financial performance as measurement of total financial well-being of business.

Capital Structure

Several studies have reviewed the concept of capital structure including Myers (1984) who opines that organisation's capital structures are ranged from internal such as retained earnings and external financing such as debt. According to Akeem, Kiyanjui and Kayode (2014) understand capital structure as a process by which businesses finances their assets through equity, debt or hybrid securities as mixture of both equity and debt. Pandey (1999) affirms that capital structure is the proportional association between long - term debt and equity. Furthermore, Inanga, and Ajayi (1999) expressed that capital structure is the combination of organisation's long term funds excluding short -term liabilities. In view of these scholarly opinions, this study relies on the view of Akeem, Kiyanjui and Kayode (2014).

Equity Financing

Equity financing is essentially concern with raising of capital from external sources through sale of shares of the company to the members of public and institutions and from external sources through income retention.Thus, equity holders are the real owners of a firm, bearing most of the risk and correspondingly, have greater control over decisions (Aliu, 2010). But, Abraham and Harrington (2011) state that equity financing are means of raising capitals via sales of stock other than debt issuance in a parti cular firm which comprise of initial public offering (IPO) that comprise trading stock via stock market at beginning and seasoned equity offerings (SEO) usually carried out by the firms whose shares are actively traded in the market and have grown beyond the IPO in consideration with the track record of their financial performance. Therefore, this study relies on the opinion of Erasmus (2008) that equity is investment of owners of an enterprise which represents the capital of the business as part of overall profits and assets value contributed by the owners of the firm.

Debt to Equity Financing Ratio

According to Ojo (2012) total debt to total equity financing ratio is considered as an investment solvency which influences financial performance of a firm. Okpara (2014) says debt to equity ratio is an element of organisation's structure financially which explained what the business relied upon as more of debts or equity for its operations. Odi (2014) terms debt to equity ratio as a quantitative measure that determines the percentage of debt to residual owners' equity. Whereas, Yegon, Cheruiyot, Sang, and Cheruiyot (2014) argue that the higher the value of debt to equity, the better the return generated (earnings per share). Thus, any increase in earnings over the interest on debt, the more the shareholders dividend is guaranteed. However, an increase in investment cost may eventually consume the dividend of shareholders. So, debt to equity ratio is seen as financial leverage. According to Dahiru (2016) debt and equity are the main classes of capital structure, as a representation of debt holders and equity holders (investors) in an organisation, where each investor is associated with different magnitude of control, reward and risk. And other debt holder s such as debentures holders exert lower control, since, they earn a fixed rate of return from the profit generated in the organisation. Therefore, this study agreed with Innocent (1986); Yegon, Cheruiyot, Sang, and Cheruiyot (2014) respectively, as such debt to equity is considered as the gearing ratio which shows the degree of vulnerability of earnings available to ordinary shareholders of the organisatio n.

Board Size

According to Lipton and Lorseh (1992) board size is said to be considered as the number of member of board that monitor the affairs of an organisation. Shaker, Zahra and John (1989) postulated that board size of an organisation involved the collective strength of its members who use their experiences and expertise to make better decisions for a firm as the CEO. Afolabi (2010) views board size as group of individual with good personal

character and ability to perform the board's duties, integrity, having sense of accountability, record of success, and leadership qualities. Adegbile (2015) considers board size as the concentration of the number of directors in the apex of an organisation that are responsible for strategic decisions. El-Maude, Bawa and Shamaki (2018) considers board size as the number of directors on the board of the organisation which includes executive and non-executive directors. This study relied on the view of Afolabi (2010) as far as board size is concern.

Equity Financing and Performance

Awunyo-Vitor and Badu (2012) study the relationship between equity financing and financial performance of listed Ghanians banks from 2000 to 2010, using panel regression methodology. It is discovered that there is positive and significant relationship between equity financing and financial performance of listed Ghanians banks. However, Velnampy and Niresh (2012) investigate the relationship between equity finance and profitability and listed 10 Srilanban banks for the period of 2002 to 2009 using discipline statistics of person product correlation techniques and found that there is a negative relationship between equity finance and financial performance.

Chechet and Olayiwola (2014) affirm that equity financing influences financial performance positively, using panel data generated from the annual financial report of the listed companies in Nigerian stock change (NSE). While Akeem and Kayode (2014) report that equity financing has a negative relationship to firm performance. Also, Farouk and Hassan (2014) reveal negative relationship between equity financing and financial performance in his study on effect of equity financing on the performance of 36 Banglashi organization listed on the Dhaka stock Exchange from the period 2007 to 2012, using regression analysis to analyse their panel data.

Also, in a similar study by Kumai, and Bala (2015) it is established that there is an inverse relationship between the return on assets and equity finance of the listed deposit money bank (DMB's) and equity financing of the listed DBM's in Nigeria for the period of ten years 2005 to 2014 using annual reports and accounts of some selected listed DBM's in Nigeria. A multiple regression is in the study. In another study conducted by Basit and Irwan (2017) it is discovered that total equity ratio has insignificant impact on ROA.

However, if a similar study is to be conducted in same environment under different range of periods the result would have been different considering the reviewed literatures. Thus, there is need to embark on a similar study in the Nigerian context particularly the banking sector to investigate the moderating effect on the relationship between the dependent variable equity financing and financial performance.

Ho_1: Equity financing ratio has no significant effect on financial performance of the listed DMBs in Nigeria

Debt to Equity Financing and Financial Performance

This is the financial ratio that helps creditors to know the extent to which total debt can be covered by the value of equity share capital of shareholders of an organisation, by dividing the total debt of a firm with shareholders' equity. The higher the ratio the higher the leverage while, the lower the ratio the higher the level a of firm's financing that has been provided by shareholders. The total debt to total equity ratio compares the company's total liabilities to its total shareholder equity. This simply compares the creditors and shareholders' financial commitment to the firm.

A similar study in Nigeria by Olokoyo (2013) confirms that there is a significant positive relationship between total debt to total equity and return on assets.Akinyomi (2013) studies the effect of capital structure of companies in Nigeria using data obtained from annual reports of the companies from 2007 to 2011. The result indicates a positive relationship between total debt to total equity and financial performance. Accordingly, Amos and Francis (2014) reveal that debt to total equity is positively and statistically significant with financial performance of the listed non-financial companies in Nigeria. Also, Maina and Ishmail (2014) examine the effect of debt-equity ratio on performance Securities Exchange for the period 2002 - 2011. The result reveals that short term debt to total assets has significant positive relationship with financial performance of firms listed at the Nairobi.

Also, in a study conducted by Oladeji, Tolulope, Ikpefan, and Olokoyo (2015) it is discovered that there is a negative relationship between leverage represented by debt to equity and firm performance of the study. Shaba and Yaaba (2016) study the effect of capital structure on bank profitability among Deposit Money Bank (DBM) from year (2005-2014) in Nigeria, using secondary data. Independent variables in the study were measured by owners' funds and borrowed funds and dependent variable proxies by gross earning of the DBMs. The multiple linear regression result found a positive relationship between debt-to-equity financing and profitability.

Similar, study is conducted in Iranian Heydar et al (2012) reveals that there is a positive and significant relationship between total debt to total equity and financial performance. Also, Karadeniz, Kandir, Balcilar, and Onal, (2012) affirms that total debt to total equity has a positive and significant relationship with firm performance. Syed et al (2013) study the relationship between financial leverage and performance of listed sugar companies in Pakistan. The result indicates a significant positive relationship between total debt to total equity and financial performance. In similar vein, Kajananthan and Nimalthasan (2013) realises significant positive

connection between debts to equity ratio of the listed Sri Lankan firms with their performances for the period of 5 years.

Nevertheless, in a study conducted in Nigeria, Onimisi (2010) discovers that there is negative relationship between debt to equity ratio and performance of quoted Manufacturing companies in Nigeria. Also, Rasa and Jurgita (2012) discover a negative relationship between total debt to total equity and financial performance. Also, Maina and Kondongo, (2013) investigate the effect of debt equity ratio on performance of listed firms in Nairobi during year 2002- 2011. The result reveals that there is a significant negative relationship between total debts to total equity ratio and financial performance. Moreover, in another study conducted in Karachi, Amara and Bilal (2014) reveal that there is negative relationship between total debt to total equity and financial performance. In a study conducted in Nig eria, Olokoyo (2013) reviews the impact of leverage (debt's ratio) and ?rms' performance for the period of 2003 to 2007. The outcome reveals that there is a signi?cant negati ve impact on the ?rm's accounting performance measure (ROA). Basit and Irwan (2017) investigate the effect on impact of capital structure on firms' performance: Evidence from Malaysian industrial sector. It is revealed that debt to equity has negative impact on ROA in the Malaysian industrial firms. Correspondingly,Uremadu and Onyekachi (2018) opine that total debt ratio to equity has a negative but insignificant impact on returns on assets.

In a study by Lorpev and Kwanum (2012) it is established that there is insignificant relationship between total debt to total equity ratio and financial performance of listed manufacturing firms. In a similar vein, Cengiz, Yunusand, Sukriye (2013a) study the effect of capital structure decision on firm performance in Turkey where it is revealed that there is insignificant positive relationship between total debt to total equity and return on assets. Considering the review of the studies conducted in different parts of the world including Nigeria, Iran, Nairobi and Malaysia and so on. None of these studies moderates the relationship between the total debt to equity ratio and financial performance. Therefore, this study employed board size as third variable to moderate the relationship between investigated the capital structure which includes debt to equity ratio on the financial performance of listed DMBs in Nigeria.

Ho_2: Debt to equity financing ratio has no significant effect on financial performance of the listed DMBs in Nigeria.

Board Size and Financial Performance

According to Mak and Kusnadi (2005) board size and performance has an inverse association between board size and performance, Coles, Daniel and Naveen (2008) reveal that there is an inverse association between board size and performance measured by Tobin's Q. Furthermore, Adams and Mehran (2012) explaine that board size has a positive and signif icant influence on firms' performance. Accordingly, O'Connell, and Cramer (2010) board size has a negative w ith less significant influence on firms' performance. Also, in a study conducted by Kumar, and Singh (2013) it is revealed that there is a negative and significant relationship between board size and companies' performance. Garcia-Ramos, and Garcia -Olalla (2011) emphasise that the impact of board size is positive and significant on performance. While,Uchida (2011) states that no significant correlation between board size and performance among the Japanese firms that have downsized their boards.

Uwuigbe (2011) studies the corporate governance and financial performance of 21 banks listed in the Nigeria using a panel data regression analysis. The study establishes that there is an inverse relationship between board size and financial performance. Xavier et al (2014) investigated the effect of corporate governance measured by board size, CEO duality, institutional ownership and board composition on financial performance of commercial banks in Rwanda. The study found that board size, has no effect on performance.

Dato et al. (2015) examine subordinate boar d structures with improved financial and social performance in Ethiopia, using a panel data from 23 microfinance institutions in Ethiopia over a period of 2006- 2011. The finding reveals that boards is positively and significantly influencing the financial and outreach performance among the microfinance institutions in Ethiopia.

Badu and Appiah (2017) discover a positi ve significant relationship between board size and firm performance, while investigated the impact of corporate board size on firm performance for a sample of 137 listed firms in Ghana and Nigeria from 2008 to 2014 using regression model. In addition, Kajola, Onaolapo an d Adelowotan (2017) examine the relationship between board size and financial performance of 35 non -financial firms listed on Nigerian Stock Exchange for the period of 2003-2014. The result reveals that there is a positive and significant relationship b etween board size and the two financial performance proxies (Return on assets and Return on equity). Also, Okoye, Erin, Adedayo and Areghan (2017) discovered a significant positive relationship between board size and financial sustainability among Microfinance Institutions in Nigeria during the period, 2011 to 2015.

Ssekiziyivu, Tumwebaze, Mukyala, Bonareri and Tumwebonire (2018) in their effort to identify the corporate governance practices of Micro-finance institutions and to suggest strategies for improving corporate governance in micro-finance institutions, using SPSS as tool of data analysis, it discover s that the strategies for improving corporate governance such as having a board in place with financial expertise is necessary. While, in an effort to

investigate effect of board size, board composition and board Meetings on the financial performance of listed consumer goods in Nigeria over the period of ten years from 2006 to 2015, El-Maude et al (2018) discover that board size is negatively significant ROA of listed consumer goods companies in Nigeria. Conversely, Scholtz and Kieviet (2018) discover negative and insignificant effect between board size and firm performance among 80 of the Top 100 listed South African companies for the period of 2013 to 2015.

Considering the existing link between board size and financial performance from the previous literatures, this study employs board size in order to moderate the relationship between capital structure and financial performance of listed DMBs in Nigeria.

Capital Structure, Board Size and Financial Performance

In a study conducted in Nairobi by moderating the effect of corporate governance attribute among which board side is included on the relationship between capital structure and performance for the period of year 2005 -2009 by Juma (2010) it is established that all the attributes of corporate governance have significant impact onfinancial performance. Accordingly, a similar study is conducted on moderating effect of corporate governance attribute where board size is inclusive on relationship between capital structure and performance among 775 nonfinancial listed organisations in Karachi between 2008-2012 by Javeed and Yaqub (2017) it is discovered that board size as a moderator has a negative and significant influence between capital structure and financial performance.

In view of findings from previous studies, it is observed that none of these studies moderate all the variables of capital structure collectively even though the studies used more than one attributes of corporate governance to moderate the relationship between capital structure and finance performance. Also, the studies are all conducted from foreign countries from various sectors of economy other than banking sector. Furthermore, the reviewed studies employ tobin'Q as dependent variable. In addition, scopes of the studies ranges between the period of 2005-2009 and 2008-2012 respectively.

Therefore, this present study focuses on moderating the relationship between capital structure and financial performance of listed DMB's in Nigeria for the period of ten years (2011-2020) using board size only as one of the corporate governance attributes to moderate the entire capital structures' variables (equity financing and debt to equity financing). The study also uses return on assets to represent financial performance as dependent variable other than tobin's Q.

Ho_3: Board size has no significant effect on moderating the relationship between equity financing ratio and financial performance of the listed DMBs in Nigeria.

Ho_4: Board size has no significant effect on moderating the relationship between debt-to-equity financing ratio and financial performance of the listed DMBs in Nigeria.

Therefore, in view of the identified gaps from the reviewed literatures, the researcher seeks to adopt Pecking Order Theory in order to anchor the dependent and independent variables of the study. The study further adopts Agency Cost Theory and Agency Cost Theory to anchor the moderating variable of the study. The Agency Cost Theory and Agency Cost Theory is adopted as an under-pinning theory due to the fact that the theory is related to the moderating variable (board size) which also linked to financial performance of the organizations. Since, the board's size plays a role in aligning the conflicting interest of shareholders and managers in order to increase the performance of the organization. Thus, the theory essentially deals with the cost that is created by the conflicting interest of the managers (agents) and shareholders (principals) due to ownership and control. Meanwhile, it is believed that manager is a debt holder who tends to over utilise the resources of the organization for his/her personal interest when there is surplus cash flow in the organisation particularly when the managers' ownership is low. Thus, the shareholders continue to point accuse fingers on the managers for mismanagement or injudicious utilisation of the organisations resources for their personal interest. Therefore, the theory suggested that the conflict can only be resolved by increasing the manager's ownership which refers to increase in internal debt financing of the organisation and that would equally lead to increase in the managers' efficiency which will ultimately increase the financial performance of the organization. As such, the Agency Cost Theory will anchor board size as the moderating variable and the financial performance of the study respectively (Kurniasih, 2012).

3.1 Methodology

This study adopts a correlational and ex-post facto research design. The correlation enables the researcher to examine the association among the variables of the study (explanatory and explained variables as well as the moderating role of the moderating variable). While, the ex-post facto ensures the predictability of the moderating variable on relationship between independent variable and dependent variable since the central objective of the study is to examine the moderating role of board size on the relationship between capital structure and the performance of listed DMB's in Nigeria. The research is aimed at examining the capital structure on financial performance of listed DMBs in Nigeria: The moderating role of board size. The data were obtained from the secondary sources through the audited financial statement of the firms between year (2011- 2020). The population and the study consist of Thirteen (14) listed DMBs in Nigeria. namely: Access Bank Ng Plc, Diamond Bank Nig Plc, Eco Bank of Nig Plc, First City Monument Bank Nig Plc, Fiderlity Bank Nig Plc, First Bank Nig Plc, Guarantee Trust Bank Plc, Stambic IBTC, Sterling Bank Nig Plc, Union Bank Nig Plc, Unity Bank of

Nig Plc, United Bank for Africa Plc, Wema Bank Nig Plc, Zenith Bank Nig Plc. A systematic sampling technique is considered suitable for the study where the all the population is considered. Pooled ordinary least square robust regression model was adopted for the analysis through the use of STATA 13 Version.

Table **
Varable Measurement Model Specifications

Variables	Variables Measurement	Sources
Dependent Variable		
Return on Assets (ROA)	Profit before interest and tax/ Total Assets.	Menacer (2014), Yahaya & Lamidi (2015), Anarfo (2015)
Independent variables		
Equity Financing Ratio (EFR)	Total equity / Total assets.	Ng'ang'a (2013), Esiemogie, et al (2014) Sultan & Adam (2015)
Debt to Equity Financing Ratio (DEF)	Total debts/ Total equity.	Ng'ang'a (2013), Rafiu & John (2014) and Foyeke et al (2016)
Moderating Variable		
Board Size (BZ)	Number of Directors in Board	Juma (2010); Javeed and Yaqub (2017); Nodeh, Anuar, Ramakrishnan,and Raftnia (2016)
Control Variable		
Firm's Size (FSZ)	Natural log of total assets	Opoku, Adu and Anarfi (2013) Rajha and Alslehat (2014)
Firm's Age (FAG)	Difference between the year of incorporation and present year of operation.	Opoku, Adu and Anarfi (2013) Rajha and Alslehat (2014)

Source: 2019

Following the objectives of the study, the research examines the moderating role of board size on the relationship between independent variable (capital structure) and dependent (financial performance) of listed DMBs in Nigeria. Two (2) multiple linear regression model has been employed in the study; The first model encapsulates the direct relationship between independent variables and dependent without moderation while the second model captured the indirect relationship between the independent variables dependent variable being moderated by board size (BSZ) as moderating variable. The first model that anchored the direct relationship between the independent variables equity financing ratio (EFR) and debt to equity financing ratio (DER) as regressed against the dependent variable return on assets (ROA) is specified as thus:

$$\mathbf{ROA_{it} = \beta 0 + \beta 1EFR_{it} + \beta 2DER_{it} + \beta 3BSZ + \ 4FSZ \ + \ 5FAG \ + {}^{*}_{it}}$$

Where:
ROA = Return on assets
it= Panel data subscript
β0 = Intercept
β1 - β5 = Coefficient of the explanatory variable
EFR = Equity financing ratio
DER= Debt to equity financing
BSZ= Board Size (Moderating Variable)
FSZ= Firm Size (Control Variable)
FAG= Firm Age (Control Variable)
? = error term of the model
The second model of the study is specified as indirect relationship between equity financing ratio (EFR) and debt to equity financing ratio (DER) representing independent variables and return on assets representing dependent variable which would be moderated with board size as a moderating variable as:

$$\mathbf{ROA_{it} = \beta 0 + \beta 1EFR_{it} + \beta 2DER_{it} + \beta 3BSZ_{it} + (\beta 4EFR * BSZ_{it}) + (\beta 5DER* BSZ_{it}) + \ 6FSZ \ + \ 7FAG + {}^{*}_{it}}$$

Where:
ROA = Return on assets
it= Panel data subscript
β0 = Intercept
β1- β7 = Coefficient of the explanatory variable
EFR = Equity financing ratio
DER= Debt to equity financing
BSZ= Board Size (Moderating Variable)
EFR * BSZ= Equity financing ratio as moderated by Board Size
DER* BSZ= Debt to equity financing as moderated by Board Size
FSZ = Firm size (Control Variable)
FAG = Firm Age (Control Variable)
? = error term of the model

Result and Discussion

This section presents the result of data analysis and test of hypothesis formulation from the two models. The First captured the descriptive statistics, followed by the correlation matrix table and both Fist and the Second model capture the summary of regression result and analysis, which are followed by policy implications and recommendations were based on the findings of the two models.

Table 4. 1

Descriptive Statistic

Variable	Min	Max	Mean	Std. Dev.
ROA	-0.3156	0.2829	0.02434	0.5978
EFR	0.0001	0.1726	0.0130	0.0255
DER	0.0707	3.0065	1.043	0.3965
BSZ	6	21	14.0643	2.8518
FSZ	2.6964	3.1205	3.009	0.0783
FAG	12	124	44.3071	29.947

Sources: STATA Output 2020

Table 4.1 presents the accounts of descriptive statistics for the dependent and explanatory variables. From the table, Return on Asset (ROA) has minimum and maximum values of -0.32 and 0.28 respectively and the mean value of 0.02434 as well as the standard deviation value of 0.5978. This connotes that within the period under review, there were firms that made considerable losses which resulted to negative minimum value. Evidently, it is noticed from the statistics of the annual financial statement of the listed DMBs in Nigeria that there were reasonable percentages of losses over the period covered in the study. Also, the standard deviation value shows how the return on asset moves between the minimum and the maximum value and a higher standard deviation implies a higher rate of deviation from the mean. This, therefore, indicates that there is significant dispersion of the data since the standard deviation is larger than the mean.

In relation to data distribution of Equity Financing Ratio (EFR), Debt to Equity Financing Ratio (DER) which is in respect of capital structure direct relationship with financial performance of listed DMBs in Nigeria. It is discovered that Equity Financing Ratio (EFR) has an average value of 0.013 with standard deviation of 0.0255, and minimum value of 0.0001 and 0.1726 as the maximum value. The standard deviation value indicates that the equity financing ratio deviated from the mean value, since the standard deviation is higher than the mean value. This shows that the data were not normally distributed.

Moreover, Table 4.1 shows that the Debt-to-Equity Ratio (DER) of listed DMBs in Nigeria has a mean of 1.043 with standard deviation of 0.397, and minimum value of 0.0707 and 3.0065 as the maximum value. This indicates that the there is no deviation between the mean and standard deviation value; which also implies that the data are normally distributed since the mean value is higher than the standard deviation.

This Table 4.1 also shows that the mean of the Board Size (BSZ) is 14.0643 with standard deviation of 2.8518 and minimum value of 6 and 21 as the maximum value. This entails that the standard deviation value has not deviated from the mean value and the data are normally distributed, hence the standard deviation value is lesser than the average value.

Correlation Matrix

Table 4. 2

Correlation Matrix

Variables	1	2	3	4	5	6	7
1. ROA	1						
2. EFR	0.0086	1					
	-0.9199						
3. DER	-0.1153	0.0969	1				
	-0.175	-0.2546					
4. BSZ	-0.2485	-0.2624	0.0324	1			
	-0.0031	-0.0017	-0.7037				
5. FSZ	0.0646	-0.4496	0.0614	0.371	1		
	-0.4485	0	-0.4712	0			
6.FAG	-0.0582	0.1534	0.0056	-0.0206	-0.0191	1	

Source: STATA output (2022)

Correlation matrix is designed to test the association between equity financing ratio, debt to equity ratio (independent variables), and board size (moderating variable) with the return on assets (dependent variable), also among the independent variables and moderating variable themselves. It also reveals an indication of presence or absence of multicolinearity amongst independent variables which determines the possibility of studying the variables under the same model.

Table 4.2 Test the association between the independent variable (equity financing ratio and debt to equity ratio) on return on assets, which describes that both equity financing ratio and firm size associated positively with coefficient values of 1% and 6% coefficient values but not statistically significant, where debt to equity financing ratio of 0.12% coefficient values, and firm age 0.06% collectively associated negatively with return on assets and not statistically significant, and board size which represent the moderating variable of the study with coefficient value of 0.25%, has a negative association with return on assets at 1% significance level.

The association between the independent variables themselves revealed that the equity financing ratio correlate with the other independent variables associated positively at 1% and 10% levels of significant respectively except the board size and the firm's size with 1% significant level associated negatively with coefficient value of 0.26%, and 0.45% respectively. However, the association between debt to equity financing ratio with the other explanatory variables are positives. While the association between board size and firm's size is 1% significantly positive with a coefficient value of 37% except the firm's age with a negative coefficient value of 0.2% which is insignificant.

Consequently, it is evident from table 4.2 that the association between the independent variables themselves was found to be insignificant exception that of board size with equity financing ratio, firm's size with equity financing ratio, and firm's size with board size which were significantly associated at 1% respectively where firm's age with equity financing ratio was significantly associated at 10% only. Therefore, these provide no sign or evidence that multicollinearity effect exists among the independent variables of the study.

Presentation and Interpretation of Regression Result

This section presents, interprets and discusses the regression result of the dependent variable (ROA), the independent variables of the study (equity financing ratio and debt to equity ratio), moderating variable (board size), as well as the interaction between independent variables (equity financing ratio and debt to equity ratio) and moderating variable. The presentation of the result takes the form of analysing the relationship between the dependent variable and each independent variable based on direct relationship model, and also analysing the relationship based indirect relationship considering the moderating variable and it role on relationship between dependent variable and independent variables respectively.

Summary of Regression Result (Direct Relationship)

Table 4. 3

Regression Result

Variable	Coefficient	T- Values	P- Values	VIF	Tolerance Value
EFR	-0.1739	-0.69	0.49	1.33	0.7511
DER	-0.0037	-0.25	0.804	1.02	0.9758
BSZ	-0.0067	-2.56	0.012	1.18	0.8503
FSZ	0.2086	1.9	0.06	1.39	0.7188
FAG	0.0027	1.35	0.179	1.03	0.9729
R2			0.3035		
F-Stat			8.22		
F-Sig			0		
Hettest Chi 2			0		
Hausman Chi			0.1886		
Breusch- Pagan			1.0000		

Source: STATA Output (2022)

Table 4.3 shows the result of the direct relationship model that all the explanatory variables have negative but insignificant impact on financial performance. Except the moderating variables which has a negative and significant impact on profitability of DMBs in Nigeria at 5% level of significance.

Equity Financing Ratio and Financial Performance

Hypothesis one: Equity financing ratio has no significant effect on financial performance of the listed DMBs in Nigeria.
Considering Model 1 (direct relationship), equity financing ratio of the period under review reveals a coefficient value of -0.1738 and a corresponding p value of 0.49, which indicates that equity financing ratio has a negative but no statistically significant effect on financial performance of listed DMBs in Nigeria. Meanwhile, any increase or decrease of N1 in equity financing ratio will have no effect on financial performance of the listed DMBs in Nigeria. Hence, this outcome reveals evidence to show that with equity financing ratio there would be no significant influence on the financial performance of DMBs in Nigeria. Therefore, this result also provides evidence for failing to reject the null hypothesis of the study which expresses that equity financing ratio has no significant influence on the financial performance of listed DMBs in Nigeria.
This is not suppressing considering the outcome of the previous studies such as and , But contrary to the view of . Furthermore, the result supports the underpinning theories of the study; pecking order theory which considered internally generated financing as best options of financing than external financing where equity financing was termed as last resort.

Debt to Equity Financing Ratio and Financial Performance

Hypothesis two: Debt to equity financing ratio has no significant influence on profitability of listed consumer goods firms in Nigeria.
On the part of Model 1 (direct relationship), debt to equity financing ratio reveals a coefficient value of -0.0037 and p value of 0.804, which indicates that debt to equity financing ratio has a negative but no statistically significant effect on financial performance of listed DMBs in Nigeria. Meanwhile, any increase or decrease of N1 in debt-to-equity financing ratio will have no effect on financial performance of the listed DMBs in Nigeria. The result of this study found evidence to show that with debt-to-equity financing ratio there would be no significant influence on the financial performance of DMBs in Nigeria. This also provides evidence for failing to reject the null hypothesis of the study which expresses that debt-to-equity financing has no significant effect on the financial performance of listed DMBs in Nigeria.
The outcome of this study is in line with the outcome of and but contrary to the findings of ; and . Although, the result is contrary to the underpinning theories of the study; pecking order theory.

From the Table 4.3 above, the result shows that variance inflation factors were consistently smaller than ten (10) indicating complete absence of multicolinearity. Therefore, this shows the suitability and fitness of the model with one dependent variable and six independent variables. Also, from the table, the tolerance values were consistently smaller than 1.00. These also, extend the fact that there is complete absence of multicolinearity between the independent variables (Tobachmel & Fidell, 1996). And the cumulative R2 (0.3035) which is the multiple coefficient of determination that gives the proportion of the total variation in the ROA is jointly explained by the independent variables; EFR, DER, BSZ, FSZ, FAG and FAG respectively. This also implies that about 70% of the total variation in profitability of the listed DMBs in Nigeria is caused by their equity financing, debt to equity financing ratio, board size, firm size and firm age respectively. Also, the F-statistics is 8.22. This indicates that the model of the study is fit and the independent variables are properly selected, combined and used. This is confirmed by the **F. Sig (0.0000)** which is significant at 1% level of significance. While, the Hausman specification test for fixed and random effect result reveals Chi- square probability of 0.1886 which implies that result was not significant. Thus, there is need to conduct further test to determine the appropriate model to be used. Finally, the Breusch and Pagan Lagrangian Multiplier Test for Random Effects result reveals Chi- square probability of 1.0000 which implies that result was not significant. This also, confirms the presence of effect of heteroscedasticity which suggests that the original OLS regression will not be suitable for interpreting the study. Therefore, the pooled ordinary least square was to be selected as the best model. Accordingly, due the presence of heteroscadasticity, robust

Table 4.4: Summary of Regression Result (Indirect Relationship)

Table 4. 1

Regression Result

Variable	Coefficient	T- Values	P- Values
EFR*BSZ	-0.0774	-2.64	0.009
DER*BSZ	-0.0027	-0.48	0.63

Source: STATA Output (2022)

The result of table 4.4 in the case of indirect relationship model, the explanatory variable (equity financing ratio and board size) yields a negative and significant effect on financial performance of listed DMBs in Nigeria at 1%. Except the interaction between the explanatory variable (debt to equity ratio) and financial performance that reveals a negative but not statistically significant.

Moderating Effect of Board Size on the Relationship between Equity Financing Ratio and Financial Performance

Hypothesis three: Board size has no significant effect on moderating the relationship between equity financing ratio and financial performance of the listed DMBs in Nigeria.

From the table 4.3 reveal clearly that the indirect relationship results of equity financing ratio as moderated by board size EFRBSZ has a coefficient value of -0.0773 with a corresponding significant value of 0.009. This infers that EFRBSZ has 1% significant impact on the ROA of the listed DMBs in Nigeria. It, therefore, suggested that for every N1 increase in equity financing as moderated by board size, there will be 7.73% corresponding decrease on financial performance of listed DMBs in Nigeria.

This result found evidence to show that with a moderating role of board size on relationship between equity financing ratio and return on assets, there would be a significant influence on the financial performance of DMBs in Nigeria. This also provides evidence for not rejecting the null hypothesis of the study which expresses that equity financing ratio has no significant effect on the financial performance of listed DMBs in Nigeria.

Thus, the findings of this study agreed with the view of Akeem et al (2014) and , Kunai and Bala (2015) but contrary to the view of (Chechet 2014). Meanwhile, this result has also validated and confirmed the board size moderating role on the relationship between equity financing and financial performance of DMBs in Nigeria. Hence, the result is in line with the findings of (Rehman (2016).

Furthermore, the result supports the underpinning theories of the study namely: the pecking order theory which considered internally generated financing as best options of financing than external financing where equity financing was termed as last resort. And the agency cost theory which states that any increase in debt-to-equity ratio will lead to increase in manager's efficiency which reduces cost of capital and improve ROA. This has been attributed to board size's control over the banking financial policies, and their implementation for effective management control, and efficiency, considering the board members obligation to align the interest of shareholders and the management.

Moderating Effect of Board Size on the Relationship between Debt to Equity Financing Ratio and Financial Performance

Hypothesis Four: Board size has no significant effect on moderating the relationship between debt-to-equity financing ratio and financial performance of the listed DMBs in Nigeria.

Table 4.3 discloses that the indirect relationship results of debt-to-equity financing ratio as moderated by board size (DERBSZ) has a coefficient value of -0.0027 with a P value of 0.628. This concludes that (DERBSZ) has no statistically significant impact on the (ROA) of the listed DMBs in Nigeria. Therefore, it is suggested that for every N1 increase or decrease in debt-to-equity financing as moderated by board size, will have no corresponding increase or decrease on financial performance of listed DMBs in Nigeria.

This result found evidence to establish that with a moderating role of board size on relationship between debt-to-equity financing ratio and return on assets, there would be no significant influence on the financial performance of DMBs in Nigeria. This also provides evidence for failing to reject the null hypothesis of the study which expresses that debt-to-equity financing ratio has no significant effect on the financial performance of listed DMBs in Nigeria.

In this regard, there will be no policy implication to this outcome. Even though, the result has consequently confirmed that board size is a good moderating variable on the relationship between debt-to-equity financing and financial performance of DMBs in Nigeria. Since, it has changed the strength of the relationship between debt-to-equity financing ratio and financial performance from -0.0037 to -0.0027 after the interaction of the board size as moderating variable of the study.

The result of this study agreed with the view of Lopev and Kwanum (2012) and Cengiz et al (2013b) . However, the outcome is contrary to the view of Onimisi (2010) ,Rasa and Jugita (2012) and Shaba, et al (2016) . Thus, the finding of this study has also confirmed the moderating role of board size on the relationship between debt-to-equity financing and financial performance of DMBs in Nigeria which agreed with the postulation of Baron and Kenny (1986).

Conclusions and Recommendations

Firstly, in a direct relationship model both equity financing ratio and debt to equity ratio are found to have negative but, insignificant effects on financial performance of DMBs in Nigeria. Therefore, the study concluded that both equity financing ratio and debt to equity financing ratio do not influence the financial performance of DMBs in Nigeria. Hence, there were no policy implications to effect.

Conversely, in the indirect relationship model of the study, it was found that equity financing ratio as moderated by board size has a negative and significant influence on financial performance of DMBs in Nigeria. Meanwhile, the study established that equity financing ratio as moderated by board size played a significant role in influencing the financial performance of DMBs in Nigeria.

Although, in the same indirect relationship model of the study, the debt-to-equity financing as moderated by board size is found to be negative but, insignificantly influencing the financial performance of DMBs in Nigeria. In connection to that, there will be no policy implication to that effect.

The study recommends particularly to board and management of the listed DMBs in Nigeria; that the board members should come up with effective policy towards encouraging debt financing in their organisations with constant monitoring and evaluation in order to improve their financial performances, which will along way safeguard the interest of the shareholders and management staff.

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Insurance as a Reliable Means for Disaster Risk Financing

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Abstract: The incidence and impact of climatic disasters and extreme weather events such as drought, earthquakes, windstorms, fire incidence, floods, pipeline explosions, building collapse have been increasing over recent decades in Nigeria causing untimely death, displacement, disease, loss of crops, damage to physical and service infrastructure, depletion of natural resources, institutional weakening, and disruption of economic and social activity. Risk financing is the utilization of funds to cover the financial effect of unexpected losses as well as to cover the costs related to unplanned adverse events. Among the risk financing and risk transfer tools for disaster risk management include the reserves, contingent credit facilities, insurance and catastrophe-linked securities. This research aims to review the literature on disaster risk management in Nigeria. Forty questionnaires were sent to the victims of disasters across the country in the six geo-political zones. 25% of the respondents were the victims of fire incidence, 23% were the victims of flood damage, 22% of them were the victims of collapsed building, 10% of the were the victims of pipeline explosion while the remaining 20% were the victims of drought damage. All the questionnaires were returned. 78% of the respondents strongly supported the fact that risk financing and risk transfer tools such as insurance along with physical risk reduction will be useful to reduce financial vulnerabilities while 56% of the respondents are not in support of the government providing palliatives or relief gifts to the victims of disasters owing to the fact that government has been disappointing in discharging their duties at the time of disaster. The research recommends that there should be sufficient budgetary provision not only at federal level but equally at all state levels to plan and prepare ahead to ensure adequate financial capacity and rapid release of funds that will enable emergency response, reconstruction of damaged public assets and infrastructure. Lastly, the paper recommends that the Nigerian Government should see insurance as an effective disaster risk financing and ensure that the insurance sector is sound and resilient so as to deliver the promised payments and financing in the event of a disaster.

Keywords: disasters, risk financing, insurance, risk management.

Introduction

Extreme natural events such as earthquakes, hurricanes and floods cause disasters again and again, especially in developing nations. The problem is worsened by the climatic change.

It is surprising that disasters have always been a result of human interaction with nature, technology and other living entities and sometimes unpredictable and sudden, sometimes slow and lingering, with the various types of disasters continually affect the way people live their daily lives (van Niekerk, 2011).

The United Nations International Strategy for Disaster Reduction (UNISDR, 2009) defines a disaster as: "a serious disruption of the functioning of a community or a society involving widespread human, material, or environmental losses and impacts which exceeds the ability of the affected community to cope using only its own resources". UNISDR went further to indicate that disasters are often described as a result of the combination of: the exposure to a hazard; the conditions of vulnerability that are present; and insufficient capacity or measures to reduce or cope with the potential negative consequences.

In short, disaster impacts may include loss of life, injury, disease and other negative effects on human physical, mental and social well-being, together with damage to property, destruction of assets, loss of services, social and economic disruption and environmental degradation (UNISDR, 2009)

Besides, hazards can be single, sequential or combined in their origin and effects. Each hazard is characterised by its location, intensity, probability and likely frequency (van Niekerk, 2011). Hazards only become disasters when human lives are lost, and livelihoods damaged or destroyed. Miami and Debarati (2020) highlighted that increases in the global population, particularly in areas of high hazard risk raises the level of the risk of disasters as more people are exposed to the potential harms of hazards.

Vulnerability is defined as the characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard (van Niekerk, 2011). Vulnerability is equally a set of prevailing or consequential conditions arising from various physical, social, economic and environmental factors which increase the susceptibility of a community to the impact of hazards (UNISDR, 2002:24 as stated in van Niekerk, 2011). It can also comprise physical, socio-economic and/or political factors that adversely affect the ability of communities to respond to

events (Jegillos, 1999). Blaikie et al. (1994) are of the opinion that vulnerability is constituted by the characteristics of a person or group in terms of their capacity to anticipate, cope with, resist and recover from the impact of a hazard. Vulnerability can be expressed as the degree of loss resulting from a potentially damaging phenomenon or hazard.

Literature Review

Effect of Disasters: Worldwide Perspective

Miami & Debarati (2020) stressed that almost all the nations failed to prepare appropriately to prevent the wave of death and illness unleashed across the globe by the COVID-19 pandemic despite many urgings to do so from a plethora of experts including WHO, UNDRR and others. In addition, Calcutt, Maher and Fitzgibbon (2019) stated that the incidence and impact of climatic disasters and extreme weather events have been increasing over recent decades. Between 2005 and 2015, over 6,400 weather-related disasters claiming over 606,000 lives were recorded worldwide (CRED and UNISDR 2015). In addition to causing devastating human losses, such events will surely have huge economic impact.

Floods are one of the most wide-reaching and commonly occurring natural hazards in the world, affecting on average about 70 million people each year (UNISDR, 2011). According to a study as noted in Watson et al. (2017), the annual economic impact of flooding in Pakistan lies between US$1.2 billion and US$1.8 billion, equivalent to 0.5–0.8 percent of National GDP. Between 1980 and 1999, EM-DAT recorded 4,212 disasters linked to natural hazards worldwide, which claimed approximately 1.19 million lives and affected over 3 billion people with economic losses totalled US$ 1.63 trillion (Miami & Debarati, 2019)

In 2017 alone, there were 330 natural catastrophe events (97 percent weather related) that generated economic losses estimated at US$353 billion (Aon Benfield 2017). The cost of recovery from a single disaster can run into billions of Naira and undermine national economic growth. The damage and losses arising from Super Typhoon Haiyan in the Philippines in 2013 were estimated at over US$12.9 billion, equal to 5 percent of National Gross Domestic Product (Bowen 2016).

It is highly disappointing that unintentionally people continue to sow the seeds of their own destruction, despite the evidence that the world is turning into an uninhabitable place for large number of people worldwide.

While better recording and reporting may partly explain some of the increase in events, much of it is due to a significant rise in the number of climate-related disasters. Between 2000 and 2019, there were 510,837 deaths and 3.9 billion people affected by 6,681 climate-related disasters. This compares with 3,656 climate-related events which accounted for 995,330 deaths (47% due to drought/ famine) and 3.2 billion affected in the period 1980-1999. The number of people affected by disasters, including injuries and disruption of livelihoods, especially in agriculture, and the associated economic damage are growing in contrast to the decrease in mortality (Miami & Debarati, 2019). At the regional level, economic losses in the Americas accounted for 45% of the total losses, followed by Asia at 43%.

In short, most of these losses are attributable to three countries. In the Americas, the U.S. accounts for 78% of the continents' total losses with US$ 1.03 trillion in economic losses. In Asia, China and Japan account for 38% and 35% of the region's total losses respectively. (Miami & Debarati, 2019)

Disasters in Nigeria

In Africa for instance, van Niekerk and Wisner (2014) in Okunola (2019) identified 166 urban disasters affecting 28 cities between 1997 and 2008. The disasters affecting this continent include drought, earthquakes, windstorms, floods, fires, explosions, land subsidence, dumping of hazardous materials, building collapse among others. This level of risk was attributable to socio-economic stress, inadequate physical infrastructure, lack of awareness among others (Henderson, 2004).

Nigeria like other African countries is affected by both natural and man-induced disasters of various kinds (Abin & Wahab (2013), Okunola (2019)). Disasters such as flood, landslide, tidal wave, coastal erosion, sand-storm, dust-storm, locust/insect infestation, oil spillage, building collapse have claimed many lives in Nigeria and rendered many homeless (NEMA, 2011). As a result of this, vulnerability to hazards and disaster impacts has added to the growing number of urban challenges confronting the Nigerian people (National Population Commission, 2012), thus becoming a serious threat to national development.

It has been established by Djimesah, Okine & Mireku (2018) that floods are a result of excess water flowing on land that used to be dry. Besides, among the natural disasters, floods have been reported to be responsible for almost half of casualties, noted in EM-DAT (2011). Floods are also the most frequent natural disasters, and it has affected 250,000 Nigerians in 2016 with 92,000 displaced.

NEMA (2018) emphasized that more than 6,000 deaths and 500,000 people have been rendered homeless from 2010 to 2018 by various types of disaster. Furthermore, Ibem (2011) and Okoli (2014) stressed that available literature on the prevalence of disaster in Nigeria revealed that since independence, the country has gone through major floods incidence in 1960, 1963, 1980, 2011, 2012 and 2014 and different cases of building collapse, oil spillage and fire incidence.

In essence, the frequency and occurrence of natural, technological and man-induced disasters are seriously increasing in Nigeria. Typical results are death, displacement, disease, losses of crops, damage to physical and service infrastructure,

depletion of natural and social capitals, institutional weakening, and disruption of economic and social activity (Okunola, 2019)

Risk Management Methodology

Disaster Risk Management comprises the whole systematic and conceptual framework of measures that are closely linked to each other and that are taken before a natural hazard occurs with the aim of limiting or avoiding adverse impacts of a natural event on the society (BMZ 2010:6). Disaster Risk Management as noted in BMZ (2013e) consists of the following steps:

1. Risk analysis
2. Disaster preparedness
3. Disaster prevention and mitigation
4. Disaster resilient recovery

In another way, the G20/OECD Methodological Framework (2012) highlighted the steps towards disaster risk management as follows:

a. Analyse disaster risks, based on the identification of hazards and threats and an assessment of their likelihood and impacts following a well-governed process and using relevant data
b. Communicate these risks to decision-makers and the public, update risk assessment following disasters and use the risk analysis as a basis for evaluating the full range of DRM strategies
c. Augment risk assessment for the purpose of developing financial strategies by better quantifying the scale of expected disaster costs and identifying financial vulnerabilities within the economy by assessing the distribution of risks and financial capacities to absorb them
d. Evaluate the availability, adequacy and efficiency of risk financing and risk transfer tools to address financial vulnerabilities facing households, businesses and governments and clarify the allocation of disaster costs so that there are incentives to reduce or financially manage risks
e. Assess the need for government intervention to take corrective action in risk financing and risk transfer markets and/or address financial vulnerabilities and, if a role is identified, determine the appropriate schemes or instruments.

Disaster Risk Finance

With the explanations above, it has been able to establish in this research that extreme natural events such as droughts, floods, earthquakes and pandemics usually threaten lives, livelihoods, as well as the economy of a country. Disaster risk finance aims to increase the resilience of vulnerable victims to the financial impact of disasters as part of a comprehensive approach to disaster risk management. By increasing resilience, disaster risk finance offers the promise of protecting and promoting National Development.

Risk financing in short, is the utilization of funds to cover the financial effect of unexpected losses as well as the costs related to unplanned adverse events. Sources of funds to pay for losses may be from internal sources such as self-retention or a shared retention in form of a captive program that uses collective funds from the member organizations or external sources generally through the purchase of a commercial insurance. Clarke and Wren-Lewis (2016) examine the ways in which risk transfer instruments such as insurance, reinsurance, derivatives, and capital market instruments can act as commitment devices, helping governments and development partners to commit ahead of the disaster to restrict their post-disaster discretion for the good of the country.

In addition, G20/OECD (2012) equally highlighted that risk financing and risk transfer instruments in form of insurance, in combination with risk reduction measures, are capable of reducing financial vulnerability by addressing actual or potential financing gaps. These instruments may reduce the economic costs of disasters and improve government financial planning, and possibly providing incentives for risk reduction (G20/OECD, 2012).

In summary, among the risk financial and risk transfer tools for disaster risk management include the reserves, contingent credit facilities, insurance and catastrophe-linked securities like CAT bonds. These financial instruments had been discussed extensively by the Organisation for Economic Co-operation and Development (OECD), Swiss Re and World Bank as stated in G20/OECD (2012).

OECD has actually supported the development of strategies for the financial management of natural and man-made disaster risks, under the guidance of the OECD International Network on Financial Management of Large-scale Catastrophes and the Insurance and Private Pensions Committee.

Insurance as a Disaster Risk Transfer

According to G20/OECD (2012), risk transfer involves the shifting of risks to others who, in exchange for a premium, provide compensation when a disaster occurs, ensuring that any financing gap that might emerge is partially or fully bridged. Risk transfer may be obtained through insurance policies or capital market instruments such as catastrophe bonds. The insurance and reinsurance sectors are the main sources of risk transfer, although capital markets provide an

alternative source.
For instance, agricultural index insurance, as established by Karljin, Daniel and Shadreck (2016) has become a common risk management instrument for low income farmers. Morsink, Clarke, and Mapfumo (2016) discussed the reliability of index insurance extensively.
Besides, catastrophe insurance protects business and residences against natural disasters such as earthquakes, floods, and hurricanes and against human-made disasters such as a riot or terrorist attack.

Methodology

Data were obtained from primary sources only. The primary data were collected through the questionnaires that were administered to Nigerians that have experienced different types of disasters in the last twenty years across the country. The questionnaires were designed to reveal issues on types and frequency of disaster occurrence causes of disasters and the possibility of disaster risk financing tools like insurance. Forty questionnaires were sent to the victims of disasters across the country in the six Geo-Political zones in Nigeria. It is noted that 25% of the respondents were the victims of fire incidence, 23% were the victims of flood damage, 22% of them were the victims of collapsed building, 10% of the were the victims of pipeline explosion while the remaining 20% were the victims of drought damage. All the questionnaires were returned.

Results and discussion

78% of the respondents strongly supported the fact that risk financing and risk transfer tools such as insurance along with physical risk reduction will be useful to reduce financial vulnerabilities. 56% of the respondents are not in support of the government providing palliatives or relief gifts to the victims of disasters owing to the fact that government has been disappointing in discharging their duties at the time of disaster. They pointed to the case of palliatives that were supposed to be distributed to the COVID-19 victims that were kept in various warehouses across the country. 64% of the respondents supported the fact that insurance will better responded to the victims of disasters than the government though it may be a little bit delayed due to claims processing. From the questionnaires analysed, it was discovered that though a lot of benefits attached to a timely response to shocks and disasters but disaster risk financing in form of insurance will provide better and timely assistance to the households and will greatly increase the impact and effectiveness of crisis response.

Findings and recommendations

The research found out that though the Federal Government has been engaged in emergency response activities by providing reliefs to disaster victims to recover their losses but such reliefs are insufficient and in some cases, the victims may not have the opportunity of receiving the relief items. The study further noted that disasters have caused major social, economic and environmental impacts as well as a significant drain on governmental resources.
The research equally found out that the response initiatives in Nigeria are worst and emergency services at the time of disasters are dysfunctional owing to the fact the Federal, State and Local Governments failed to put the necessary machinery in place.
The paper recommends that the Federal Government should try as much as possible as to provide subsidy for promoting risk transfer and risk financing tools through a well-arranged insurance facility to relieve disasters and catastrophic events.
Finally the research recommend that there should be sufficient budgetary provision not only at federal level but equally at all the state levels and local governments to plan and prepare ahead to ensure adequate financial capacity and rapid release of funds that will enable emergency response, reconstruction of damaged public assets and infrastructure. As a result of this, the Nigerian Government should ensure that the insurance sector is sound and resilient so as to deliver the promised payments and financing in the event of a disaster.

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Does Gender Diversity Affect Financial Performance* A Look at the Nigerian Manufacturing Sector

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Abstract: *This study seeks to investigate the effect of gender diversity on the performance of listed manufacturing firms in Nigeria. Performance was measured by accounting-based measure of performance (ROA) and market-based measure (Tobin's Q). Panel-data was sourced from the financial statements of all manufacturing firms listed on the Nigerian Stock Exchange from 2006-2020. Panel regression analysis was employed to test the hypotheses for the study. Stata Version 12 was used to run the data analysis. The panel corrected standard error (PCSE) regression was used to test the hypothesis on the relationship between gender diversity and ROA, while the Driscoll-Kraay standard error regression was used to test the hypothesis on the relationship between gender diversity and Tobin's Q. Findings reveal a positive and statistically significant relationship between gender diversity and both performance measures of ROA, and Tobin's Q. The study recommends that manufacturing firms increase the level of board gender diversity for better firm performance.*

Keywords: Gender diversity, firm performance, manufacturing sector, Interest rate.

Introduction

The importance of the manufacturing sector cannot be overlooked given its contribution to economic development. Globally, the manufacturing sector represents 16% of GDP in 2018 (Research & Markets, 2020). In addition to its contribution to GDP, the manufacturing sector aids in revenue generation for the government through taxes. For instance, in Nigeria, the manufacturing sector in 2016 contributed N186 billion which was paid as tax to the federal government. The sector is undoubtedly invaluable not only to the economy but also to the government as the accrued tax from the sector is used for financing developmental projects for the nation. Hence, when manufacturing firms perform well and grow, they employ local workforce, sell to the community, pay taxes, and so forth, all of which benefit the community at large (Kyere & Ausloos, 2020). Therefore, the performance of the sector cannot be underscored if economic and social developments are sought.

Performance is defined as the ability of a firm to satisfy the differing needs of its stakeholders (Zammuto, 1984). It can be viewed from both financial and non-financial perspectives. The financial perspective focuses on the profit generating capacity of a firm and its value to shareholders (Almajali, et al., 2012). While the non-financial perspective focuses on competitive aspects like customer satisfaction, market shares, quality, innovation, employee satisfaction and reputation (Cho & Pucik, 2005). The most widely considered perspective of performance is financial performance and it serves as the pillar upon which the successes of firms are evaluated. Thus, this study focuses on the financial performance of listed manufacturing firms in Nigeria.

Financial Performance is a set of financial indicators that offer information on the level of a firms 'accomplishment of objectives and results (Taouab & Issor, 2019). Such indicators have been classified into accounting-based and market-based. While correlated, these measures capture di? erent aspects of ? rm performance (Rose, 2007). For instance, accounting-based measures are classified as short-term and backward looking; and they make use of financial ratios such as ROA, ROE, ROCE (Al-Daoud, et al., 2016). On the other hand, the market-based measures are classified as long term and forward-looking; and predict future performance based on a firm's previous or current performance. They include indicators like Tobin's Q, Market Value Added (MVA), Market-to-book value (MTBV), amongst others (Shan & McIver Ron, 2011).

Performance literature has recognized the importance of Return on Assets as a measure of the firm performance. Sri and Gayan, (2015) opined that *ROA gives investors an idea of how effectively company management is using its assets to generate earnings. While* Tobin's Q captures investors' expectations of future events, including evaluation of current business strategies. It is in view if this that this study employs both accounting and market-based measures (ROA, & Tobin's Q) to measure performance to allow a better evaluation of the financial performance of manufacturing firms.

Statistics have pointed to a steady deterioration of the financial performance of the Nigerian manufacturing sector. When compared with its past performances, and the performance of the manufacturing sectors of other nations, the performance

of the Nigerian manufacturing sector is grossly unsatisfactory. In 2016, the Nigerian manufacturing sector only contributed about 8.59% to the country's Gross Domestic Product (GDP). This presents a wide disparity with what obtains in other nations such as in Pakistan and China where the sectors contribution to GDP is 35% and 36% respectively. Statistics have further shown that the sector's contribution to the Nigerian GDP has been persistently declining year on year. For instance, a report by the national bureau of statistics, NBS, (2017) revealed that its contribution to Gross Domestic Product (GDP) contracted by 4.32% in 2016 compared to a decline of 1.46% recorded in 2015. Furthermore, the sector's contribution to the GDP that was 9.31 per cent at the beginning of the year 2017 also fell to 8.81 per cent in the third quarter of 2017 (Okon, 2017). At the end of 2020, its annual contribution to Nigeria's GDP stood at 8.99%; contracting by -2.75% (NBS, 2021).

Strategies have been put forth by the government to uplift the performance of the sector and to ensure high performing manufacturing firms are established and maintained. These include credit schemes to ensure adequate access to finance; trade policies like the made in Nigeria (MIN), protectionist policies, etc., but alas, despite these strategies, the performance keeps dwindling. Governments in developed nations such as the Europe, Asia, United Kingdom and the United States have put forth less direct strategies such as introducing diversity quotas to boost firm performance. Diversity comes in different forms such as race, age, gender, etc., however, among all the diversity dimensions, one dimension of diversity, gender, has become a priority in organizational diversity researches in recent years. Gender diversity is defined as the consideration of the different skills and potentials of male and female employees as equal resources (Joy, 2016).

The need for board gender diversity has become more apparent in recent times. This is because the board structure of a firm is seen as essentially imperative and one of the most important mechanisms of a firm. Studies have shown that firms with the highest rates of gender diversity have proven to be more resolute in fostering innovation and greater financial success, (Schmidt, 2019). For instance, there is evidence that boards with more women have greater levels of disclosure (Gul et al., 2011), better monitoring that enhances earnings quality (Srindhi et al. 2011), and more board development evaluations and programs (Nielsen & Huse, 2010). Due to this, firms strive to make boards diversified in order to tap the pool of resources and benefits that diversity brings about.

Today, board gender diversity has become a strategic tool which firms employ to facilitate diversity of ideas and decisions in order to enhance firm performance. Thus, it is not surprising that many governments openly urge corporations to increase the representation of women in boardrooms and senior management positions. **Ho**wever, despite governments' efforts to promote gender balance in recent decades, females are still underrepresented in the boardrooms of most countries (Nigeria inclusive) in comparison with the general population composition, or specific areas such as corporate management (Asian Development Bank, 2016).

A look into the Nigerian manufacturing sector shows that gender diversity is not well embraced. The boards of Nigerian manufacturing firms are highly undiversified. This could be due to the innate culture of the environment; which is male dominated. Additionally Nigerian manufacturing firms are family oriented in which male family members are deemed more fit to have board seats. Undiversified boards are likely to be characterized with members that are on the same wavelength; in which case, there would be similarity of thoughts, ideas, and management style which could inhibit the possibility of innovative ideas that could bring about increased performance**.** In Nigeria, gender diversity seems to be the least prioritized dimension of diversity. A survey by PwC, (2021) revealed that when firms were asked about the single most important attribute being prioritized in the board's director search, racial/ethnic diversity topped the list (25%) while Gender Diversity ranked much lower at 12%.

Furthermore, an analysis of data collated by Deloitte Corporate Services Limited (DCSL), 2017 indicates that in Nigeria, female directors constituted only 14% of the 915 directors on the boards of the 132 companies surveyed over a 3-year period. This is lower than what is currently obtainable in other countries such as the United States of America, where women currently hold 19% of board positions or in Europe (France, Norway, Italy and Sweden) where legislative and voluntary targets are in place and female directors currently represent more than 30% of board memberships. , in the United Kingdom (UK) a minimum of 25% female board representation is legislated, Norway mandates 40%, and Germany mandates 30% female representation. These legislative initiatives are based on the view that exploiting female talent pools would positively affect corporate governance and performance**.** In the Nigerian manufacturing sector, Female representation on boards increased from 8% in 2013 to 12% in 2014 and remained at 12% in 2015.

Studies (Dezso & Ross, 2012; Adams & Raguathan, 2014; Ongore et al, 2015; Ilina, et al., 2017; Schmidt, 2019) have shown that firms with gender diversified boards exhibit higher performance. However these studies have been criticized on grounds that they have been conducted in countries where there are strong governance structures. Therefore, the results might differ in a country where such is non-existent. Additionally, researches on gender diversity and firm performance were mostly done in countries where there are mandates for gender quotas. The impact of gender diversity in a country and sector with no quota regulations and a low proportion of women on boards such as the Nigerian manufacturing sector is likely to be very different from the impact in countries with a binding quota. Boards in countries with a binding quota of 40% for example are likely to recruit women with a much broader and potentially less qualified background just to comply with written laws. Therefore, variations between countries and their laws, and also between types of firms could mean that having more women on the board is advantageous in some circumstances but not in others.

Globally, gender diversity remains a concern; a reason why governments have mandated gender quotas. However, in Nigeria, no mandates have been set, not by the government, and not by the Securities and Exchange Commission (SEC). The need for diverse boards in manufacturing firms is crucial. It is estimated that **b**y 2025, emerging economies could account for nearly 70% of global demand for manufactured goods (Mckinsey Global Institute, 2012). Nigerian manufacturing companies will, therefore, need to improve their performance and position themselves wisely, to meet the growing demand.

It is from this viewpoint that this study seeks to investigate the effect Gender Diversity on the financial performance of listed manufacturing firms in Nigeria.

Objectives of the study

The main objective of the study is to investigate the effect of Gender Diversity on the performance of listed manufacturing firms in Nigeria. The specific objectives are to:

1. Examine the degree to which the percentage (%) of women on boards affect the performance of listed manufacturing firms in Nigeria.
2. Determine the extent to which CEO gender affect the performance of listed manufacturing firms in Nigeria.

Hypotheses of the study

$H_0$1: Gender Diversity has no significant effect on the Return on Assets (ROA) of listed manufacturing firms in Nigeria.

$H_0$1 (a): There is no significant relationship between the percentage (%) of women on boards and the Return on Assets (ROA) of listed manufacturing firms in Nigeria.

$H_0$1(b): There is no significant relationship between CEO Gender and the Return on Assets (ROA) of listed manufacturing firms in Nigeria.

$H_0$2. Gender Diversity has no significant effect on the Tobin's Q of listed manufacturing firms in Nigeria.

$H_0$2 (a): There is no significant relationship between the percentage (%) of women on boards and the Tobin's Q of listed manufacturing firms in Nigeria.

$H_0$2 (b): There is no significant relationship between CEO Gender and the Tobin's Q of listed manufacturing firms in Nigeria.

Literature Review

Diversity is commonly used to describe a collection of observable and non-observable human differences and similarities. The observable attributes include gender, age, race, and ethnicity; while the non-observable attributes include perception, education, knowledge, values, affection (Cox & Blacke, 1991). Griggs, (1995) further classified these differences into primary and secondary dimensions. Primary dimensions are permanent, inborn or acquired in early stages of life and possess a lasting impact throughout our lives. These are the observable attributes. Secondary dimensions however are those which can be changed overtime and include educational back ground, Geographic location, income, marital status, religious beliefs and work experience. This study focuses on Gender Diversity, which is not only the most debated diversity issue in research, but in light of new legislative measures to promote female representation on corporate boards, is also being heavily debated in media and throughout the general public (Schmidt, 2019).

In recent times, nations, agencies, and firms have been more in tune with creating gender diverse boards. This is due to the dynamism of the business environment which has led firms to re- strategize on how to improve their performance. In the context of work setting, gender diversity refers to the proportion of male and female employees in the workplace that may influence the way people communicate and work with each other in that area and affect the firm's performance (Joy, 2016).

Norway was the first country to introduce binding gender quotas for Norwegian firms. Over the last decade, numerous (Organization for Economic Development) OECD countries have followed Norway's example. For instance, Italy introduced a gender quota of 20% in 2011, which was gradually increased to 33% in 2015. In 2017, women made up 25% of board members of European publicly listed companies (Smith, 2018). Davies, (2011) revealed that, when appointed on boards, women help to overcome homogeneity and prevent unified group thinking, therefore improving the decision- making process. Similarly, (Terjesen, et al., 2015) found out that firms with more female directors have higher firm performance by market (Tobin's Q) and accounting (Return on Assets) measures. Positive performances are associated with certain activities that were not found in undiversified boards.

There are studies (Dubbin & Jung, 2011; Darmadi, 2011) that identified an inverse relation between the percentage of women on the board and company performance. The negative relation between corporate performance and presence of women could be due to over-monitoring by women directors. Yet, Farrel and Hersch, (2005) did not find any relationship between gender diversity of the board and ROA. Similarly, Simpson *et al.* (2010); indicated no relationship between

Tobin's Q and the proportion of women directors.

Methodology

The study is a combination of descriptive research design and ex-post facto (historical) research design. The study identifies two major variables namely: Gender Diversity and Firm Performance. The study employs the use of panel data. The Panel Linear Regression analysis was conducted to statistically test the significance of the independent variable (Gender Diversity) on the dependent variable (Firm Performance) using the panel data collected from listed manufacturing firms. The population for the study comprised all manufacturing firms in Nigeria listed on the Nigerian Stock Exchange (NSE) spanning all four sub-sectors namely: conglomerate, consumer goods, industrial goods and health care sub sector. However, firms with incomplete financial reports covering the period of study (2006-2020) were excluded. Furthermore, Firms listed later than the chosen period of study were excluded from the study.

In order to analyze the data for this study, both descriptive and inferential statistics (correlation analysis and multivariate regression analysis) were employed. The Panel Linear Regression analysis was conducted to statistically test the significance of the independent variables (board structure, gender diversity, ownership structure, dividend policy, and capital structure) on the dependent variable (firm performance) using the panel data collected from listed manufacturing firms.

The following model describes the relationship between the independent including the control variables and dependent variables for this study.

$$\mathbf{Y = \alpha + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + £} \qquad (1)$$

Where:

Y = Firm performance

X_1 = CEO Gender

X_2 = % of Women on Boards

X_3 = Inflation

X_4 = Interest rate

β = Slope

α = Intercept

£ = Error term

$$\mathbf{Yit = \alpha + \beta 1X1it + \beta 2X2it + \beta 3X3 + \beta 4X4 + £it} \qquad \mathbf{(2)}$$

The dependent variable denoted by Y*it* is Firm Performance of firm ***i*** at time ***t*** to be measured by Return on Asset (ROA), & Tobin's Q. The independent variable is Gender Diversity to be measured by the percentage of women on boards (% WoB) denoted by X1*it* for firm *I* at time ***t*** and CEO Gender (CEO G) denoted by X2it at time *t*. The study employed the use of two (2) control variables namely: inflation rate (INF), and interest rate (INT) to be measured by X3 and X4 respectively.

Generally, a good performing economy would translate into a good performing firm and an overall growth in shareholder wealth (Zulfiqar, 2015). Pertinent among the indicators of economic performance are macro-economic variables which include national income, consumption, savings, unemployment, gross domestic product (GDP), interest rate, exchange rate and inflation rate (Achillah, 2011; Cliff & Willy, 2014). The study assumes that macro-economic factors; specifically, Inflation and Interest rate would affect the performance of listed manufacturing firms in Nigeria. Inflation affects the purchasing power of manufacturing firms and consumers. This is turn affects the level of demand and the level of sales which is ultimately reflected in the profitability of firms. Similarly, high cost of borrowing increases the weighted average cost of capital (WACC) of firms and decreases financial performance. Thus, the study controls for the effect of inflation, and interest rate on the performance of listed manufacturing firms in Nigeria.

3.2Data Analysis and Interpretation

The PCSE regression model was used to test the hypotheses for the study. The model shows all the coefficients of the predictor and predicted variables and their parameter estimates.

3.1a Panel-corrected Standard Error Regression

ROA	Coefficient	P-value
CEO G	9.668757	0.004
% of WoB	.190273	0.034
INF	-.6420422	0.005
INT	-.0400709	0.392

Stata, Version 12

Hypothesis Two (ii): Gender Diversity has no significant effect on Tobin's Q of listed manufacturing firms in Nigeria.

Driscoll-Kraay Standard Error Regressions

The DKSE regression model was used to test the hypotheses for the study. The model shows all the coefficients of the predictor and predicted variables and their parameter estimates.

Tobin's Q	Coefficient	P-value
CEO Gender	.530708	0.000
% of women on boards	.0107587	0.020
INF	-.0641179	0.000
INT	-.0077574	0.006

Stata, Version 12

Discussion of Findings

Hypothesis one (i): Gender Diversity has no significant effect on the ROA of listed manufacturing firms in Nigeria.

The study used the percentage (%) of women on the board of directors and CEO Gender to measure Gender Diversity. Table 3.1a shows the results of hypothesis one which states that Gender Diversity has no significant effect on the ROA of listed manufacturing firms in Nigeria. From the table, the coefficient of CEO Gender shows that there is a positive relationship between that the relationship between CEO Gender and the ROA of listed manufacturing firms in Nigeria. The relationship was also found to be statistically significant with a P-Value of 0.004. The table further shows that the higher the percentage of women on board of directors, the higher the performance of listed manufacturing firms in Nigeria. Thus, both measures of gender diversity were positive and statistically significant. The hypothesis was therefore not supported.

Table 3.1b shows the results for hypothesis two which states that Gender Diversity has no significant effect on Tobin's Q of listed manufacturing firms in Nigeria. Similar to the results of the PSCE regression analysis, the findings also reveal that both measures of gender diversity (CEO Gender & % of women on boards) are positively related with the Tobin's Q of listed manufacturing firms in Nigeria. The relationship was also found statistically significant with P- values of 0.000 and 0.020 for CEO Gender and the % of women on boards respectively. The hypothesis was not supported.

The findings from both tables (3.1a and 3.1b) therefore support the studies in other parts of the world which found higher performance of gender diverse firms. This corroborates the claim of numerous studies such a**s (Schmidt, 2019; S**mith et. al., 2006; Dezso & Ross, 2012; Campbell & Vera, 2011; Adams & Ferreira, 2009; Hussein & Kiwia, 2009; Ongore et al, 2015; Adams & Raguathan, 2014) that female board members bring in a different way of management which positively affects firm performance. It has also been established that women possess a strong monitoring capability that contributes to better firm performance. It is due to this reason that there has been a legislative call around the globe for firms to consider gender diversity when forming boards. The finding also supports the perspective of the resource based view (RBV) that resources; in this case, gender, could be used strategically to improve the performance of firms. Hence, firms that are gender-uniform would be missing out on the potential to be more financially vibrant. This is due to the different management perspectives and monitoring abilities brought in by women. The study controlled for the effect of inflation and interest rate which were found to be detrimental to manufacturing firm performance measured by ROA. This implies that manufacturing firm performance decreases with increase in the prices of goods. The reason could be because a rise in the general price level of goods could be a means of decreased earnings for manufacturing firms. This happens because the purchasing power of consumers is largely diminished. Hence consumption also decreases. In other words, since inflation reduces the purchasing power of money, consumers are worse off. Therefore, the level of consumer falls, likewise, the level of sales for the manufacturing firms. Additionally, inflation increases the cost of borrowing for manufacturing firms. This happens because lending institution would have to increase the cost of borrowing in order to make up for the decreased purchasing power of money. In all situations thus, inflation becomes detrimental to manufacturing firm performance. High inflation erodes the purchasing power of consumers which ultimately affects the level of sales, and invariably, the profitability of manufacturing firms. Similarly, interest rate hike affects firm performance negatively by causing a simultaneous increase in the firms' weighted average cost of capital (WACC). It also leads to increased prices of finished goods which could push consumers to cheaper substitutes. This implies that as the rate of interest increases, the performance of manufacturing firm's decreases. This is because as the borrowing rate at which the manufacturing firms secure loans increases, the price of the finished goods also increases. This translates into decreased demand for their

products most consequently especially by price sensitive consumers. Consequently, lower sales lead to lower profits.

Conclusion and Recommendations

The objective of the study is to ascertain the effect of Gender Diversity on the performance of listed manufacturing firms in Nigeria. Performance was measured by accounting–based measure of performance, (ROA), and market–based measure of performance (Tobin's Q). The findings revealed that the relationship is significant and positive for both accounting and market-based measures. The study therefore concludes that Gender Diversity has a significant bearing on manufacturing firm performance in Nigeria. Hence, policies in favour of higher levels of gender diversity would lead to better performance in manufacturing firms of Nigeria. Thus, the study further concludes that gender diverse boards present better insights that are valuable to firm performance. Thus, manufacturing firms have significantly benefitted from diverse opinions which diverse boards avail. As shown in literature, gender diversity positively affects firm performance in different parts of the world. This shows that the effect of gender diversity is not peculiar to specific countries or continents, making it an important variable for firm performance.

The study recommends that manufacturing firms should increase their level of board gender diversity due to its positive influence on firm performance. Manufacturing firms should ensure that they do have gender diversity policies in place. In Nigeria, the CBN has mandated that 30% of board members in banks be females so as to ensure representation, inclusion, and board gender diversity. However, no law has been enacted regarding gender diversity in Nigerian manufacturing firms. Thus, a law should be put in place relating to gender quotas on the boards of Nigerian manufacturing firms.

Increasing board gender diversity not only improves performance, but is also strategic. Now more than ever, consumers are becoming increasingly socially minded; calling on firms to take a positive stand on social issues. Thus, firms should be proactive and strategically smart by embracing gender diversity. Going forward, manufacturing firms need to recognize the commercial and societal benefits of a more gender diverse workforce and prioritize actions that will improve gender diversity, not just for their own advantage but for the benefit of their community.

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Moderating Effect of Entrepreneurial Self-Efficacy on the Relationship between Entrepreneurial Orientation and Performance of Small and Medium Enterprises in Gombe State

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Abstract: *Small and medium-sized enterprises (SMEs) are among the major drivers of economic development in any nation. However, in Nigeria SMEs performance is not encouraging as most of these SMEs do not grow to become corporate entities. About 70% of most SMEs do not survive in their first three to five years of operations and some of them disappear within the sixth and tenth year of existence. This study therefore sets out to investigate the moderating effect of self-efficacy on the relationship between entrepreneurial orientation and performance of SMEs in Gombe state. The study adopted the cross-sectional survey research design with a population of 904 registered SMEs with Gombe State Board of Internal Revenue in the 11 local government areas of the state. The data were collected using primary sources from the questionnaire administered to the owners/managers. The sample size with 10% attrition is 440 which was computed using the Yamane, (1973) formula with 95% confidential level at 5% level of precision. Partial Least Square Structural Equation Model (PLS –SEM) 2.0 software was applied for the purpose of testing the model. This study found that self-efficacy positively moderates the relationship between both proactive and risk-taking on performance of SMEs in Gombe state. The study recommends that entrepreneurs and managers should exhibit high level of self-efficacy in order to be proactive and take a risk by engaging in the development of new products and services, entry into new markets in Gombe state.*

Key words: Self-Efficacy, Entrepreneurial orientation, Performance of SMES

Introduction

Globally, SMEs are being considered as one of the major drivers of economic development. The Performance of SMEs is of great concern to all stakeholders in today's global world economy, because they have enhanced nation's economies through their operations. The emergence and development of the global economy has been attributed to the rise of emerging markets in different nation's economies which are inextricably connected, because of the performance of SMEs, as well as entrepreneurial and cultural transformations (Obi, et al., 2018: Ibrahim &Masud, 2016). As such, the performance of SMEs has become a sound mental issue globally (Alasadi & Sabbagh, 2015). SMEs serve as catalyst for economic growth of entrepreneurship which has also enhanced employment opportunities, poverty reduction, provision of goods and services and provided stable economic development for both developing and developed-market economies. The activity of SMEs has also brought about substantial local capital formation which aid in achieving high level of productivity, capacity, equitable and sustainable industrial diversification and dispersal (Bello, Jibir, & Ahmed, 2018).

Consequently, there is need for Government and well-meaning institutions, organizations, individual to contribute in the development of entrepreneurship. SMEs are necessary and vital element in the growth of economies that would contribute in enhancing the standard of living. This can be achieved through policies that will enhance entrepreneurship, especially among its teeming youths. Small and Medium Enterprise Development Authority in Nigeria [SMEDAN] (2017) reported that SMEs constitute 98 per cent of all the businesses in the country and a contribution of 48percent to GDP. However, several studies has been conducted on the SMEs performance in developing countries like Nigeria, Ghana, Malaysia, Bangladesh and Armenia among others but there is a need to better understand the relationship with moderating factors like self-efficacious in inducing performance of SMEs as in the developed countries with about 54 percent to GDP (PWC-MSME Survey, 2020).

The SME sector has experienced poor performance characterized by poor managerial and entrepreneurial skill, inadequate business information, poor managerial competences, and lack of efficacy among others (Emezie, 2017). This persistent challenge has servers as the precedence for high rate of closure of SMEs because some cannot even make breakeven especially in developing countries like Nigeria (Ifeanyi et al., 2021). The challenges face by SMEs are attributed to factors which normally affect managerial skills, which include lack of proper entrepreneurial orientation practices, inability of owner/managers to have the desire to identify and exploit opportunities in the environment which mitigate low performance in SMEs (Ayeni-Agbaje & Osho,2015: Octache & Mohammood, 2015). It has been observed that generally, in Gombe state there is poor managerial skills amongst owners/managers and also inability to source

adequate capital which often affect the operation of SMEs (Mbasua, (2015). It was also notice that SMEs is an inevitable tool for enhancing economic growth and development in Gombe state (Gulani & Usman, 2018). The funding of SMEs in the state faces a lot of challenges especially as to where to source capital in setting up a new or expand existing business, also the inability of owners/managers to respond to the changes in the environment.

The emerging business environment of SMEs in Gombe State resulting from influx of individuals from neighboring states such as Borno, Yobe and Adamawa states due to insecurity have set–up business bringing about dynamic changes to a more traditional market setting. Also, efforts by the State government were to put in place to ease the activities of SMEs by providing accessibility to finance, registration of business among others in order to create a conducive environment for owners/managers to be able to exploit the opportunities in the environment. However, still the performance of these SMEs is below expectations. Reports have shown that 70 percent of most SMEs do not survive in their early years of inception (i.e., between three to five years) in State [SMEDAN, 2017], while some do make it to the sixth and tenth year of existence and later disappear, others that remain up to maturity are between five to ten percent (SMEDAN, 2017). The inability of owners/managers to have the desire to be innovative and proactive has been identified as some of the reasons for this declining performance of SMEs in Nigeria (Adegbuyi et al., 2019). Literature has indicated that a lot of prior studies on entrepreneurial orientation (EO) adopted Miller's conceptualization of the dimensions as innovativeness, proactiveness, and risk-taking (Yusuf & Mohammed, 2018; Musthofa et al., 2017; Abiodun& Kida, 2016; Oluwale et al., 2015). Which also concur with this study because those dimensions can have the ability to capture new and emerging markets.

Some Studies has shown that there was a significant positive relationship between EO and the performance of SMEs (Okangi, 2019: Abiodun& Kida, 2016), but however the relationship could be affected by lack of desire to be creative, proactive and willing to take risk in order to exploit the changes in the environment (Musthofa et al. 2017; Abodun & Kida, 2016). Uchegbulan, et al. (2012) said there is a significant effect on EO and performance of SMEs. While Octache & Mahmood, 2015: Onugu, (2005) observed that economic and industrial growth can only be attained by promoting and encouraging EO and motivation towards improving performance of SMEs. Adegbuyi, et al, (2018) and Jaensson et al. (2018) observed that owners/managers of SMEs that fail to be proactive in identifying opportunity and being innovative towards advantage seeking behaviors together at the same time often result to low business performance. Burce and Danbauch, (2018) also pointed out that government policy, customers patronage and political instability have significant influence on performance smoothness in Gombe state.

However, moderating variables such as self-efficacy has play a significant role n moderating the relationship between entrepreneur orientation construct as independent variables and performance of SMEs as dependent variable (Eniola, 2020). Though there are scanty research that explored self- efficacy as moderating variable between risk-taking, proactive and performance of SMEs in Nigeria and particularly in Gombe state. This study, therefore introduces self - efficacy as a moderating variable to assess its effect on the relationship between risk-taking, proactive and performance of SMEs. The two variables are key driving force for a free market economy, thereby having a major influence on the market force. Based on entrepreneurs' characteristics it could give more insights into the nature of relationships when moderating variable of self-efficacy were introduced. Thus, entrenchment of these variables may further develop positive perception among SMEs owner/managers and mitigate uncertainty associated with motivation such as, self-efficacy, autonomy, achievement among others. Therefore, in line with the problem stated above the following hypotheses were stated in null forms:

H_{01}: *There is no significant relationship between proactiveness and performance of SMEs in Gombe State.*

H_{02}: *There is no significant relationship between risk-taking and performance of SMEs in Gombe state.*

H_{03}: *There is no moderating effect of self-efficacy on the relationship between proactiveness and performance of SMEs in Gombe state.*

H_{04}: *There is no moderating effect of self-efficacy on the relationship between risk-taking and performance of SMEs in Gombe state.*

This study increases the awareness about moderating effect of self-efficacy on EO and performance of SMEs in Gombe State, its concept and challenges on business as it is a recent phenomenon in Gombe. The study will also be significant to managers of firms as it is very imperative to know how the newly introduced SMEs affects EO and the anticipated result will enhance the understanding of the concepts. The remaining part of this paper is structured as follows; section two reviews literature related to this study and presents the theoretical framework. In section three, methodological issues are raised and discussed. Presentations and discussion form the content of section four while section five concludes the work and proffers recommendations in the light of the major findings.

Theory and Evidence

Laitinen (2002) is of the view that performance is a process of how firms achieve their objectives or targets within the realm of its operations. Performance is the necessary outcome of all managerial-processes (AziziFani et al., 2016). This is because owners/managers are judged base on their SMEs performance. However, a firm's overall goal is for profitability, survival and growth. This means that the level of performance of SMEs can be measured using various dimensions such

as; financial measures: profitability, sales, productivity levels, assets employed, and non- financial: number of customers, number of employees and satisfactions levels (Al-Dhaafri, et al, 2016; Sajilan, Hadi&Tehseen, 2015; Wiklund & Shepherd, 2005 :). The study adopts the view of Sajilan, et al, (2015) and Wiklund and Shepherd, 2005, who suggested that performance is unidimensional where both financial and non-financial are used to measure its outcome. Therefore, for the purpose of this paper non-financial would be adopted so that questionnaires can be used to assess the performance indexes.

SME is a concept that has no universal acceptable definition worldwide (Mutula & Brakel, 2006). The term SMEs differs from one country to another depending upon their peculiarity in each sector of the economy (like financial, manufacturing, agriculture, labour etc.) The definition of SME is often based on either employment or assets or a combination of both (Ongori & Lutham, 2009). Some organizations, institutions, agencies, ministries and other bodies tend to define SMEs based on their purpose/objective or use. For instance, SME according to Organization for Economic Co-operation and Development [OECD], (2020) is considered to be independent firms that employ less than a given number of employees. Below is the classification of SMEs. Small Enterprise: An enterprise whose total cost including working capital but excluding cost of land is between ten million naira (N10,000,000) and one hundred million naira (N100,000,000) and/or a workforce between ten (10) and forty-nine (49) full-time staff and/or with a turnover of not more than ten million naira (N10,000,000) in a year. Medium Enterprise: A company with total cost including working capital but excluding cost of land of more than one hundred million naira (N100, 000,000) but less than three hundred million naira (N300, 000,000) and/or a staff strength of between fifty (50) and two hundred (200) full-time workers and/or with an annual turnover of not more than twenty million naira (N20, 000,000) only. However, in Nigeria according to SMEDAN, (2017) what constitutes MSME is based on dual criteria which is number of employees and total assets (excluding land and buildings).

EO is a concept that has been considered as a very important and vital factor for the development, performance and survival of SMEs (Wiklund, & Shepherd, 2003). EO is defined as the willingness of an individual or firm to create or revive marketable products, to take bold commitment in launching new products/services or entry into new markets, and be more responsive to changes in the environment than competitors toward new opportunities (Covin, & Slevin, 1991). Miller (1983), lunched innovativeness, risk taking, and proactiveness as demission for EO while Lumpkin and Dess (1996) and Covin, &Slevin (1991) come up with different demission of EO such as autonomy, competitive aggressiveness, innovativeness, proactiveness, and risk-taking. This study adopts the definition proffers by Miller, (1983) who sees EO as a one-dimensional and proxy by innovation, proactiveness and risk-taking.

Proactiveness is among the dimensions of EO which tries to forecast future needs and then develop ways to react to them as they unfold. This means being responsive to the future and determining how to react to it as it happens. Ifeanyi et al. (2021) opined that pro-activeness can be seen as an entrepreneurial preparedness which directly or indirectly control the rivalries via dynamic movements which constituted the introducing of new product and service in front of rivalries by taking action in expectation of the future that institute change and improve the product in an environment. Olannye and Eromafuru (2016) observed that pro-activeness can be referred to as the ability to foresee the actual occurrence of events and then taken appropriate action for problems that are likely to occur in the future. Kithaka (2016) argues that Pro-activeness is an entrepreneurial activity that relates to market opportunity where an entrepreneur can seek, initiate and act on the opportunity in order to shape the environment by affecting trends and also creating demand. There are different features of a Proactive business enterprise this include the use of aggression and/or unconventional methods towards a competitor in the same market segment which help business enterprises in sharpening their environments by actively looking for and exploiting market opportunities. The study adopts the definition proffers by Kithka, (2016).

Ifeanyi et al. (2021) also affirmed that Risk-taking in the EO means a firm's loyalty that attracted huge cost that are attached to a particular project that aid in taking a bold and rapid actions with regard to low losses. It is also a process of investing heavily in the new technologies as well as selling the new products or services in the new markets. Risk- taking is often associated with the concept of entrepreneurship in its original form because they are both sides of the same coin because it involves the assumption of personal risk-taking (Covin & slevin, 1988: Miller, 1983). The term risk-taking is used to explain the uncertainty which is associated with entrepreneurial behaviour that tends to affect the environment (Olaniyan et al., 2017). Although a general notion about entrepreneurs is that they are compulsive risk takers, research however suggests that entrepreneurs do not see their actions as risky, because most often they take action only after proper planning and forecasting in order to reduce uncertainty (Dess & Lumpkin, 2005: Morris et al., 2010). Kithaka, (2016) viewed Risk-taking as the general understanding that ushers' entrepreneurs into a new fields previously not exploited or new ventures. He further asserted that risk-taking is where a bold action of entering into a new venture from the uncertain new markets by investing huge portion of resources to ventures that do not have certain outcomes, and/or borrowing heavily. Such uncertain action may or may not lead to performance.

Entrepreneur self-efficacy (ESE) is a reflection of an individual's perception concerning one's ability to exert control over one's own motivation and behavior to successfully accomplish an assignment (Wood & Bandura, 1989). Kithaka (2016) viewed ESE as a person's beliefs in his/her ability to organize intellectual resources and the needed strategy to perform efficiently a particular assignment in a certain situation. Tang et al., (2012) asserted that self-efficacy has positive influence on the performance of SMEs more especially in the areas that involves job performance and decision-making areas. They also, pointed that self-efficacy is important to performance of SMEs because decision and actions of

owners/managers directly influence the direction of the firm and its performance. For the purpose of this study self - efficacy is seen as an individual judgment on the accomplishment of course of actions in dealing with forthcoming situations adapted from Kithaka (2016) and Tang, et al, (2012). Felipe et al. (2020) entrepreneurial orientation could be seen as a process of decision-making process that affects companies' SMEs managers willingness to innovate, to be more pro active and aggressive than competitors, and take risks. Abbas and Martins (2020) opined that Risk-taking is the extent to which an entrepreneur is ready and willing to make a high SMEs commitment Abbas and Martins (2020) viewed proactiveness as the firm's activities where they take advantage of and quickly responding to any anticipated evolving opportunities. It also, means the process of developing and introducing new idea that enhance the product development.

In the area of SMEs EO emerged as promising new solutions to solve societal problems Abbas and Martins (2020) who analyses the effect of entrepreneurial (EO) by using the proxies of proactiveness, competitive aggressiveness autonomy, innovation and risk-taking in influencing firms' performance. The study used survey research design with the population which were obtained from one hundred and ten (110) SMEs in Abuja. Thus, the study used descriptive statistics and inferential statistical tool in analyzing the data used for the study. The results of the study indicated that proactiveness, risk-taking and autonomy are positive and significantly related to business performance while, innovation and risk-taking show insignificant relationship with performance. Atikur et al. (2021) examine the impact of risk-taking, innovativeness, and proactiveness on SME performance. His study used data obtained from SME entities in Dhaka city of Bangladesh by using 250 SMEs in Bangladesh. Owners and managers were contacted to act as respondents and finally, 180 SME owners fully completed the survey questionnaire, indicating that the result of the study indicate a significance positive relationship SMEs performance. Felipe et al. (2020) investigated entrepreneurial orientation as a composite formed of innovation, proactiveness and risk-taking. The study used the survey research design where descriptive and inferential statistics were used in analyzing the data using 102 valid questionnaires. The results of the study show that three dimensions EO that is innovation, proactiveness and risk-taking have a positive and significant influence on entrepreneurial orientation.

Similarly, Aroyeun et al. (2019) examined the effect of EO on performance of SMEs in Ogun State, they employed the Survey research design with 412 SMEs out of a population of 1794 registered SMEs. The data analysis technique employed in this study are Structural Equation Modeling Part 3.0 Least square with analysis tools using Smart PLS. The result of the study shows that EO has positive effect on performance. Also using pro-activeness as one of the proxies the result of the study indicate proactiveness has significant effect on growth likewise aggressiveness and autonomy has significant positive relationship with growth and the rest such as innovativeness has a positive significant effect on quality of product/service and customers' satisfactions. Musawa and Ahmad (2018) have described proactive SMEs as an opportunity-seeking enterprise that, wants to be ahead of their opponents and effectively capture future client demands. Prior studies have established that proactive companies can accomplish their objectives in their segments by moving ahead to sustain the competitive edge over the rival firms. The data was analyze using Structural Equation Modeling with the AMOS 4.0 Program (Meltem & Sona, 2018; Kozubikova, Sopkova, Krajcik & Tyll, 2017; Krishan & Dissanayake, 2015). According to them the SMEs owners/managers should capitalize on a market prospect that can generate profitable yields which serves as a groundbreaker in their performance. Therefore, for them to achieve a better performance they must have a greater understanding to foresee what customer needs and wants are and the market changes in the environment than their competitors. Ifeanyi, Kanayo and Miracle (2021) investigate the effect of entrepreneurial orientation on performance of selected small and medium scale enterprises (SMEs) from the Southeast Nigeria. The study adopted survey research and used descriptive as method of data analysis. Therefore, the population of the study was drawn from the SMEs from five states in the Southeast Nigeria which used three hundred and sixty small and medium enterprises (SMEs). The results of the study indicated that there is a significant positive relationship between pro activeness, innovativeness and risk taking on performance of SMEs in Southeast Nigeria.

In the work of Eniola, (2020) on the investigation of entrepreneurial self-efficacy, entrepreneurial orientation and Institutional environment on the success of entrepreneurial-based firms in Nigeria. The data were analyze using confirmatory factor analysis before analysis through structural equation modelling using PLS-SEM. The study reveals that entrepreneurial self-efficacy and institutional environment has a significant influence on the success of entrepreneurial -based firms in Nigeria. The study adopted the planned behavioral theory and the theory of self-efficacy by bandura et al as its conceptual framework. Oyeku et al. (2020) examines how effective entrepreneurial orientation are in influencing the entrepreneurial self efficacy on the performance of SMEs. using three hundred and eighty-one (381) managers that was sampled from the population of Nine thousand, four hundred and fifty (9,450) small and medium enterprises (SMEs) in Lagos State that was registered with National Association of Small and Medium Enterprises (NASME), National Association of Small-Scale Industrialists (NASSI) and Association of Small Business Owners in Nigeria (ASBON). They used inferential statistics in analyzing the study by considering how innovation, proactiveness and risk-taking are effective, the results of the study indicates a significant positive relationship with performance of SMEs.

This study adopted Resource Based View theory because it provides a mechanism of how unique resources can be used to achieve superior advantage. Entrepreneurial self-efficacy is also a valuable input with the interaction of entrepreneurial orientation can be able to achieve optimal performance within a dynamic business environment (Eniola,

2020; Ray et al, 2004; Barney, 1991; Aroyeun et al., 2019). More importantly, Resources Based View sees strategic entrepreneurial orientations as rare, valuable, inimitable and non-substitutability resources of the firm that is heterogeneously distributed, even though they are imperfect and static in nature (Barney, 1991). The external dynamic environment of firm can determine the entrepreneurial orientations that firm employs which best fit the firm to identify opportunity and positions itself for competitive advantage. Therefore, for SMEs to succeed and have sustainable competitive advantage would depend on its ability and motive to find its position amidst the changing environment through the support of tactical and strategic orientations.

Methodology

The study used the survey research design and it is cross-sectional as it cut across different types of SMEs and its adopting quantitative method. The design was chosen because of its advantages in obtaining data through the uses of questionnaire (Neumann, 2003; Babbie 2007). The population for this study consists of 904 registered SMEs in various local government and Gombe State Bureau of statistic. Yamane, (1973) formula was used to calculate the sample size with 95% confidential level at 5% level of precision from the 904 owners/managers/entrepreneurs that have SMEs in eleven (11) local government areas of Gombe states. The formula for calculating sample size is given below.

$$n = \frac{N}{1+N(e)^2}$$

The study sample size was 400 with 10% attrition making the total of 10% making it 440 in order to cover non-returnable and wrong filling and any bias (Israel, 2013). The study employed convenience sampling method as it was distributed to any owners/ managers the researcher met in any of the Local Government area. The technique used for data analysis is the Partial Least Square Structural Equation Model (PLS –SEM) path modeling and PLS path 2.0 (Fornell & Larcker, 1981: Hulland, 1999). The study used five liker scale in line with the work of (Moberg, 2013; Ebrahimi & Mirbargkar, 2017).

Result and Discussion

The Table 1 below represents the reliability and convergent validity of constructs of this study.

Table 1

Construct Reliability and Validit y (n=389)

Construct	Items	Loadings	AVE	CA	CR
Proactiveness	PA1	0.672	0.582	0.811	0.871
	PA2	0.899			
	PA3	0.908			
	PA4	0.613			
	PA5	0.671			
Risk -Taking			0.542	0.789	0.851
		7			
Self-Efficacy	SE1	0.778	0.530	0.785	0.848
	SE2	0.718			
	SE3	0.766			
	SE4	0.621			
	SE5	0.744			
Performance	PER1	0.622	0.507	0.753	0.834
	PER2	0.835			
	PER3	0.830			
	PER5	0.547			
	PER6	0.680			

The reliability of the constructs was tested using composite reliability whereas, convergent validity of such constructs was determined using average variance extracted (AVE) (Garson, 2016). However, for each reflective construct to achieve internal reliability, the value of its CR should be ≥0.7 (Chen & Lee, 2013) while AVE should be ≥0.5 for it to attain of convergent validity (Garson, 2016) and the Item loaded are to be above 0.5 (Hair et al., 2014). The data showed discriminant validity as presented in Table2 as the square roots of all the AVE are higher than their correlations with other latent variable (Garson, 2016).

Table 2
Discriminant Validity using Fornell-larcker criterion (n=389)

	Performance	Proactiveness	Risk-taking	Self-efficacy
Performance	**0.831**			
Proactiveness	0.712	**0.827**		
Risk-taking	0.736	0.763	**0.811**	
Self-efficacy	0.728	0.719	0.729	**0.801**

The bolded diagonal values are expected be more than the value in the row and column that correspond to square root of AVE of the reflective constructs. Therefore, proactiveness and risk-taking are considered as lower order component where the latent scores formative indicator are seen. This indicates that the idea of reliability and validity are relevant and self-efficacy are significant and relevant for formative indicator. To assess the direct effect of proactiveness, risk-taking, self-efficacy on performances were bootstrapping using 5000 subsamples and 389 cases.

Table 3
Direct Path Coefficient

Hypotheses	Beta	Standard Error	T Stat	P Value	Decision
H_1: PA->PERF	0.523	0.057	9.255	0.000***	Rejected
H_2: RT->PERF	0.435	0.059	7.412	0.000***	Rejected
R Square	78.9%				

*** p< 0.01; **p< 0.05; *p <0.1.

From Table 3 shows that proactiveness and risk-taking has significant effect on performance of SEMs in Gombe State. Therefore, the null hypothesis which stated that there is no significant relationship between proactiveness, risk-taking are rejected

Table 4
Effect Size for Independent variables

Construct	f^2	Effect Size
Proactiveness	0.341	Medium
Risk-taking	0.436	Large

Effect sizes of the exogenous variables on the endogenous variables were assessed through f^2. According to Cohen 1988, the f^2 values of 0.02, 0.15, and 0.35, indicate small, medium, and large effects respectively. Table 4 shows the effect size of proactiveness and risk-taking on performance of SMEs. Proactiveness has a medium effect on performance of SMEs while risk-taking has large effect size on performance of SMEs. The result clearly indicates that the interactive effect of self-efficacy (as a moderating variable) absorbed a large weight of the direct effects. This suggested that EO of SMEs owners and managers must continue to utilize self-efficacy to improve performance.

Table 5
Predictive Relevance of Exogenous Variables

Construct	SSO	SSE	Q^2 = 1-SSE/SSO
Performance	1140.000000	692.092507	0.393

According to Stone-Geissler's Q^2 Table 5, indicates that Q^2 is greater than zero, which shows the predictive relevance of the direct path model. The model has a large degree of predictive relevance on performance of SMEs (Cohen, 1988; Hair et al., 2014).

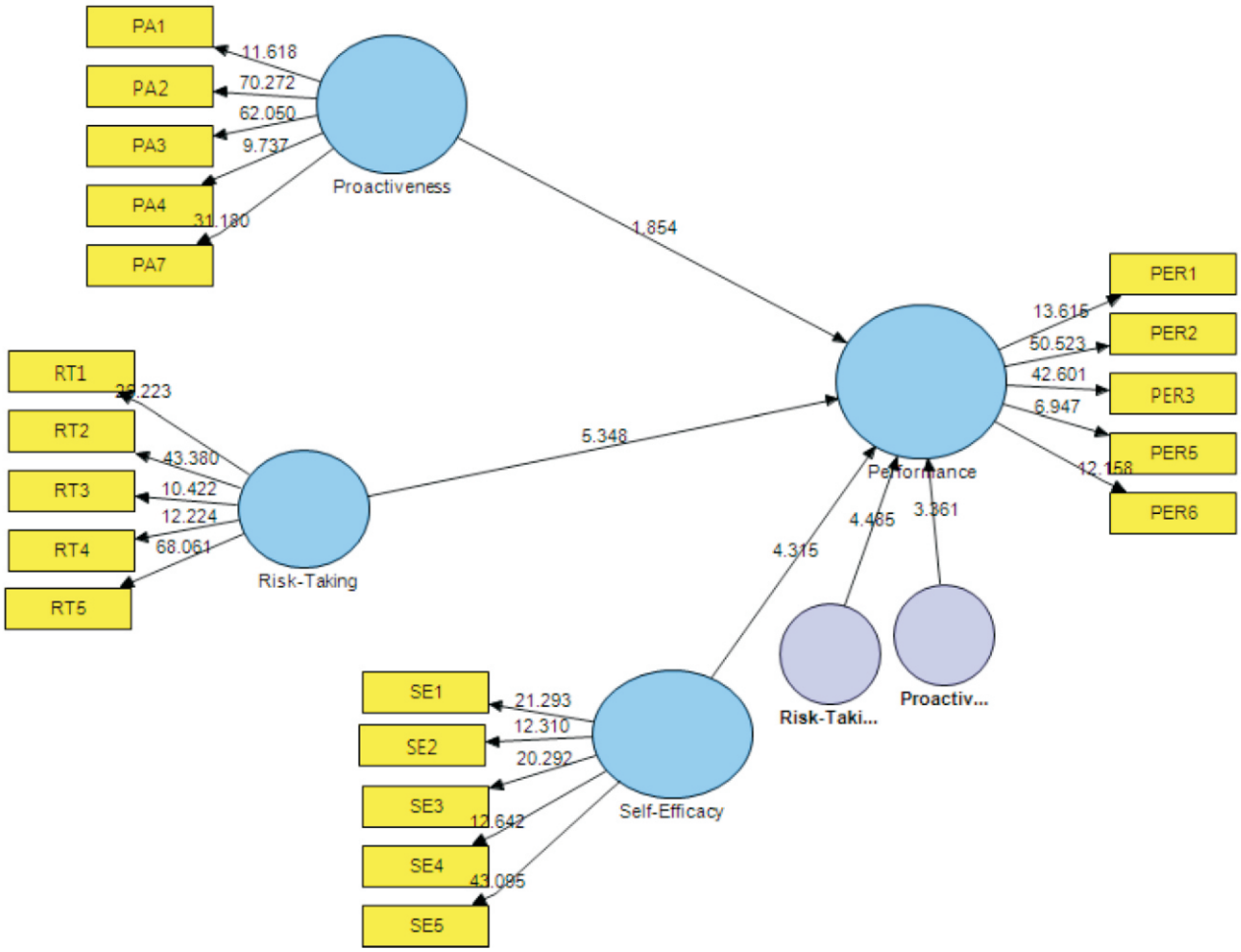

Figure 4.2: *Structural Model for Moderated Relationship*

Source: PLS 2

Table 6

Path Coefficient for Moderation Relationship

Hypotheses	Relationship	Beta	Stnd Error	t-value	p-value	Decision
H3	PA * SE -> PERF	1.396	0.415	3.361	0.001*	Rejected
H4	RT * SE -> PERF	-1.829	0.408	4.408	0.000*	Rejected
R^2	0.826					

*****P value <0.01, **P value<0.05 *P-value<0.1: Source: PLS** 2

Table 6, the moderating result show that self-efficacy significantly moderates the relationship between proactiveness, risk-taking and performance of SMEs. Therefore, the null hypotheses (H3 and H4) are also rejected.

Effect size and predictive relevance

Table 7

Effect Size and Predictive Relevance

Construct	R^2 included	R^2excluded	F^2	Effect size
PA*SE->PERF	0.826	0.745	0.466	Large
RT*SE->PERF	0.826	0.803	0.132	Small

Q^2 0.407: **Source: PLS** 2

Just as it was necessary to examine the effect size and predictive relevance of the exogenous variables on the endogenous variable on the direct relationship, it is also important to assess the effect size and predictive relevance of the moderated relationship. On this note, the first interaction term (PA*SE->PERF) has large effect size on the endogenous variable while the second interaction term (RT*SE->PERF) on the other hand also has small effect size as presented on table.

H_{01}: *There is no significant relationship between pro-activeness and performance of SMEs in Gombe State.*

As shown in Table 4, pro-activeness had significant impact on performance of SMEs in Gombe State (beta coeff= 0.523, t-value = 9.255 and p-value <0.000). Therefore, the research hypothesis is rejected (H_{01}). Finding on pro-activeness has a significant effect on the performance. It shows that in the area of SMEs, pro-activeness has effect on performance. The study results agreed with the findings of (Syed et al, 2017; Musawa & Ahmad, 2018; Abbas and. Martins, 2020: Atikur et al. 2021: Felipe et al., 2020) who find a significant positive relationship between proactiveness and performance of SMEs.

H_{02}: *There is no significant relationship between risk-taking and performance of SMEs in Gombe state.*

As shown in Table 4, risk-taking and performance of SMEs in Gombe state. (Beta coeff. = 0.435, t-value = 7.412 and p-value <0.000). Therefore, the research hypothesis is rejected (H_{02}). The finding indicates that risk-taking and performance. It shows that in the area of SMEs, risk-taking has effective in influence customer decision which leads to performance. This finding is in line with the work of (Kozubíková, 2017, Abbas and. Martins, 2020: Atikur et al., 2021: Felipe et al., 2020).

H_{03}: *Self-efficacy does not moderate the effect between pro-activeness, risk- taking and performance of SMEs in Gombe state.*

The output results in Table 4 t-statistics for Hypothesis 3, Self-efficacy does not moderate the effect between pro-activeness and performance of SMEs in Gombe state *3.36*, with a significant value of probability <0,001 and since the value of the original sample estimate shows a positive value this indicates that the relationship between self-efficacy is positive, thus Hypothesis 3 in this study can be received meaning that in this study significantly influence Performance. Hypothesis 4: the influence of risk- taking and performance when moderated with Self-efficacy have a significant influence with t statistics of 4.408, and the original sample estimate value shows a positive value of 0.000 which indicates that the positive relationship the Hypothesis 4 on this study can be rejected which means in this study risk-taking and their indicators significantly influence Performance. Where the Hypothesis 4 is to determine whether self-efficacy has a role as a moderating variable so it can be concluded that hypothesis 4 is rejected, which means that self-efficacy can moderate the relationship of risk-taking variables on the performance of SME businesses. The statistically significant results on the relationship of entrepreneurial orientation and performance is consistent with some past studies (e.g Musthofa et al.2017; Dative, 2018; Aroyeun et al. 2019; Swierczek& Thai, 2019; Eniola,, 2020; Oyekuet al. 2020). These studies found that pro-activeness and risk-taking have significant relationship with performance.

Conclusion and Recommendations

This study reveals that self-efficacy positively moderates the relationship between proactive and risk-taking in the first stage of the moderation. Therefore, except for proactive and risk-taking more entrepreneur behaviors can also promote one's well-being through the enhancement of self-efficacy. The study concluded that there was positive statistically significant effect of entrepreneurial pro-activeness and risk-taking on performance of SMEs in Gombe State, Nigeria the entrepreneurial pro-activeness may helped in tracking down the cost drivers and enhanced performance of this level of business. This implies that having awareness of market signals, engaging and exploitation of new opportunities among SMEs in Gombe State have a positive effect on performance.

Base on the findings of this study, it was recommended, that to attain a high level of efficiency and performance of SMEs in Gombe state:

i. Entrepreneurs and managers should exhibit high level of self-efficacy in order to be proactive and take a risk by engaging in the creation of new products/services and entry into new markets segments in Gombe state.
ii. Entrepreneurs be able to take risk as part of steps to invest in any SMEs business that will bring in more return and improving growth and performance of SMEs in Gombe state.
iii. Government should provide an enabling environment through their policies for entrepreneurs and managers to have the zeal to carry out proactive step for new opportunities in the market and to take risk that will ensure effective performance of SMEs in Gombe state.

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Assessment of Microfinance Banks in Enhancing Entrepreneurship Skills Amongst Women in Gwagwalada Area Council, Abuja

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Abstract: *This study examined the Assessment of Micro-Finance Banks in enhancing entrepreneurship skills among women in Gwagwalada Area Council, Abuja. The specific objectives were to examine the effect of gender discrimination due to neglect of women in Microfinance Credit Scheme. A sample of 340 representing 99.12% of the population (343) was used for analysis in the study. Stratified random sampling was use as the sampling technique. Data analysis were performed with the aid of descriptive statistics, simple linear model, person's correlation, and Ordinary least square (OLS) to test the formulated hypotheses in line with the objectives. The result confirms that there is a positive significant relationship between Micro-Finance Banks and entrepreneurship development skills among women entrepreneurs in Gwagwalada Area Council. The study concluded that Micro-Finance Banks have positively enhanced entrepreneurship skills amongst women. It was recommended that Government should endeavour to promote economic policies that a* simple linear model *re devoid of gender discrimination against women. This would at least promote a gender bias-free economic atmosphere that would ensure the competitiveness of women in terms of access to credit facilities for business.*

Keywords: *Entrepreneur, Women in Entrepreneur, MFBI, Business Plan, Business Planning Skills.*

INTRODUCTION

Microfinance provide financial services to the economically active poor and low-income household provides various services among which are; credit granting, savings, micro-leasing, micro-insurance and transfer of payment to enable them engage in income generating activities (Adeyemi, 2008). Observation shows that micro-finance has declined in achieving its aims and objectives which has then caused a downturn trend in entrepreneurial activities. Yet, these poor households often fail to secure the capital they need and miss the opportunities because they do not have access to financial resources (Egwuatu, 2008). This situation has made poverty the characteristic of Nigerian households or individuals especially among women.

It has been discovered that women suffer the effects of financial and economic downturns more than men (Folorunsho, 2009). Atsede (2004) added that the significant contribution of women in sustaining socio-economic wellbeing of their families has been neglected and taken for granted by the society as a whole. This has resulted not only in gross underestimation of women's tremendous socio-economic potentials in Nigeria business environment, but in their lifestyle as a whole. Emerson (2008) posits that generally and around the world women are poorer than men with an income per capita of $274 as at 2016 (National Bureau of Statistics, NBS) due to poor access to credit facilities, gender discrimination and other expectations from the society. These pitfalls become impediment to the entrepreneurship skills development of women in the Nigerian society as women are disproportionately employed in unpaid, underpaid and non- formal sectors of the economy (Ilo 2009). Microfinance Banks were established to promote self-reliance, self-esteem and make financial services accessible to large segment of the potentially productive Nigerian population which otherwise would have little or no access to financial services (Soludo, 2008). Recently, there are many Microfinance Banks operating within the state and local government. These operating units aim at enhancing entrepreneurship skills amongst women.
Entrepreneurship development in Nigeria is faced with diverse challenges which are also common to women entrepreneurs in Gwagwalada Area Council, Abuja. These include diversion of funds to informal money lenders who charge very high interest rate that has led to gender discrimination due to neglect of women in micro finance credit scheme, lack of collaterals in accessing Bank loans, stringent Bank policies on Micro credit Scheme, problems of inadequate funding which has affected their general operations. Other constraints to women in accessing loans include poor managerial skills such as risk taking, planning, innovation and communication, banks interest rate, inadequate training from the bank on skill acquisition financial practices, wealth creation business plan. These efforts could be strangulated if these problems are not addressed. Thus, this study attempts to examine the Assessment of Microfinance Banks in enhancing entrepreneurship skills among women in Gwagwalada Area Council, FCT Abuja.

Research Questions

To deal with the problems of the study, the following research questions were postulated:

i. How does gender discrimination due to neglect of women in accessing Microfinance Credit Scheme affect women entrepreneurs?
ii. How does lack of collateral in accessing Bank loans affect women entrepreneurs?
iii. How does stringent Bank policies in Micro Credit Scheme hinder the development of women entrepreneurs?
iv. How can inadequate funding affect the general operations of women entrepreneurs?

Hypotheses of Study

H_{01}: There is no significant relationship between gender discrimination due to neglect of women in accessing Microfinance Credit Scheme and entrepreneurship development among women.

H_{02}: There is no significant relationship between lack of collateral in accessing Bank loan and entrepreneurship development among women.

H_{03}: There is no significant relationship between stringent Bank policies in granting loans and women entrepreneurship development.

H_{04}: There is no significant relationship between inadequate funding and women entrepreneurship development.

Literature Review

Concept of Microfinance Bank

Microfinance (MF) also referred to as micro credit, is a form of banking service that is available to unemployed or low income persons or groups who otherwise have no access to financial services (Investopedia, 2018). IMF (2014) defines microfinance as credit lent to the poor who usually do not have collateral to mortgage in exchange for a loan, Its aim is to provide the impoverished people, especially women a chance to become independent. MF allows people to utilize small business loans in a way that is congruous with ethical lending practices. Clients are allowed to repay at a flexible payment conditions. Micro financing is considered one of the tools that can be used to encourage women entrepreneurship. The primary target of microfinance is the poor women for the reason that they are relatively disadvantaged and they tend to embark on small enterprises which are typically supported with small loans (Unugbro, 2010). Microfinancing has been tried and tested. It is a demonstrated success in various parts of the world. It is adjudged the most safe, profitable and resilient financial system in the history of societies (Taiwo, *et al,* 2016).

However, Nzelibe and Mohammed, (2014) Micro-Finance Banks are instruments through which the whole concept of micro-credit scheme is executed. At the same time, the concept aims at providing loans, insurance and other traditional service to the poor people especially women to enhance their business. The prime aim of these Microfinance Banks is to provide institutional financial services to those people especially women who are denied from all services because of their poverty and gender discrimination. Micro-Finance Bank (MFB) is any company licensed by the Central Bank of Nigeria to carry on business of providing microfinance services that are needed by the economically active poor, micro, small and medium enterprises to expand their businesses as defined in the guideline for Micro-Finance Banks (MFBs) in Nigeria. This is to create vibrant micro-financing that provide the necessary stimulants for national growth and economic development. CBN (2005), states that, Microfinance Banks provide the economically active poor and low income households with financial services such as credit (to help them engage in income generating activities or expand their small businesses), savings, micro leasing, micro insurance and payment transfer. Microfinance Bank recognizes the peculiar challenges of micro-enterprises and of their owners. It recognizes the inability of most women to provide tangible collateral and therefore, promotes collateral substitution. Disbursement and repayment are structured to suit credit need and cash flow pattern of small businesses (Aderibigbe, 2001).

Concept of Entrepreneurship

Entrepreneurship is generally recognized as the engine of growth of developing countries since it has the capacity to reduce poverty. It is a key factor that helps many individuals, especially women in the promotion of self-reliance and self-esteem (Taiwo, Agwu, Adetiloye, & Afolabi, 2016). Adjei, Arun and Hossan (2015) assert that entrepreneurship is the answer to the economic challenges of most developing countries. They opine that entrepreneurial activities in small and medium scale enterprises would contribute immensely to the creation of jobs, decrease in income disparity, manufacturing of goods and services in the economy, as well as delivering opportunities for skill development and acquisition. According to Soludo (2014), a healthy economic development cannot be accomplished without setting up well focused and implemented programmes aimed at reducing poverty by empowering the people through access to factors of production, particularly credit facilities.

The Concept of Female Entrepreneurship

Female entrepreneurship on the other hand entails the activities of women in pursing profitable business opportunities. According to Abey (2018), a woman entrepreneur is a person who takes on tough roles to meet her personal needs in order to become economically self-reliant. Female entrepreneurs, unlike their male counterparts, apply feminist values in pursing their businesses. Values such as multitasking, passion, patience, motivation and emotional intelligence are often displayed by them as they relate with other people. They are motivated to enter commercial markets by desire to create wealth and social change, based on ethics of cooperation, equality and mutual respect (Orser & Elliot, 2015). Women-owned businesses are on the increase in almost all countries. Women are founding businesses more rapidly than men, and making major contributions to job creation and economic development (Sanusi, 2012). This is because many women have realized that they have potentials to run a business and have begun to utilize their skills and knowledge in exploring the business world.

Empirical review

Ahmed, Muhammed, Kuttu & Isah (2020) The study explained various methodological approaches introduced in developing open market strategies for attracting number of customers through the provision of loans and other facilities for females in Nigeria so as to update their socio-economic status in the society. The study critically identified the benefits of microfinance bank in boosting female entrepreneurs and how it could effectively enhance the country economic growth. The study explained and analysed the impact of small scale business among women in Nigeria. However, the study was reviewed, data were generated through secondary information sources like journals, books, internet, newspapers, magazines and many more second-hand data. The study revealed that the application of loan and at the process of refunding could be difficult and it affects the productivity of microfinance bank and leads to the collapse of the industry. The study revealed some of its challenges as; corruption, nepotism in the selection of those who would benefit from the loan, bias, laziness from the female who could not handle such money etc. Finally, the study recommends and ensures adequate strategies and methods that could be employed in transforming and keeping those programmes alive.

Gogwe (2019) Women are believed to be economically active yet, they comprise of the majority of the world's poor. Women have not only been disadvantaged in access to material resources like credit, property and money, but they have also been excluded from social resources like education and knowledge concerning some businesses. This study examined the effect of microfinance services (microcredit, micro-savings, financial training and advisory services) on women economic empowerment. The study used a cross sectional survey research method. Population of the study was made up of 12,175 women registered with the microfinance banks in Jos South local government. Data was obtained through questionnaire. Systematic random sampling technique was employed to select the respondents from each microfinance bank. A total of 429 women customers of microfinance banks in Jos South Local Government participated in the research. Descriptive statistics and Partial Least Square PLS-SEM were used to analyze the data. The study revealed that microcredit, micro-savings and financial literacy training had positive effect on women economic empowerment (in terms of increase income, financial savings and confidence, contribution to assets and household economic decision making). While advisory services had a negative effect on women economic empowerment due to the fact that most microfinance banks are not in a good position to offer this services. The study recommended that Microfinance Banks should improve more on their services and alert their customers on these services so as to enlighten lives economically.

Umemezia and Osifo (2018) Nigerian women are in great numbers turning to entrepreneurship for succor in these times of economic hardship. This activity which is supposedly meant to boost family income is also envisaged to have positive effects on national economy. However, the impact of women's entrepreneurial activity in Nigeria is below expectation due to the severe financial constraints they encounter. Issues bordering on discrimination, sociocultural factors, high illiteracy rate among Nigerian female entrepreneurs feature predominantly in the list of hindrances. Government and individual female entrepreneurs have their parts to play in ameliorating the situation.

Alfred (2013) the study focuses on the assessment of contribution of small loans in enhancing the economic empowerment to women micro-entrepreneurs obtaining loans from MFI's whereas FINCA in Kinondoni Municipal was used as the case study. The study aimed to assess whether small loans contribute to women economic empowerment in relation to their current socio-economic activities they engage in and also to determine relationship between credits offered by FINCA and the empowerment attained by women entrepreneurs receiving such credits. The sample were collected from women entrepreneurs obtaining loans from FINCA offices in Kinondoni by questionnaire whereas about 50 questionnaires were administered and also from management staffs whereas data were collected through interview. The study revealed that the loans given by FINCA have impact in women entrepreneur's lives as agreed by 98% respondents as it enables them to grow as business women and also workers in the society. This included improvement in access to financial capital, health, diet, community respect and self-esteem as well as education which all together contributes to empowerment as agreed by a total of 64% respondents. The positive Pearson correlation of 0.648 was obtained between credits offered by FINCA and women economic empowerment which indicates large strength between the variables with coefficient of determination of 0.42 (42%). The study recommends that seminars and trainings should

be given to women entrepreneurs on how to effectively manage the loan, also the MFI's should establish 50,000 Tsh. as the minimum loan amount that micro entrepreneur can take so as to enable them to access the and use financial opportunity they provide.

Theoretical Framework and Bases for the Study Theories relating to this study are: The Grameen theory, The Progressive Lending-Banco Sol theory, Non-government organization (NGO) theory and The Esusu theory.

The Grameen theory of microfinance and entrepreneurship skills: formulated by Yunus, (1983) form the theoretical framework for this study and the theory assumes that providing credit to the rural poor, particularly entrepreneurial women would enhance their entrepreneurial skills. The Grameen theory started with the group concept-informal lending to the poor, it started to assist landless people in Bangladesh to obtain credit, which could not be obtained through the formal commercial banks credit facilities, so as to promote their agricultural zeal.The idea was to improve the economic condition of the rural poor especially women through the creation of opportunities for their self-employment. Grameen Bank loans are not secured by physical collateral like the other commercial banks, instead, they are secured by group collateral complemented with peer monitoring and pressure to enforce repayment. Loans are disbursed through banking units of separate groups of five members for men and women that apply for loan.

The progressive lending-banco sol theory of microfinance and entrepreneurship skills theory was adopted by Banco-sol in Bolivia in 1981 when populist regime left government and there were high rate of unemployment in urban areas. In this theory of microfinance and entrepreneurship skills, the amount of loan increases after completion of every repayment schedule. The progressive lending is an extension of Grameen theory of microfinance and entrepreneurship skills because it incorporates other characteristics of the Grameen theory such as targeting the poor women, group formation and public payment. In the progressive lending, micro lenders are flexible about collateral and lend loan to group with individuals. Many Micro-Finance Banks are now adopting this theory because it is very helpful in areas with low population densities or highly diverse population where group forming is not easy due to different ratio of safe and risky borrowers.

The theory of NGO as propounded by Charles Soludo in 2008 suggests that NGOs can form micro finance look - like banks and channel credit facilities to women who in turn uses the credit facilities to enhance their entrepreneurial skills. This theory is grouped as informal theory of microfinance and entrepreneurship skills as it tends to adapt the Grameen principles and usually are gender specific and sectorally motivated. There are women groups, farmers union, trader union, and among others in this organization.

The NGOs with the features of Grameen bank are formed in different countries of the world with different names, for example, Lift Above Poverty (LAPO) can be viewed as a typical example of NGO that emulate the method of Grameen Bank by channelling credit facilities to the poor who are members in Nigeria. While in Ghana and Gambia, the most successful micro credit programs with these features are women finance association. The programs were reported to have had high rate of repayment.

This study applied the Non-Government Organization (NGO) theory to underpin the current study. This is because Non-Government Organization (NGO) theory of microfinance and entrepreneurship skills, which centred on banks and channel of credit facilities to women who in turn uses the credit facilities to enhance their entrepreneurial skills. This theory is grouped as informal theory of microfinance and entrepreneurship skills as it tends to adapt the Grameen principles and usually are gender specific and motivated.

Microfinance when properly positioned and implemented leads to accelerated growth of entrepreneurial skills evidence abounds in various empirical literature in support of this statement

Methodology

Descriptive survey research design was employed to investigate the Assessment of Microfinance Bank in enhancing entrepreneurship skills among women in Gwagwalada Area Council. According to Burns and Grove (2013), descriptive research "is to present a picture of a situation as it naturally happens". In order to assess thoughts, opinions, and feelings of participants, structured questionnaire was preferred.

The population of the study was drawn from ten (10) different women entrepreneurs associations residing in the ten (10) wards of Gwagwalada Area council Abuja. Hence, the estimated population is two thousand, four hundred and twenty

$$n = \frac{N}{1 + N(e)^2}$$

Where;
n= Sample size
N= Population size
1 = Constant
e = Error of Margin
Using our own parameter from the study,
n = 2,428
e = 0.05 (5%)

$$n = \frac{2,428}{1 + 2,428\ (0.05)^2}$$

$$n = \underline{\mathbf{343}}$$

The derived sample size of 343 was proportionately distributed among the respective strata by dividing the Sample size by the number of women associations.
Where:
Sample Size n= 343
No of Women Association =10

Data Collection

The data collection instruments for the study were structured questionnaire and personal interview. The research instruments were administered and retrieved.

Methods of Data Analysis

The data from respondents was analysed using multiple regression analysis to determine the relationship between the variables. Descriptive statistics was used to analyse responses from respondents and Cronbach Alpha reliability test was used to measure strength and direction of the relationship between both (Dependent and Independent) variables.

Model Specification

In order to examine the Contributions of Micro Finance Banks in enhancing entrepreneurship skills among women in Gwagwalada Area Council Abuja, the use of secondary data was emphasised and a simple linear model used by Aninkan, Kehinde, Olusegun, and Akingunola (2013), was adapted with little modification.

Model of the OLS relevant for this current study is specified as follows:

$$\mathbf{DWE} = (\mathbf{LOC}, \mathrm{SBP}, \mathrm{IFU}) \quad \text{- - - - - - - - -} \quad \mathbf{i}$$

The Model above in its econometric form becomes:

$$\mathrm{DWE} = \beta_0 + \beta_1\mathbf{LOC} + \beta_2\mathbf{SBP} + \beta_3\mathrm{IFU} \quad \text{- - - - - -} \quad \mathrm{ii}$$

To avoid the problem of autocorrelation, equation can be transformed, and thus:

$$\mathrm{DWE} = \beta_0 + \beta_1\mathbf{LOC} + \beta_2\mathbf{SBP} + \beta_3\mathrm{IFU} + \mu \quad \text{- - - - -} \quad \mathrm{iii}$$

Where:
DWE = Discrimination of Women Entrepreneurs
LOC = Lack of Collateral
SBP = Stringent Bank Policies
IFU = Inadequate Funding
μ = error term

Data Analysis

In line with the objectives of the study, hypotheses 1-4 would be tested with the adoption of regression analysis.
The descriptive statistics displayed in table 1 provides the mean, maximum, minimum and standard deviation for each of the variables used: Discrimination of Women Entrepreneurs (DWE), Lack of Collateral (LOC), Stringent Bank Policies (SBP), and Inadequate Funding (IFU). The descriptive statistics is presented in table 1 provides the mean, maximum, minimum and standard deviation for each of the variables used: Discrimination of Women Entrepreneurs (DWE), Lack of Collateral (LOC), Stringent Bank Policies (SBP), and Inadequate Funding (IFU). The descriptive statistics is presented below:

Table 1
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
DWE	340	1.00	5.00	3.7912	1.14208
LOC	340	1.00	5.00	3.2000	1.50358
SBP	340	1.00	5.00	3.5412	1.29262
IFU	340	1.00	5.00	2.6412	1.29239
Valid (listwise)	340				

Source: SPSS Output, 2021

The result in table 1 displays the mean, maximum, minimum and standard deviation for all the variables. The ranges for the variables were also provided. Specifically, the DWE have a minimum value of 1.00 and a maximum value of 5.00, on average, DWE has a mean of 3.7912 with a standard deviation of 1.14208. LOC has a minimum value of 1.00 and a maximum value of 5.00, on average, LOC has a mean of 3.2000 with a standard deviation of 1.50358. SBP has a minimum value of 1.00 and a maximum value of 5.00, on average, SBP has a mean of 3.5412 with a standard deviation of 1.29262. IFU have a minimum value of 1.00 and a maximum value of 5.00, on average, IFU has a mean of 2.6412 with a standard deviation of 1.29239. From the result, it can be observed that DWE has the lowest standard deviation of 1.14208 showing its most contribution to the model while LOC, SBP and IFU, variable have a higher standard deviation showing their least contribution to the model.

Pearson Correlation Matrix

Table 2: Pearson Correlation Matrix for Independent and Dependent Variables.

		DWE	LOC	SBP	IFU
DWE	Pearson Correlation	1			
	Sig. (2tailed)				
	N	340			
LOC	Pearson Correlation	.899**	1		
	Sig.(2-tailed)	.000			
	N	340	340		
SBP	Pearson Correlation	.856**	.921**	1	
	Sig. (2tailed)	.000	.000		
	N	340	340	340	
IFU	Pearson Correlation	.944**	.953**	.902**	1
	Sig. (2tailed)	.000	.000	.000	
	N	340	340	340	340

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

The researcher used correlation analysis to determine the relationship between each independent variable and the dependent variable growth. Pearson's correlation coefficient was used for this analysis as the data was continuous. (Kothari, 2004) states that the importance of correlation matrix is to determine the extent to which changes in the value of an attribute is associated with changes in another attribute and show a researcher the magnitude and direction of the relationship between two variables. According to (Kothari, 2004) the correlation coefficient can range from -1 to +1, with -1 indicating a perfect negative correlation, +1 indicating a perfect positive correlation, and 0 indicating no correlation at all. The correlation between discrimination of women entrepreneurs and the independent variables, lack of collateral, stringent policies of Micro-Finance Banks, inadequate funding of SMEs by Micro-Finance Banks, are ranked from the highest to the lowest as shown in the table 2.

The Pearson Correlation coefficient of collateral and stringent policies of Micro-Finance Banks and discrimination of women entrepreneurs was computed and established as .899,which indicate a strong positive relationship between the two variables and with a p-value= 0.000 < 0.05 as shown in table. It could then be concluded that there is a strong positive linear relationship between the two variables since the correlation coefficient is between 0.51 and 1.0 according to (Dancey & Reidy, 2007) categorization. The Pearson Correlation coefficient of poor technology skills on the output of Microfinance Banks and discrimination of women entrepreneurs was computed and established as .856 (p-value = 0.000) indicate moderate positive and significant relationship between the two variables, as shown in table 2. It could then be concluded that there is a strong positive linear relationship between the two variables. The Pearson Correlation coefficient of inadequate funding of SMEs by Micro-Finance Banks and discrimination of women entrepreneurs was computed and established as .944 which indicate a strong positive relationship between the two variables with a p-value=0.000 < 0.05 as shown in table 2. The Pearson Correlation coefficient of raw materials and entrepreneurship education offered to women entrepreneur education and discrimination of women entrepreneurs was computed and established as .949 which indicate a strong positive relationship between the two variables with a p-value=0.000 < 0.05 as shown in table 2. it could then be concluded that there is a positive linear relationship between the two variables since the correlation coefficient is between -0.50 to -1.0.

Test of Hypotheses 1

Table 3 : Model Summary for Lack of Collateral in accessing Bank Loans.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.899[a]	.808	.807	.50148

a. Predictors: (Constant), Lack of Collateral in Accessing Bank Loans (LOC).

The results of the linear regression in table 3 indicate that R = 0.899 and R^2 = 0.808. The R value 0.899, gives an indication that there is a strong linear relationship between collateral and stringent policies of Micro-Finance Banks and discrimination of women entrepreneurs. This means that collateral and stringent policies of Micro-Finance Banks have a strong influence on the discrimination of women entrepreneurs. The R2 indicates that explanatory power of the independent variables is 0.808. This means that about 81 % of the variation in discrimination of women entrepreneurs is explained by the model DWE = β0 + β1 (LOC) and 19% is unexplained by the model. It implies that 81 % of variation in discrimination of women entrepreneurs can be explained by a unit change in collateral and stringent policies of Micro-Finance Banks. While the remaining percentage of 19% is explained by other variables. The adjusted R2 of 0.807 which is slightly lower than the R2 value is a precise indicator of the relationship between the independent and the dependent variable because it is sensitive to the addition of irrelevant variables. The adjusted R2 in table 3 indicates that the model is highly sensitive to additional irrelevant variable(s) into the model with 0.001 differences from R2. The result is supported by the findings of Kabeer (2014) who found out that, legal regulations and customary rules of Micro-Finance Banks often restrict women's access to and control over assets that can be accepted as collateral, such as land or livestock.

Table 5: Regression Coefficients of Lack of Collateral in Accessing Bank Loans.

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.607	.064		25.092	.000
	LOC	.683	.018	.899	37.687	.000

a. Dependent Variable: DWE

Table 4 shows the results of ANOVA analysis which reveal that women's lack of collateral in accessing loans from Micro-Finance have significant effect on discrimination of women entrepreneurs using F-test. The linear model presented in table 4 has an F value = 1.420E3 which is significant with p-value = 0.000 < 0.05.This is depicted by linear regression model DWE = β0 + β1 (LOC) where DWE is discrimination of women entrepreneurs and LOC is Lack of Collateral, where p-value was 0.000 implying that the model was significant. The study therefore failed to accept null hypothesis (H_0) it means, there is no significant relationship between Lack of Collaterals in accessing Micro-Credit Scheme and development of Entrepreneurship among women. The result is consistent with the findings of Kabeer (2014) who found out that, legal regulations and customary rules of Micro-Finance Banks often restrict women's access to Micro-Finance Credit Scheme.

Table 5: Regression Coefficients of Lack of Collateral in Accessing Bank Loans.

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.607	.064		25.092	.000
	LOC	.683	.018	.899	37.687	.000

a. Dependent Variable: DWE

Analysis of the regression model coefficients is shown in table 5. It was conducted to test the significance of regression relationship between Women's Lack of Collateral in Accessing Loans from Micro-Finance Banks and discrimination of women entrepreneurs, the regression coefficients (β), the intercept (α), and the significance of all coefficients in the model were subjected to the t-test to test the null hypothesis that the coefficient is zero. The null hypothesis state that, β (beta) = 1, meaning there is a significant relationship between Women's Lack of Collateral in Accessing Loans from Micro-Finance Banks and discrimination of women entrepreneurs in Gwagwalada Area Council Abuja as the slope β (beta) = 1 (there is a relationship between the two variables). The results on the beta coefficient of the resulting model in table 5 shows that the constant α = 1.607 is significantly different from 0, since the p- value = 0.000 is less than 0.05. The coefficient β = 0.683 is also significantly different from 0 with a p value=0.000 which is less than 0.05. It implies that (H_0) null hypothesis failed to be accepted and the model is significantly fit. The t value for constant is 41.024, while the t value for Women's Lack of Collateral in Accessing Loans from Micro-Finance Banks is 37.687 given a model of DWE = 25.092 0.683 (LOC)+ ε,. This confirms that there is a significant positive linear relationship between Women's Lack of Collateral in Accessing Loans from Micro-Finance Banks and discrimination of women entrepreneurs. Flexibility or cancellation of Banks Collateral request will increases women entrepreneurial Development. The result can also be supported by Kabeer (2014) who found out that, legal regulations and customary rules of Micro-Finance Banks often restrict women's access to Micro-Finance Credit Scheme and also discovered that there is a strong positive relationship between Lack of collateral in Accessing Loans and Micro-Finance Banks.

The tested hypothesis above shows that there is positive significant relationship between the independent variable and the dependent variable.

Discussion of Findings

This study examined the Assessment of Micro-Finance Banks in enhancing entrepreneurship skills among women entrepreneurs in Gwagwalada Area Council of Abuja.

The data obtained from sampled respondents (women entrepreneurs in Gwagwalada Area Council) were subjected to a statistical model of descriptive statistic, Cronbach's Alpha reliability test and multiple regression analysis, analysis of variance (ANOVA) using a software option of statistical package for social science (SPSS). From the analysis result, it is evident that there is a positive significant relationship between Micro-Finance Banks and entrepreneurship development skills among women entrepreneurs in Gwagwalada Area Council. This is in line with work of Gogwe (2019) who examined the effect of microfinance services on women economic empowerment in jos south local government and found that micro credit had positive effect on women economic empowerment. This mean that sampled women entrepreneurs are satisfied with the credit facilities and efficiency of Micro-Finance Bank services because it has enhanced their entrepreneurship development skills.

The Non-Governmental Organization theory and Grameen theory of microfinance as used in this study confirmed that entrepreneurship development and skills among women can only be successful through providing micro-credit scheme to committed women entrepreneurs so that entrepreneurial skills can be enhanced.

Conclusion and Recommendations

Conclusion

The study concluded that Micro-Finance Banks have positively enhanced entrepreneurship skills amongst women. Used of Microfinance as a tool for economic empowerment and poverty reduction has been accentuated to bridge the ever widening gender disparity along the lines of socio-political indicators such as wages, income, health, skills, education, and poverty in Nigeria. Women's lack of access to ownership and control of resources has been the bane of the social, political and economic empowerment.

Recommendations

Government should endeavour to promote economic policies that are devoid of gender discrimination against women. This would at least promote a gender bias-free economic atmosphere that would ensure the competitiveness of women in terms of access to credit facilities for business.

Microfinance Institutions operations should be reformed to be more inclusive, more accessible, and less rigorous with adequate supervisions and tracking.

The Management of Microfinance Banks should help educate women entrepreneurs in financial management and business practices as this will enhance their innovative skills for durable business growth and better performance.

Lastly, the government instead of utilizing a welfareist approach of poverty reduction should adopt a wealth redistribution approach to the marginality disadvantaged groups especially women as this will increase their access to resources, economic empowerment including social and political freedoms.

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Effectiveness of Advertising Design on Customers' Product Acceptance Towards Sustainable Development in Nigeria

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Abstract: *This study focused on advertising design and customers' product acceptance: A panacea for sustainable development in the new normal. The specific objectives were to examine the effect of artwork, copy and company signature as metrics of advertising design on customers' product acceptance towards sustainable development in the new normal. This study utilized survey research design. Information was gathered from primary source. The population of the study comprised of Department of marketing student in three higher institutions includes Federal Polytechnic, Ado-Ekiti, Ekiti State, Federal Polytechnic, Idah, Kogi State and Kwara State Polytechnic, Ilorin, Kwara State, all are in Nigeria. Convenience sampling technique was used to select 320 respondents from the selected institutions. Simple linear regression statistical tool was used to test the hypothesis through statistical package for social sciences (SPSS) version 20. The findings showed that artwork, copy and company signature as metrics of advertising design has significant effect on customers' product acceptance towards sustainable development in the new normal. The study attracts recommendations as follows: management of the institution should adhere to the images portray in the artwork in order to receive more students to the institutions, management of the institution should design a copy that can entice more potential students to accept the institution and advertising design utilize by the institution should be appealing to command institution acceptance by the populace.*

Keywords: Advertising design, Customer, Products acceptance, Sustainable Development

Introduction

In a business environment creation of awareness for goods and services is very paramount. Business must not operate in a vacuum in order to motivate product acceptance by potential and existing customers. In this study, customers are students and products are the offering of tertiary institutions. Every business organization such as tertiary institution needs to formulate and develop well design advertising which enhances customers' product acceptance among the competitive institutions in the business environment. Advertising play a pertinent role in creating awareness of company's product. Advertising is used for communicating business information to the present and prospective customers. It usually provides information about the advertising firm, its product qualities, place of availability of its products, etc. American Marketing Association defined advertising as any paid form of non-personal presentation and promotion of ideas, goods and services by an identified sponsor (as cited in Kotler & Armstrong 2010). The cost of Advertisement is high which allows a company to present its product clearly and effectively through text, sound and color. On one hand, advertising assist to incorporate a long-term sustainable image of the product. Also, it enhances sales (Kotler & Armstrong, 2010).

Product acceptance is the verification that a given purchased or manufactured item to meets customers' specifications and it is applicable for its intended purpose. The advertising strategies of a company always rely on the level of consumer acceptance. If a product is accepted by consumers, it may not attract a lot of marketing and may attract a higher price. A product which waste much time to be accepted by consumers will demand more promotion such as well design advertising programme to convince people of its merits (Lochead, *2017).*

Many business firms fail to acknowledge the influence of artwork, advertising copy and signature as metrics of advertising design as machinery in promoting their product in a competitive business environment. Advertising design is the intersection of marketing and graphic design. It refers to the visual artwork which is meant for advertisements that is usually utilized synonymously with graphic design advertising, for the main objective to sell products and services (Levinton, 2020). The finding of this study will sensitize some of the beneficiaries' business firms to focus on well design advertising.
Consumer acceptance of necessary products is much higher and easier to obtain than acceptance of luxury items. People are more selective with unnecessary purchases, therefore acceptance can be more difficult to obtain. With assistance of advertising design, customer may be willing to accept company's product with aid of findings from this study.

The broad objective of the study is to examine the effect of advertising design on customers' product acceptance towards sustainable development in the new normal

Specific objectives of the study are:

1) To examine the effect of artwork as metrics of advertising design on customers' product acceptance towards sustainable development in the new normal
2) To examine the effect of copy and as metrics of advertising design on customers' product acceptance towards sustainable development in the new normal
3) To examine the effect of company signature as metrics of advertising design on customers' product acceptance towards sustainable development in the new normal

Conceptual Framework

Nature of Advertising Design

Advertising design can be describe as creating and producing artwork, visual content, and written materials organized to broadcast a certain product, service, or motto. They are also called advertisements, and it includes perceptive and intelligent concepts of graphic designing and visual data organization to focus a particular idea or a manufactured article. It uses various techniques and practices to bring forth philosophies, also newly invented products to the attention of the public eye for the sole purpose of persuading people to respond in a constructive way towards that targeted product. It utilized illustrations, colors, animations, videos, advertising departments and companies are solely responsible for this task (Freelancer, 2018). Advertising design includes the creation of visuals mainly for a specific brand to promote its products and services. The purpose of hiring graphic designer is to create advertising design with varying rate and value (, 2021).

Advertising design and graphic design have many similarities but tend to overlap in certain areas. Graphic designers are professional creative; they utilize their skills to represent brands. Advertising design can be considered bedrock of marketing and design. Graphic designers are the architect which develope the overall layout and production design of various documents such as magazines, newspapers, journals, corporate reports, and other publications, and work within advertising in many ways. Some of the main task of graphic designers in advertising includes producing promotional displays, packaging and marketing brochures for products and services, designing logos for products and businesses, and developing signs and signage systems for business and government.

Strategy of Creative Design

The main idea and a well-defined strategy are the integral parts of a creative design. Essential components strategies of creative design are:

Simplicity – Try your best to keep the layout simple. Put large pictures on top, headline beneath that, content body in the middle, while logo and address on the right side at the bottom.

Balance - To solely focus on some points, you need to create a symmetry in design. The focus of creative designing is to organize all elements including images, blocks, headlines, content body, and illustration so that they seem balanced.

Proportion - The determinant of size and color of all graphic elements depend ontheir significance and surroundings of the illustration. For example, important idea, image, or design must be larger, brighter, and bolder so that it appears distinct from other elements (as shown in the image given below).

Unity - First examine the focal point of the advertisement where you want people to focus. After this, it as a central point by dimming the surrounding, also background design and color. One point to always keep in mind is that all elements of your design must involve the unity of visual language and presentation.

Contrast - Contrast must be creates in order to attract people's attention. For example, among a bunch of mango, an apple grabs attention.

Consistency - Consistency must be maintain. Page to page consistency is indispensable for an eye-catching advertising. It helps people understand the meaning of different elements of advertising.

Photo Design - Holistically, photo attracts people first. Selection of a good photograph and placing it smartly in an ad is another smart way to grab people's attention

https://www.tutorialspoint.com/advertisement_and_marketing_communications/advertisement_design.htm

Advertising Artwork

Advertising artwork can be defined as the graphic design used to advertise and promote a specific product. Advertising art can be in the form of photography, digital development, illustrations, and more.

The major goal of advertising art is to inform, persuade consumers and also convey a message. Advertising art is a form of visual rhetoric. **Visual rhetoric** involve framework by which visual images are used to communicate a message, idea, or point of view (***Perry, 2019).***

Advertising art could be described to as the visual design used to promote and advertise which could in the form of pictures, digital development, drawings, and others. The primary aim of advertising art is to communicate a message and influence the buying behavior of consumers. Advertising art could also be visual rhetoric that can represent structure of images mainly used to send a message, an idea, or a thought (Collins, 2020).

Advertising Copy

Advertising copy is the key of an advertisement. An advertisement copy is all the written or spoken matter in an advertisement expressed in words or sentences and figures designed to convey the desired message to the target consumers **(**Sharma, 2018). An 'advertising copy' is the medium by which an advertiser expresses major ideas in the form of a message to the readers. If refers to all the importance matters of an advertisement, which may be short or long, also includes the headline, sub-headlines, text or body, and the name or the initial of an advertiser. An advertising copy is sometimes referred to as 'advertising message' (Shital, 2018). Advertising copy includes all the words in the body of the advertisement except the headline, tag line or company address

Types of Advertising Copies

Advertising copies are **classifying into five types as follows (**Sharma, 2018):

1. Institutional Copy:

Institutional Copy neither sells nor the products neither the service but the name of the business house. The aim is to build the sound edifice of reputation for the selling house. It seeks to build goodwill through its philosophy, objectives, and policies towards public so that the prospects remember it.

2. Reason Why Copy:

Reason Why Copy offers reasons as to why the customer is expected to buy a product or service of the advertiser. It appeals straight to the intellect or the judgment of an individual than emotion or impulses. It attempts to prove the product superiority by means of evidences in the forms of performance test, records, testimonials, guarantees and the like.

3. Human Interest Copy:

Human Interest Copy appeals to the emotional and the senses than intellect and the judgment, sympathy, affection, love, fear, humour, curiosity and other emotional appeals are used to the sense of sight, touch, taste, smell and hearing.

It tells about the product in relation to the people instead of conforming to the facts about the products. It takes several forms of which four are very significant namely, 'fear', 'humorous', 'story' and 'predicament' copy.

4. Suggestive Copy:

Suggestive Copy tries to suggest or pinpoint or convey the message of the advertiser directly or indirectly to the readers. Much is left to the reader to infer the ad message. Like a poem, suggestive language is freely used where the hidden meaning is to be picked by the readers. Such copy can be 'direct' or 'indirect' suggestive copy. The first tells directly about the products or services of the company while the latter does indirectly.

5. Expository Copy:

Expository Copy is open copy that exposes unlike suggestive copy. It is so open that the facts are given in very simple and clear way so that there is no need for interpretation. The information given is so clear and concise that hardly it taxes the reader's brain. It makes possible effortless grasp and act.

Elements of advertising copy

Elements of advertising copy is as follows (Mellinge 2020)

1) An introductory sentence that plays off the headline
2) One or two supporting sentences
3) Advertising that makes the reader want to take action and learn more

Advertising Signature

Company signature with the corporate logo that reflects the identity of the company is the right approach to increase the positive perception of the company in the eyes of customers and prospects, while providing instant brand recognition of the organization. That's why a corporate email signature is fundamental for every company. Indeed, an email signature is

like handing a person a business card every time you send an email (Silverside, 2018). *Company signature is a part of a brand image that is more than just your name and position held. It provides a recipient with information about your company and helps recognize it* **(Brudner.2019).**

Company signature is as important as any other part of your corporate identity. Using a badly designed, not consistent company signature has a huge negative impact on a client or a prospect since it results in poor professionalism.

Product Acceptance

Product acceptance is the verification that a given purchased or manufactured item meets specifications and is usable for its intended purpose. Product acceptance is the verification or acceptance that a manufactured item meets required specifications or standards and is usable for its purpose (*Collins English Dictionary, 2018).* Understanding the adoption process leading to acceptance and use of a new product or service is fundamental to assessing its potential, not only as the brand gets introduced but also in the long term. The distinction between the short term and the long term is especially critical for radical innovations that create a completely new product category, as it takes time before these innovations get accepted by the majority of the market. It also has many implications for the dynamic marketing mix strategies, whether pricing or communication strategies (Lochead, *2017).*

Features of Product Acceptance Criteria

1) It should be capable of being proven right or wrong: The criteria should have the capacity to define the result yes or no.
2) It should be short and clear: No need to write complete documentation. Criteria must as simple and clear as possible.
3) It should be easily understandable: Set clear criteria so that your developers can understand it without much effort.
4) It should serve user viewpoint: Write the criteria in the situation of real user experience.

Importance of product acceptance criteria

1) It allows you to define the boundaries of a user story.
2) Because of acceptance criteria, employees of production company or development team of software Company come to know what exactly they have to do to reach the customer requirements.
3) It helps you to plan and estimate the project accurately.
4) It acts as the basis for tests. https://www.erp-information.com/product-acceptance.html

Methodology

This study utilized survey research design. Information was gathered from primary source. The population of the study is 1840 which comprised of Department of Marketing students in three higher institutions includes Federal Polytechnic, Ado-Ekiti, Ekiti State, Federal Polytechnic, Idah, Kogi State and Kwara State Polytechnic, Ilorin ,Kwara State, all are in Nigeria. Convenience sampling technique was used to select 320 respondents from the selected institutions. Content validity was used to determine the validity of the instrument by giving to research experts who modified and made the necessary correction so that the instrument can measure adequately. The value of the test of reliability is 0.87 which was conducted using **test-retest reliability method** which indicated that there is internal consistency of the instrument. Simple linear regression statistical tool was used to test the hypothesis through Statistical Package for Social Sciences (SPSS) version 20.

Analyses and results

Three hundred and twenty (320) questionnaires were administered; all were retrieved and used for the study.
Findings show the distribution of respondents on the bases of sex, age and qualification. The analyses of distribution of sex shows that 286 were male representing 89.4% and 34 were female representing 10.6%. The analyses of distribution of age of respondents shows that, out of 320 respondents, 56 falls between 25 – 34 years, 224 falls between 35- 44 and 40 falls from 45 and above. Analyses of distribution of educational qualifications of respondents show that 320 were holder ND,

Hypothesis One

H_i: Artwork as metrics of advertising design has significant effect on customers' product acceptance towards sustainable development in the new normal

H_0: Artwork as metrics of advertising design has no significant effect on customers' product acceptance towards sustainable development in the new normal

Table 1
Regression Model Summary for H1

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
H1	.738[a]	.545	.543	.20858

a. Predictors: (Constant), Artwork (Advertising design)
b. Dependent Variable: Customers' product acceptance towards sustainable development in the new normal
Source: SPSS Version 20

Table 2
ANOVA for H1

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	16.553	1	16.553	380.475	.000[b]
H1	**Residual**	13.835	318	.044		
	Total	30.388	319			

a. Dependent Variable:: Customers' product acceptance towards sustainable development in the new normal.
b. Predictors: (Constant): Artwork (Advertising design)

Source: SPSS Version 20

Decision Rule

According to Table 2, the overall result for the regression model was significant ($p = 0.000 < 0.05$), thus results indicate support for the first hypothesis. We reject null hypothesis and accept the alternative hypothesis which state that artwork as metrics of advertising design has significant effect on customers' product acceptance towards sustainable development in the new normal. The result considered that artwork can be used to predict customers' product acceptance towards sustainable development in the new normal; it means that if artwork is increasing customers' product acceptance towards sustainable development in the new normal may also improve. Depending on the R Square value of (0.545), artwork could explain 7.4% variation in customers' product acceptance towards sustainable development in the new normal. The analysis of variance (ANOVA) calculated F test was 380.475 and an associated significance p value of 0.000 (*p value* < 0.05) was significant. The implication was that the simple linear regression was good fit for the data.

Hypothesis Two

H_I: Advertising copy as metrics of advertising design has significant effect on customers' product acceptance towards sustainable development in the new normal

H_O: Advertising copy as metrics of advertising design has no significant effect on customers' product acceptance towards sustainable development in the new normal

Table 3
Regression Model Summary for H2

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
H2	.733[a]	.537	.536	39.03872

a. Predictors: (Constant), Advertising copy (Advertising design)

b. Dependent Variable: Customers' product acceptance towards sustainable development in the new normal

Source: SPSS Version 20

Table 4
ANOVA for H2

Model		Sum of Squares	Df	Mean Square	F	Sig.
H2	**Regression**	562084.601	1	562084.601	368.817	.000[b]
	Residual	484638.887	318	1524.022		
	Total	1046723.487	319			

a. Dependent Variable:: Customers' product acceptance towards sustainable development in the new normal

b. Predictors: (Constant): Advertising copy (Advertising design)

Source: SPSS Version 20

Decision Rule

According to Table 4, the overall result for the regression model was significant (p = 0. .000 < 0.05), thus results indicate support for the second hypothesis. We reject null hypothesis and accept the alternative hypothesis which state that advertising copy as metrics of advertising design has significant effect on customers' product acceptance towards sustainable development in the new normal. The result considered that advertising copy can be used to predict customers' product acceptance towards sustainable development in the new normal; it means that if advertising copy is increasing customers' product acceptance towards sustainable development in the new normal may also improve. Depending on the R Square value of (0.537), advertising copy could explain 7.3% variation in customers' product acceptance towards sustainable development in the new normal. The analysis of variance (ANOVA) calculated F test was 368.817 and an associated significance p value of 0.000 (*p value* < 0.05) was significant. The implication was that the simple linear regression was good fit for the data.

Hypothesis Three

H_I: Company signature as metrics of advertising design has significant effect on customers' product acceptance towards sustainable development in the new normal

H_O: Company signature as metrics of advertising design has no significant effect on customers' product acceptance towards sustainable development in the new normal

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
H3	.699[a]	.488	.486	42.71752

a. Predictors: (Constant), Company signature (Advertising design)

b. Dependent Variable: Customers' product acceptance towards sustainable development in the new normal .

Source: SPSS Version 20

Table 4
ANOVA for H3

Model		Sum of Squares	Df	Mean Square	F	Sig.
H3	**Regression**	558438.294	1	558438.294	306.029	.000[b]
	Residual	585756.443	321	1824.786		
	Total	1144194.737	322			

a. Dependent Variable: Customers' product acceptance towards sustainable development in the new normal.

b. Predictors: (Constant): Company signature (Advertising design)

Source: SPSS Version 20

Decision Rule

According to Table 4, the overall result for the regression model was significant (p = 0. .000 < 0.05), thus results indicate support for the second hypothesis. We reject null hypothesis and accept the alternative hypothesis which state that advertising copy as metrics of advertising design has significant effect on customers' product acceptance towards sustainable development in the new normal. The result considered that advertising copy can be used to predict customers' product acceptance towards sustainable development in the new normal; it means that if advertising copy is increasing customers' product acceptance towards sustainable development in the new normal may also improve. Depending on the R Square value of (0.537), advertising copy could explain 7.3% variation in customers' product acceptance towards sustainable development in the new normal. The analysis of variance (ANOVA) calculated F test was 368.817 and an associated significance p value of 0.000 (*p value* < 0.05) was significant. The implication was that the simple linear regression was good fit for the data.

Hypothesis Three

H_i: Company signature as metrics of advertising design has significant effect on customers' product acceptance towards sustainable development in the new normal

H_o: Company signature as metrics of advertising design has no significant effect on customers' product acceptance towards sustainable development in the new normal

Table 5
Regression Model Summary for H3

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
H3	.699[a]	.488	.486	42.71752

a. Predictors: (Constant), Company signature (Advertising design)

b. Dependent Variable: Customers' product acceptance towards sustainable development in the new normal.

Source: SPSS Version 20

Table 4
ANOVA for H3

Model		Sum of Squares	Df	Mean Square	F	Sig.
H3	**Regression**	558438.294	1	558438.294	306.029	.000[b]
	Residual	585756.443	321	1824.786		
	Total	1144194.737	322			

a. Dependent Variable: Customers' product acceptance towards sustainable development in the new normal.

b. Predictors: (Constant): Company signature (Advertising design)

Source: SPSS Version 20

Decision Rule

According to Table 6, the overall result for the regression model was significant (p = 0. .000 < 0.05), thus results indicate support for the second hypothesis. We reject null hypothesis and accept the alternative hypothesis which state that company signature as metrics of advertising design has significant effect on customers' product acceptance towards sustainable development in the new normal. The result considered that company signature can be used to customers' product acceptance towards sustainable development in the new normal; it means that if company signature is increasing customers' product acceptance towards sustainable development in the new normal. Depending on the R Square value of (0.488), company signature could explain 7.0% variation in customers' product acceptance towards sustainable development in the new normal. The analysis of variance (ANOVA) calculated F test was 306.029 and an associated significance p value of 0.000 (*p value* < 0.05) was significant. The implication was that the simple linear regression was

good fit for the data.

Discussion of findings

The research hypothesis test one revealed that artwork as metrics of advertising design has significant effect on customers' product acceptance towards sustainable development in the new normal**.** This findings was as a result of the analysis of variance (ANOVA) calculated F test was 380.475 and an associated significance p value of 0.000 (*p value* < 0.05) was significant. *Perry (2019) affirmed that* the ultimate goal of advertising art is to persuade consumers and/or convey a message. Advertising art is a form of visual rhetoric. Visual rhetoric refers to the framework by which visual images are used to communicate a message, idea, or point of view.

The research hypothesis test two revealed that advertising copy as metrics of advertising design has significant effect on customers' product acceptance towards sustainable development in the new normal. This findings was in respect of the analysis of variance (ANOVA) calculated F test was 368.817 and an associated significance p value of 0.000 (*p value* < 0.05) was significant. Sharma (2018) affirmed that advertisement copy is all the written or spoken matter in an advertisement expressed in words or sentences and figures designed to convey the desired message to the target consumers.

The research hypothesis test three revealed that company signature as metrics of advertising design has significant effect on customers' product acceptance towards sustainable development in the new normal. This findings was as a result of the analysis of variance (ANOVA) calculated F test was 306.029 and an associated significance p value of 0.000 (*p value* < 0.05) was significant. *Company signature is a part of a brand image that is more than just your name and position held. It provides a recipient with information about your company and helps recognize it* (Brudner.2019)**.**

Conclusion

From the findings, it was revealed that artwork, copy and company signature as metrics of advertising design has significant effect on customers' product acceptance towards sustainable development in the new normal. Advertising design involves the creation of visuals solely for a particular brand to promote its products and services. It refers to the visual artwork created specifically for advertisements which is usually used synonymously with graphic design advertising, for sole purpose to sell products and services.

Recommendations

1) Management of tertiary institution should adhere to the images portray in the artwork in order to receive more students to the institutions,

2) management of tertiary institution should design a copy that can entice more potential students to accept the institution

3) Advertising design utilize by the institution should be appealing to command institution acceptance by the populace.

4) Advertising signature of tertiary institution should stand out among other competing institutions to enhance acceptance by the society.

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Brand Image and Shoppers' Patronage of Fast-Food Eateries in Abuja Metropolis

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Abstract: *The study investigated the extent of the relationship between brand image and shoppers' patronage of fast-food eateries in Abuja metropolis. Specifically, it examines the relationship between brand awareness and shoppers' patronage as well as between brand identity and shoppers' patronage. Survey design was adopted. Applying Taro Yamane's formula, the survey involved 304 (fast-food eateries) and 400 customers. A five-point Likert scale questionnaire was used to collect data from respondents. Data from the questionnaire was collected and tested to determine the reliability of the instrument using the Cronbach Alpha Method provided by the Statistical Package for Social Sciences (SPSS 20.0). The data for this study was analyzed using descriptive statistics and multiple regression analysis with the help of Eviews 10 software for Windows. The study revealed that there is a positive and significant relationship between brand awareness and shoppers' patronage of fast-food eateries in Abuja metropolis. It equally revealed a significant and positive relationship between brand identity and shoppers' patronage of fast-food eateries in Abuja metropolis. The study concludes that brand image constructs (brand awareness and brand identity) positively and significantly influence shoppers' patronage (customer loyalty) of fast-food eateries in Abuja metropolis. The study recommended that fast food restaurants should invest in advertising and choose the appropriate channels to promote their brands in order to increase brand awareness. That fast food restaurant should shift their focus from simply providing incentives to building brand identity in order to increase customer loyalty.*

Keywords: *Brand Image, Shoppers' Patronage, Eateries, Abuja Metropolis*

Introduction

The number of street food and eatery companies has surged in Nigeria as the country's population has grown exponentially. Nigeria is expected to rank 4th (fourth) in the world population by 2050, surpassing Japan, Brazil, and Pakistan (Shoyemi, 2014). As a result, the food business will benefit from the rising population. Furthermore, according to Shoyemi (2014), the expansion of restaurants and fast food in Nigeria is influenced by increasing urbanization and changing work situations. The restaurant and eatery industry has space to expand as the demand for meals outside of the home grows (Olise, Okoli & Ekeke, 2015). On this note, the growth of fast-food enterprises as a result of increased demand and competition has changed the narrative of the fast-food sector in Nigeria.

However, because the number of restaurants rose, the largest chains grew more dominant in 2019 (Jonathan, 2020). The top 20 chains accounted for three-quarters of the total sales growth generated by the entire Technomic Top 500. What is more, the 20 largest chains recorded sales growth last year of 5.7%. The rest of the Top 500 2.4%. Thirty-seven (37) restaurant chains in 2020, or about 7% of the Top 500 chains, reported sales declines of 10% or more. In addition, 183 of the 500 chains in the ranking saw sales decline (Jonathan, 2020)

Furthermore, according to QSR Web, a 2008 Zagat Survey indicated that 38% of New York respondents are eating out less as a result of the economic slump (October, 2008). Customers also prefer restaurants that provide value, convenience, and a healthier option. As a result of a rise in the number of restaurants, the economic slump, and high customer demand, the food sector has grown more competitive than previously.

Customers have benefited from increasing competition since it has reduced options, provided value for money, and improved service levels (Kandampully & Suhartanto, 2000). In a competitive and developing market climate with a plethora of new brands, restaurant chains, on the other hand, have had to redefine and strengthen their brand image in order for customers to recognize the restaurant from its competitors. As a result, the necessity of a brand's or company's strong competitiveness, as well as the need for effective marketing strategies, has increased. In this environment, a well-defined

restaurant brand image is essential for success and survival in a rapidly evolving global market.

A well-established brand image provides organizations with competitive advantage due to its enormous impact on marketing and financial success. Restaurant management, like many other businesses, has placed a major emphasis on developing a strong brand image. In a congested field, having a well-known brand name can help restaurant businesses not only build their brand, but also differentiate themselves. As a result, the brand image and what it represents to customers may be the most valuable asset for restaurant businesses. Developing a strong brand with a lengthy history offers various benefits and profit opportunities for food-service enterprises.

The importance of customer patronage cannot be overstated. It consists of both monetary and nonmonetary components. Several studies have been carried out to see what elements influence or impact client patronage levels. They include the firm's capability, product or service qualities, the economy, political forces, social and psychological factors, situational, competition, and marketing mix programs, among others (Schiffman & Kanuk 2009 as cited in Ogwo & Igwe, 2012; Kotler & Keller 2006). As experience has proven, patronage is difficult to identify and quantify. Attitudes and actual usage patronages have been used as customer patronage metrics (Ogwo & Igwe 2012). For patronage to be defined, Dick and Basu (1994) pointed out that a positive attitude and repeat purchases were required. An intention to use a service provider is defined as a desire to keep a relationship with that service provider (Czepiel & Culmore, 1987 as cited in Ogwo & Igwe, 2012). Predicting consumer patronage in connection to brand image becomes critical in designing marketing strategies for formal fast-food outlets in order to deliver higher value to their customers and, as a result, increase patronage.

Several studies on brand image have been carried out (Hsie, Pan & Setiona, 2004; Koo, 2003; Saleem & Raja, 2014 and Sang Hee Park, 2010). In addition, several studies in the field of client patronage have been undertaken (Ogwo & Igwe, 2012, Kotler & Keller, 2006; Schiffman & Kanuk, 2009). All of these studies look at brand image through the lens of tangible things, ignoring intangible components of the product like restaurant services. As a result, study into the relationship between brand image and customer loyalty in the restaurant business is required. Furthermore, to the best of the researcher's knowledge, there is still a scarcity of literature on brand image and shopper patronage in the fast-food industry, particularly in the restaurant sector, in developing countries like Nigeria.

Other brand image and consumer patronage surveys were also done in other locations across the world (Aaker, 1996, Ries & Trout, 1986; Keller, 1993, 2001; Kapferer, 1997 and Briggs, 1997). Because these studies are unfamiliar with the business and marketing environments of Sub-Saharan Africa, of which Nigeria is a component, a study familiar with the Nigerian marketing environment is necessary. In order to address current gaps in the brand image and consumer patronage literature, this study examines the influence of brand image on customers' patronage of fast-food establishments in Abuja metropolis.

Objectives of the Study

The general objective of this study is to examine the influence of brand image on shoppers' patronage of fast-food eateries in the Abuja metropolis. Specifically, this study seeks:

i. To evaluate the relationship between brand awareness and shoppers' patronage of fast-food eateries in Abuja metropolis

ii. To investigate the relationship between brand identity and shoppers' patronage of fast-food eateries in Abuja metropolis

Research Questions

i. To what extent does brand awareness stimulate shoppers' patronage of fast-food eateries in Abuja metropolis?

ii. To what extent does brand identity affect shoppers' patronage of fast-food eateries in Abuja metropolis?

Research Hypotheses

H_1: There is no significant relationship between brand awareness and shoppers' patronage of fast-food eateries in Abuja metropolis

H_2: There is no significant relationship between brand identity and shoppers' patronage of fast-food eateries in Abuja metropolis

Literature Review

Brand Image

One of the company's most valuable assets is its brand. A brand is a name, word, sign, symbol, or design, or a combination of these, that is used to distinguish one seller's or group of sellers' goods or services from those of competitors (Kotler & Keller, 2013). Simply said, brand image is what comes to mind when a brand is presented to a customer. As a result, these connections form in the minds of consumers as a result of their direct experiences with services; after such experiences, they draw conclusions by contrasting their previous experiences with the company with the established associations

(Martinez & Pina, 2003).

There are numerous scientific evidences that show a beneficial relationship between consumer loyalty and brand image (Selnes, 1993; Zins, 2001). Other studies have found a favorable association between brand image and service quality (Brodie et al., 2009) and customer satisfaction (Brodie et al., 2009). This research revealed that a pleasing image leads to client preferences and contentment, whilst an unappealing picture can lead to customer discontent (Mazanec, 1995).

Dimensions of Brand Image

Brand Awareness

There are two parts to brand awareness: recognition and memory (Keller, 1993). As a result, the operational definition of brand awareness is customers' ability to recall or recognize that a brand belongs to a specific product category under various scenarios. Brand awareness, according to Mishra and Mishra (2014), refers to the strength of a brand's presence in a customer's mind. Customers' perceptions toward brand loyalty are influenced by brand awareness. Furthermore, the range of buying reasons for which the brand name may come to mind is expressed by the breadth of brand awareness (Keller, 1998). In most cases, brand awareness refers to a customer's capacity to recall a brand without being reminded of it (Aaker, 1996). As a result, brand awareness is a critical component in the development of a brand's image (Aaker, 1991).

Brand awareness is required for the development of a strong brand (Buil et al., 2013). Brand awareness sets the brand apart from the competition and leads to brand selection (Valavi, 2014). Brand awareness, according to Balaji (2011), influences the strength of brand relationships in the minds of customers. According to Aaker (1991), brand awareness gives a buyer a good cause to include a brand in his consideration set. Customer behavior studies have looked into brand awareness (Hsu et al., 2011; Huang & Cai, 2015; Bianchi & Pike, 2010). Most customer behavior models say that brand awareness is the first and most important step in selecting a brand. Specifically, brand awareness is seen as a critical component of brand equity (Azad et al., 2013). Brand awareness is a successful competitive aspect that increases brand competition (Jakeli & Tchumburidze, 2012). Brand awareness is marketing describes the degree of consumer recognition of a product by its name. Creating brand awareness is a key footstep in promoting a new product or revitalizing an older brand. Ideally, awareness of the brand includes the qualities that distinguish the product from its competition in the market.

Brand Identity

This is undoubtedly one of the most important aspects of a brand's image. Brand identity is a collection of visual, aural, and other sensory elements that establish recognition, convey the brand promise, differentiate the brand, create communications synergy, and are unique (Kapferer, 1998; Aaker et al., 2004; Ajagbe et al., 2015b). Researchers have been unable to agree on a definition for the idea of brand identity; nonetheless, they all agree that brand identity development is a theoretical philosophy best understood from the perspective of supply size (de Chernatony & McDonald, 1997; Aaker & Joachimsthaler, 2000).

The importance of the supply-side perspective of the brand concept is highlighted by Kapferer's (1998) short and obvious description of brand identity. This means that "we must first know who we are before we can know how we are regarded." Brand identity is a multi-faceted concept that clearly defines what the company strives to be. To begin, the brand strategist aims to establish and sustain a set of associations. Second, it depicts how a brand should be seen by its target demographic (Aaker & Joachimsthaler, 2000; De Chernatony & McDonald, 2001). Third, once projected, the brand identity should aid in the formation of a relationship between a company and its customers by establishing a value proposition that may include benefits or provide credibility for the company in question. Kapferer (1998) found that the hexagonal model known as the brand identity prism reflects the numerous responsibilities of the brand identity notion. Body, personality, culture, relationship, reflection or image, and self-image are the six central components. As a result of the foregoing, brand identity can be defined as the physical or tangible identities associated with a brand or product that allow consumers to easily recognize and distinguish it from other brands or products, such as logos, colors, sounds, smells, packaging, location, corporate identities, slogans, and others.

Shopper Patronage Behavior

Customer loyalty has been related to various aspects in today's business sector, including physical setting, firm location, corporate identity, and advanced predisposition behavior (Adiele & Opara, 2015; Chukwu & Uzoma, 2014; Nwulu & Asiegbu, 2015; Ogwo & Igwe, 2012). Patronage behavior can thus be quantified by a variety of characteristics such as patronage intention, shopping pleasure, satisfaction, time spent, number of products purchased, repeat purchase, money spent, share of wallet, patronage action, and repeat purchase or re-patronage (Nwulu & Asiegbu, 2015; Paswan et al., 2010).

In today's extremely competitive business world, companies that want to maintain their customer base must prioritize customer pleasure. Customer patronage refers to the extent to which purchasing units devote their purchases over time to a specific product or brand based on positive reinforcement and expressed by repeat purchases (Nyakweba, Wesonga, & Bosire, 2015). Customer patronage also refers to the processes that customers go through when choosing a product or

brand from a variety of options, as well as the criteria and features that are considered. Behavioral scientists contend that customer patronage develops through mental processes. Cognitive psychologists contend that customer patronage develops through mental processes, based on the belief that consumers engage in extensive problem-solving behavior involving services (Nyakweba et al., 2015). In the fast-food industry, customer loyalty is critical to the long-term viability of the business. As a result, marketers try to figure out what their customers want in order to adjust or provide value that would entice them to buy (Njite, Njoroge, Parsa, Parsa & Van derRest, 2015).

Customer patronage is linked to physical setting, business location, corporate identity, and advancement inclination behavior (Adiele & Opara, 2015; Nwulu & Asiegbu, 2015; Chukwu & Uzoma, 2014; Ogwo & Igwe, 2012); and measured as patronage intention, actual patronage, and repeat patronage (Nwulu & Asiegbu, 2015); shopping enjoyment, satisfaction, time spent, number of items bought and money spent (Paswan et al., 2010).

Shoppers' patronage for this study is measured in terms of customer loyalty. Customer loyalty, according to Alizera and Aram (2011), is a mixture of several attributes. Customer pleasure drives it, but it also requires a commitment on the part of the customer to invest in a long-term connection with a brand or firm. A combination of attitudes (intention to buy again and/or buy additional items or services from the same firm) reflects customer loyalty (Kumar, 2002; Malik et al., 2012 & Dobers, 2009). Customer loyalty is one of the most important characteristics that brands must possess in order to succeed in the marketplace. Customers that are loyal to a brand become ambassadors by spreading positive stories about it (Lee, 2013; Choi, 2013; AMA, 2011). It is a universal reality that when customers are satisfied, they will go to great lengths to promote the brand's positive image (Gronhold et al., 2000). Relevance and purpose are at the heart of client loyalty at every interaction point. It's all about creating a more personal relationship with customers through the brand experience (Minarti & Segoro, 2014). Brand loyalty refers to when a customer buys the same manufacturer-created product or service over and over again rather than shopping from a variety of vendors within a category (Kuusik, 2007; Phan & Lau, 2001).

Theoretical Framework

the study Adopted the Keller Model of Customer-Based Brand Equity Theory which was propounded in 1993. Consumer-based brand equity, according to Keller's approach, is made up of two parts: customer perceptions (brand knowledge) and behaviors (brand responses). Keller in 1993 see consumer-based brand equity as when a customer is familiar with a brand and recalls some positive, strong, and distinct brand connotations. Long-term revenues, customers' desire to seek out new channels of distribution for themselves, enterprises' ability to charge higher prices, and the effectiveness of marketing messages are all advantages of positive customer-based brand equity (Keller, 2003).

Customers' positive responses to the brand's pricing, distribution, advertising, and promotion activities help to build customer-based brand equity. Customer-based brand equity is a consumer-oriented model that does not take financial information into account, according to this thinking. A key component of the proposed approach in this study is the customer-based brand equity conceptualization. From a marketing standpoint, brand equity is a consumer-oriented approach that recognizes the worth of a brand to both consumers and businesses. Consumers benefit from brand equity because it increases their confidence and contentment, while businesses benefit from it because it generates money and allows them to capitalize on their brands to expand their business. Any restaurant's brand image is determined by brand awareness, familiarity, and perceived quality. This research adopted the concept of brand awareness and brand identity. This model was adopted for this study because it is well-suited to brand image studies in the fast-food industry.

Researchers used the "Theory of Reasoned Action" (TRA), created by Fishbein and Ajzen in 1980, to better understand customer patronage behavior. "People have a high degree of volitional control and make reasoned decisions among alternatives," according to this idea (Ajzen & Fishbein, 1975). The fast-food industry is one industry where this theory's implementation has been shown to be extremely useful (Sheppard, Harwick & Warshaw, 1988). The theory discusses the functional relationship between attitude and subjective norm (i.e., attitude imposed by referent group) and how a person's behavioural intention is based on these two fundamental components - his or her attitude and subjective norm - in order to preserve a relationship (Ajzen & Fishbien, 1975 as cited in Igwe et al., 2012). Patronage behavior can thus be measured by a variety of characteristics such as shopping enjoyment, satisfaction, time spent, number of products purchased, repeat purchase, money spent, share of wallet, patronage action, and repeat purchase or re-patronage (Nwulu & Asiegbu, 2015; Paswan et al., 2010).

Empirical Review

The relationship between brand awareness and brand loyalty is empirically investigated by Alkhawaldeh, Al-Salaymeh, Alshare, and Eneizan (2017). In addition, to address the inconsistent findings of previous attempts, the study looked into the mediating role of brand commitment in the early connection. Customers of the Islamic bank brand in Jordan's governorate of Mafraq provided the information. To evaluate hypothesized correlations, PLS-SEM techniques were used on a sample of 90 clients. Brand loyalty has a significant and positive association with brand awareness and brand commitment, according to the findings. In addition, brand commitment was discovered to act as a mediator between brand awareness and brand loyalty.

In the context of the Nigerian telecommunications business, Ibok and Etuk (2015) explored the relationship between

brand identity and customer loyalty. Primary data was acquired through a survey of 207 consumers drawn from four major telecommunication carriers operating in Akwa Ibom State using a mixed sampling method. Descriptive and inferential statistics were used to analyze the data. The study discovered that there is a strong positive and substantial association between brand identity and consumer loyalty based on regression and correlation analysis results. It advises, among other things, the use of identity management in conjunction with various promotional packages to increase long-term customer loyalty among telecommunications customers.

Raouf (2017) investigated the relationship between social identity and social exchange marketing components. This research proposes and empirically examines an integrative model that provides a holistic view of the linkages between social identity (customer brand identification) and other essential social exchange characteristics (satisfaction, trust, and commitment) and their impact on hotel brand loyalty. The information was gathered by a self-administered survey of 345 respondents from a target sample of 400 clients in India's hospitality industry (four- and five-star hotels). The hypothesized associations were tested using structured equation modeling. Customer brand identification has a favorable impact on loyalty, commitment, satisfaction, and trust, according to the findings. The relationship between the three relational constructs (consumer identity, trust, and satisfaction) and brand loyalty is mediated by commitment.

Methodology

This study adopted a survey research design. The population of the study consists of 1266 managers/owners of registered fast-food eateries (Association of Fast-Food Operators and Confectioners of Nigeria, 2019) and 3,464,123 customers in Abuja metropolis (NBS, 2016). The choice of the registered fast-food eateries and customers was made because this study is concerned with brand image and shopper's patronage, and it is most likely to get the desired responses from legally recognized firms. The study adopted the purposive sampling technique in coming up with a sample of 304 fast-food restaurants and 400 customers within the Abuja metropolis to whom questionnaires were administered.

A five-point Likert scale type of question was used for the study**.** The questionnaire was divided into three (3) sections. Section one consists of general information about the respondent. Section two contains questions on the extent to which brand image affects shoppers' patronage of fast-food eateries. The questions are as concise as possible, with care being taken over the actual wording and phrasing. This is in line with Emaikwu's (2011) submission that the appearance and layout of the questionnaire are of great importance in any survey where the questionnaire is to be completed by the respondent. In order to ensure the validity of the instrument, a content validity approach was adopted for this study. A pilot test was performed to test the reliability of the instrument. This approach involved the administration of the drafted questionnaire to ten (10) managers and customers of fast-food restaurants before the actual study. Data from the questionnaire was collected and tested to determine the reliability of the instrument using the Cronbach Alpha Method provided by Statistical Package for Social Sciences (SPSS 20.0). The data for this study was analyzed using descriptive statistics and multiple regression analysis with the help of Eviews 10 software for Windows.

Operational Measure of Variables

Brand Image: This is the independent variable of the study. This is proxied by brand awareness and brand identity. Items were accomplished by a five-point Likert scale to measure the perceived brand image proxies. The scales ranged from "strongly agree, agree, disagree, undecided to strongly disagree" basing on literature that was gathered.

Shoppers Patronage: This is the dependent variable of the study. This is proxied by customer loyalty. Items were accomplished by a five-point Likert scale to measure the perceived shoppers' patronage. The scales ranged from "strongly agree, agree, disagree, undecided to strongly disagree" basing on literature that was gathered.

Model Specification

SP = f (BAW, BI) ---------- (1)

SP = (CL) ----------(2)

CL $= \beta_0 + \beta_1 BAW + \beta_2 BI + ei$----------(3)

Where:

BAW = Brand Awareness

BI = Brand Identity

CL = **Shoppers Patronage**

ei = error item

$\beta_0 - \beta_4$ = Regression constant.

Table 1
Reliability Statistics

	No. of Items	Cronbach Alpha
Brand Awareness	5	0.72
Brand Identity	5	0.77
Shoppers Patronage	5	0.74
Total		**0.74**

Source: **SPSS Output, (2022)**

The Cronbach's alpha conducted shows that all the variables have internal consistencies above the value 0.70 as indicated in Table 1 above. Therefore, the questionnaire items are declared reasonably content valid to be used for the analysis.

DATA PRESENTATION AND DISCUSSIONS

The main objective of this study is to examine the effect of brand image on shoppers' patronage of fast-food eateries in Abuja metropolis. This section presents the results and analyzes the data collected in a bid to answering the research questions and tests the hypotheses.

Table 2
Descriptive Statistics on the Relationship between Brand Awareness and Shoppers' Patronage of Fast-Food Eateries in Abuja Metropolis

	Statement	SA	A	U	D	SD	Mean	Remarks
1.	The name of our restaurant and brands is well-known in Abuja	100 (35%)	15 (5%)	4 (1%)	130 (46%)	34 (12%)	3.61	Agreed
2.	Our restaurant is recognized by other restaurants in Abuja as a strong competitor	129 (46%)	43 (15%)	2 (1%)	97 (34%)	12 (4%)	4.00	Agreed
3.	In comparison to other restaurant, we are a leading brand in the industry	78 (28%)	105 (37%)	3 (1%)	16 (6%)	81 (29%)	3.61	Agreed
4.	Customers know how our brand looks like	87 (31%)	90 (32%)	3 (1%)	68 (24%)	35 (12%)	3.79	Agreed
5.	The reliability of our product is very high	112 (40%)	88 (31%)	1 (0.4%)	44 (16%)	38 (13%)	3.96	Agreed
	Overall Mean	3.79						
	Cronbach Alpha (α)	0.72						
	Valid N (listwise)	283						

Source: Field Survey, (2022)

Table 2 shows the responses to the Likert-scale question and the sample mean (x) in respect of the extent to which brand awareness affects shoppers' patronage of fast-food eateries in Abuja metropolis. For the question on whether the names of the selected restaurants and brands were well-known in Abuja, the responses showed that 100 (35%) of the respondents strongly agreed that the names of the selected restaurants and brands were well-known in Abuja, 15 (5%) agreed and 4 (1%) were undecided, while 130 (46%) and 34 (12%) disagreed and strongly disagreed, respectively, that the selected fast food restaurant brands were well-known in Abuja. The associated sample mean of the responses is 3.61. This shows that the respondents agreed that the selected fast food restaurant brands were well-known in Abuja; hence the mean is $\geq$3.5.

For the question on whether the sampled fast food restaurants were recognized by other restaurants in Abuja as strong competitors, 129 (46%) of the respondents strongly agreed that sampled fast food restaurants were recognized by other restaurants in Abuja as strong competitors, 2 (1%) were undecided, while 97 (34%) and 12 (4%) disagreed and strongly

Table 3: Descriptive Statistics on the Effect of Brand Identity on Shoppers' Patronageof Fast-Food Eateries in Abuja Metropolis

	Statement	SA	A	U	D	SD	Mean	Remarks
1.	Our restaurant is committed to providing quality products	112 (40%)	54 (19%)	2 (1%)	75 (27%)	40 (14%)	3.83	Agreed
2.	Our corporate visual identity is helpful in making our restaurant recognizable	98 (35%)	82 (29%)	3 (1%)	83 (29%)	17 (6%)	3.90	Agreed
3.	This brand induces feelings and sentiments	103 (36%)	85 (30%)	4 (1%)	54 (19%)	37 (13%)	3.87	Agreed
4.	The association making up our brand personality are extremely positive	18 (6%)	96 (34%)	3 (1%)	96 (34%)	70 (25%)	3.20	Disagreed
5.	Our restaurant deploys marketing communication tools in understanding our strength and weakness	117 (41%)	56 (20%)	5 (2%)	57 (20%)	48 (17%)	3.82	Agreed
	Mean	3.72						
	Cronbach Alpha (α)	0.77						
	Valid N (listwise)	283						

Source: Field Survey, (2022)

Table 3 further shows the responses to the Likert-scale question and the sample mean (x) in respect of the effect of brand identity on shoppers' patronage of fast-food eateries in Abuja metropolis. For the question on whether the sampled fast-food restaurants are committed to providing quality products, the responses show that 112 (40%) of the respondents strongly agree that the sampled fast-food restaurants are committed to providing quality products, 54 (19%) agreed, and 2 (1%) were undecided, while 75 (27%) and 40 (14%) disagreed and strongly disagreed, respectively, that the sampled fast-food restaurants are committed to providing quality products. The associated sample mean of the responses is 3.81. This shows that the respondents agreed that the sampled fast-food restaurants are committed to providing quality products; hence the mean is **≥3.5.**

For the question on whether the selected fast food restaurants' corporate visual identity is helpful in making their restaurant recognizable, 98 (35%) of the respondents strongly agreed that the selected fast food restaurants' corporate visual identity is helpful in making their restaurant recognizable, 82 (29%) of the respondents agreed, 3 (1%) were undecided, while 83 (29%) and 17 (6%) disagreed and strongly disagreed, respectively, that the selected fast food restaurants' corporate visual identity is helpful in making their restaurant recognizable, giving a sample mean of 3.90. This shows that most of the respondents agreed that the selected fast-food restaurants' corporate visual identity is helpful in making their restaurant recognizable; hence the mean is **≥3.5.**

For the question on whether the sampled fast food restaurant brands induce feelings and sentiments, the responses show that 103 (36%) of the respondents strongly agreed that the sampled fast food restaurant brands induce feelings and sentiments, 85 (30%) of the respondents agreed, 4 (1%) were undecided, while 54 (19%) and 37 (13%) disagreed and strongly disagreed that the sampled fast food restaurant brands induce feelings and sentiments, giving a sample mean of 3.87. This shows that the respondents agreed that the sampled fast food restaurant brands induce feelings and sentiments; hence the mean is **≥3.5.**

For the question on whether the associations making up the sampled fast food restaurant brand personality were extremely positive, 18 (6%) of the respondents strongly agreed that the associations making up the sampled fast food restaurant brand personality were extremely positive, 96 (34%) of the respondents agreed, 3 (1%) were undecided, while 96 (34%) and 70 (25%) disagreed and strongly disagreed that the associations making up the sampled fast food restaurant brand personality were extremely positive, giving a sample mean of 3.20. This shows that most of the respondents disagreed that the associations making up the sampled fast food restaurants' brand personalities were extremely positive; hence, the mean is **≥3.5.**

For the question on whether the sampled fast food restaurants deployed marketing communication tools in understanding their strength and weaknesses, the responses showed that 117 (41%) of the respondents strongly agreed that the sampled fast food restaurants deployed marketing communication tools in understanding their strength and weaknesses, 56 (20%) of the respondents agreed, 5 (2%) were undecided, while 57 (20%) and 48 (17%) disagreed and strongly disagreed that the sampled fast food restaurants deployed marketing communication tools in understanding their strength and weaknesses, giving a sample mean of 3.82. This shows that most of the respondents agreed that the sampled fast food restaurants deployed marketing communication tools to understand their strengths and weaknesses; hence the mean is 3.5. On the overall average, the respondents agreed that brand identity affects shoppers' patronage of fast-food eateries in Abuja metropolis; hence, the overall mean (3.72) is $\geq$**3.5.**

Table 4 : Regression Result for Model 1 (Shoppers Patronage Model)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.399290	0.153971	9.088030	0.0000
BAW	0.386423	0.075599	5.111481	0.0000
BI	0.124016	0.056740	2.185669	0.0304
R	0.916037	Mean dependent var		4.833333
R-squared	0.839124	S.D. dependent var		0.523497
Adjusted R-squared	0.834686	Akaike info criterion		-0.223717
S.E. of regression	0.212847	Schwarz criterion		-0.123362
Sum squared resid	6.569087	Hannan-Quinn criter.		-0.182946
Log likelihood	21.77875	Durbin-Watson stat		1.407438
F-statistic	189.0794			
Prob(F-statistic)	0.000000			

Source: EVIEWS 9 Output (2022)

The result of table 4 shows that the model fits for estimation and the explanatory variable is capable of explaining the relationship between the independent and dependent variable. This can be confirmed by the value of F-statistics of 189.1 (p=0.00) significant at the 5% level of significance. This implies that the explanatory variables included in the model of the study are sufficient to explain the relationship between brand image (BAW, BI) and customer loyalty (proxy by CL) of selected fast-food restaurants in Abuja metropolis.

R, the multiple correlation coefficients, is the linear correlation between the observed and model-predicted values of the dependent variable. The result of R stood at 0.916, indicating a strong relationship between the dependent variable; customer loyalty and the explanatory variables; brand image (BAW, BI).

The co-efficient of determination (R-square) stood at (0.839) indicating that about 83.9% of the systematic variations in customer loyalty is explained by the variations in the explanatory variable (BAW, BI) in the model. While the remaining 16.1% (i.e. 100-83.9) of the variation could be explained by other variables not considered in this model.

The adjusted R-square compensates for the model complexity to provide a fairer comparison of model performance. The result is supported by the value of the adjusted R^2 which is to the tune of 83.4% showing that if the entire population was used, the result will deviate by 0.5% (i.e83.9-83.4).

The Durbin-Watson statistics of 1.407 (close to 2) implies absence of auto-correlation problem in the residuals of regression analysis. Also from table 4, the regression constant is 1.399, giving a predictive value of the dependent variable when all other variable is zero. The result of regression analysis shows that brand awareness and brand identity have a positive relationship with customer loyalty (CL) of selected Fast-Food Restaurants in Abuja Metropolis. The result shows that a 1% increase in brand awareness and brand identity will increase customer loyalty (CL) of selected Fast-Food Restaurants in Abuja Metropolis by 38.6% and 12.4% respectively.

Test of Hypotheses

In order to test the hypotheses, OLS regression table was used. The hypotheses formulated were tested using p-value statistics. A p-value less than α=0.05 indicates that there is enough statistical evidence to reject the null hypothesis, and thereby accept the alternative hypothesis. If sig>0.05, then we do not have adequate statistical evidence to reject the null hypothesis or accept the alternative hypothesis.

Test of Hypothesis One

H_1: There is no significant relationship between brand awareness and shoppers' patronage of fast-food eateries in Abuja metropolis.

Decision Rule 1: To test this hypothesis, table 4 was used. The strength of the relationship between brand awareness and shoppers' patronage of fast-food eateries in Abuja metropolis is measured by the calculated p-value = 0.00 and a significance level (α) of 0.05. Since the computed p-value is less than the significance level (α) of 0.05 (0.00 <p-value<0.05), the null hypothesis is rejected. Therefore, we conclude that there is significant relationship between brand awareness and shoppers' patronage of fast-food eateries in Abuja metropolis.

Test of Hypothesis Two

H_2: There is no significant relationship between brand identity and shoppers' patronage of fast-food eateries in Abuja metropolis

Decision Rule 2: To test this hypothesis, table 4 was used. The strength of the relationship between brand identity and shoppers' patronage of fast-food eateries in Abuja metropolis is measured by the calculated p-value = 0.00 and a significance level (α) of 0.05. Since the computed p-value is less than the significance level (α) of 0.05 (0.00 <p-value<0.05), the null hypothesis is rejected. Therefore, we conclude that there is significant relationship between brand identity and shoppers' patronage of fast-food eateries in Abuja metropolis.

Discussion of Findings

From the result of the data analysis, the following findings regarding the subject: effect of brand image on shoppers' patronage of fast-food eateries in Abuja metropolis has been deduced;

The study revealed that there is a positive and significant relationship between brand awareness and shoppers' patronage of fast-food eateries in Abuja metropolis. The findings corroborate with the documentation of Alkhawaldeh, Al-Salaymeh, Alshare & Eneizan (2017); Jung and Sung (2008); Kim et al. (2009); Yoo and Donthu, (2002) that brand awareness significantly influences shoppers' patronage. The study's findings imply that brand awareness is important in building a brand in the minds of customers because customers make purchasing decisions based on their knowledge, awareness, or experience with a specific brand. As a result, customers are more likely to purchase again because they are confident in the product's quality.

The study further revealed that there is a positive and significant relationship between brand identity and shoppers' patronage of fast-food eateries in Abuja metropolis. This finding is consistent with Ibok and Etuk (2015) and Raouf (2017) findings that brand identity influences customer loyalty and retention. This implies that corporate brand identity attracts, retains, and keeps loyal customers. This also shows that if fast food restaurants pursue aggressive brand identity management as a culture, customer loyalty and retention will increase at a higher rate, everything being equal.

Conclusion

The conclusions for this study were drawn based on the results of the study. In consonance with the foregoing, the study concludes that brand image constructs (brand awareness and brand identity) positively and significantly influence shoppers' patronage (customer loyalty) of fast-food eateries in Abuja metropolis. Specifically, the study concluded that there is a positive and significant relationship between brand awareness and fast-food eatery patronage in Abuja metropolis. This implies that brand awareness is critical in building a brand in the minds of customers because customers make purchasing decisions based on their knowledge, awareness, or experience with a specific brand. The study equally concluded that there is a positive and significant relationship between brand identity and shoppers' patronage of fast-food eateries in Abuja metropolis. This implies that corporate brand identity attracts and retains their committed customers and keeps them loyal.

Recommendations

The recommendations of this study were based on the conclusions. In light of this, the study made the following recommendations:

i. Fast food restaurants should invest in advertising and choose the appropriate channels to promote their brands in order to increase brand awareness. Among other channels, social media and Google advertising are two excellent ways for

businesses to increase brand awareness. In addition, a captivating logo and packaging for their brand should be used because this will go a long way toward resonating with their customers.

ii. Fast food restaurants should shift their focus from simply providing incentives to building brand identity in order to increase customer loyalty. This would necessitate an overall image and identity re-engineering in the areas of providing high-quality products, providing excellent customer service, and launching various customer retention and loyalty programs to encourage long-term patronage.

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Emotional Intelligence and Employees' Performance an analysis of Employees' of Private Secondary Schools in Kaduna

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Abstract: *Globally, emotional intelligence is seen as a means of stimulating employees' performance to the organization and reducing employees' job dissatisfaction. This study specifically analysis the effects of self-motivation, social awareness and relationship management on employees' performance of private secondary school. The study is based on primary data collected from three hundred and sixty one employees using structured questionnaire. The data was analyzed using the technique of Structural Equation Modelling path analysis. The finding of this study revealed that self-motivation and social awareness were significantly related to employees' performance. In addition, the findings also revealed that relationship management had insignificant influence on performance of employees'. The study concluded that self-motivation and social awareness enhances employees' performance and hence recommends that management of private schools should devise means of improving employees' self-motivation and social awareness as they aids in the employees' performance and subsequent organizational performance.*

Key words:

Introduction

Employee performance is measured by outputs related to the quality and quantity of work done (Idris, Dabo & Mohammed, 2019). Furthermore, it can be measured by the time employees take to perform certain work tasks (Armstrong, 2010). Moreso, when employees are able to meet organizational expectations and goals, they are considered excellent performers (Dabale, Jagero & Nyauchi, 2014).

Recognizing that employee performance is a key determinant of organizational performance and success, it is reasonable to understand that utilizing them properly will depend on the level of composure and intelligence of the individual. Gong, Chen, and Wang (2019) assert that many organizations have realized that emotional intelligence stand out in a competitive business environment as a critical factor in determining organizational success. This is because organizations are made up of people with different understandings and needs and therefore require emotional balance to connect in a satisfying way and avoid workplace conflict. According to Rechberg (2019), emotional intelligence is critical in human capital management in today's modern global workplace. In Fullan's (2002) view, leaders with high emotional intelligence are absolutely aware of their own emotional approach and that of others, with the goal of addressing the day-to-day obstacles that typically arise in the workplace due to the dynamic operating environment. This requires leaders and managers to place employees in their own shoes to closely observe their behavior, hence suggesting that the concept of emotional intelligence need to be given adequate consideration in organizations.

The application of emotional intelligence requires managers to identify and pre-understand employees' emotions and managing such emotions for the smooth functioning of an organization (Singh, 2010). Dulewicz and Higgs (2017) believe that emotional intelligence is one of the key factors affecting employee performance. This is because compared to people with low emotional intelligence, people with high emotional intelligence are said to have certain skills and abilities that allow them to effectively negotiate and deal with various situations through interpersonal communication. As such, emotional intelligence generally allows for smarter thinking, enabling individuals to monitor emotions and judiciously differentiate emotional choices to make decisions.

The need to manage employee diversity necessitates organizations to develop various avenues of dealing with employees from different backgrounds, culture, attitude and nationals. Hence, managing the diverse nature of such employees may sometimes pose difficulty to management of organizations. Importance should be attached to employees' emotions management for smooth running and success of an organization. Employees here play a vital role in the success or failure of an organization. In this context, emotional intelligence is critical in keeping employees motivated to manage their emotions and the emotions of others, which will aid in making productive decisions that lead to the best possible performance.

Self-motivated employees have the ability to set goals and stay focused. Wolmrans and Martins, (2001) point out that one of the things that builds on self-motivated people is taking responsibility for their successes and failures. Self-motivated people have the drive and energy to achieve clear results and make an impact. They also try to balance short- and long-term goals, and have the ability to pursue demanding goals even when they face rejection or questioning.

Employees' Social awareness competencies indicate how they handle relationships with others without conflict. It is important to understand how those around us feel. Social awareness enables one to understand and learn about internal and external power relations in an organization. It gives people insight into the emotions, concerns and needs of others. Goleman (1998) argues that people who understand their social environment have the ability to read emotional flow and understand non-verbal cues such as the tone and verbal expressions of those around them. In fact, knowing the emotions of others may help a person perform their duties without hurting or making them uncomfortable. The effectiveness of a person's social skills depends on his ability to regulate the emotions of others. In Goleman's (2002) view, relationship management encompasses some of the capabilities that have the most direct impact on interactions with others. Likewise, influencing others, effective communication, teamwork and collaboration are important for maintaining cordial relationships with subordinates. Therefore, understanding people's developmental needs to help develop their competencies is also a key part of relationship management.

Furthermore, it has been empirically proven that employees' self-awareness, self-management, self-motivation, social awareness, and interpersonal relationships are critical for accomplishing tasks in a work environment, which subsequently determines employee performance in an organization (Warr, 2011). There is no evidence of previous study on emotional intelligence among employees' of private secondary school in Kaduna State Nigeria. Similarly, most of previous studies in the area are conducted in developed economy and the tools of analysis are mostly chi-square and linear regression. It is against this backdrop that this study emotional intelligence and employee performance is undertaken among private school employees in Kaduna State so as to ascertained who effective emotional intelligence is in improving employee performance.

Literature Review and Hypothesis Development

Emotional intelligence is derived from the discipline of psychology and is a combination of emotional and intellectual components. Emotion is defined as the cognitive assessment of an event or thought, and the specific action resulting from a state of mental readiness is based on the meaning assigned to it by the person who possesses it (Richard & Dholakia, 2002). Similarly, employee performance believed to be one of the most important factors in achieving organizational goals (Gruman &Saks, 2011). This is because the employee play a vital role in determining the success or failure of an organization. Carmeli and Tishler (2004) assert that employee performance has a positive impact on organizational performance. Kairulnizam and Zakuan (2016) found that in addition to the environment and employee job satisfaction, individual task completion is one of the important variables in determining productivity, which affects organizational productivity. Achieving the highest level of performance is not easy, it is difficult and challenging due to the dynamic and unpredictable nature of the human and business environment. This research looks at employees' performance in terms of the accomplishment of a certain tasks.

According to Alba, Teresa and Rafeal (2020) emotional intelligence is simply the human capacity to feel, understand, control and modify emotional states in oneself and others. Mayer and Salovey (1997) define emotional intelligence as the ability to control oneself emotions and others, to distinguish them from each other and to apply the information to guide ones' own thinking and action. It is important for employees to possess ability of knowing themselves and also knowing about other people around. Motivation is what pushes one to achieve goal, it makes one to feel more fulfilled and improve ones' overall quality of life. Self-motivation is simply the forces within that drive one to do things. Goleman (1995) defines self-motivation as the ability to control emotional tendencies that contribute to the achievement of one's goals. Wolmrans and Martins (2001) pointed out that self-motivation is the product of taking responsibility for one's failures and successes. Peter and John (2015) assert that self-motivation is central to achieving personal goals.
Employees can be motivated from Internal and external, such as a desire to do something, love someone, or need money. Self-motivation is where your motivation comes from; if your motivation comes from within and pushes you to achieve your personal goals, you work towards achieving it. If it comes from outside, you still push yourself outside and withstand all forces in order to achieve the goal. Cassidy and Lynn (2009) assert that self motivation drive one to work toward goal, put Make an effort to invest in self-development in order to achieve personal achievement. Self-motivation can be driven by intrinsic motivation, a motivation that comes from a genuine desire to achieve and desire the intrinsic rewards associated with it. It can also be an extrinsic motivation, the motivation to achieve comes from wanting an extrinsic reward such as; money, power, status, recognition.

Singh and Sharivastava (2001) opine that self motivation is the the power to keep pushing a person to keep going. This is the inner driving force for realization, production, development and continuous progress. Sometimes, when a person is ready to give up on something, not knowing how to start, it is self-motivation that pushes one to keep going. Self-motivation factors include: achievement drive, commitment, initiative, and perseverance in pursuit of goals, even in the face of challenges and setbacks. Self-motivated people have the drive and energy to achieve clear results and make an impact, they also try to balance short- and long-term goals, and have the ability to pursue tough goals even when faced with rejection or questioning.

$H0_1$: Self-motivation has no significance influence on employees' performance

It is important for employees' to possess the ability of social and ethical norms of behavior and recognize resources and supports from families, schools and communities toward achieving their goals. According to McPheat (2010), social awareness is the process by which employees interact with others in the performance of their organizational responsibilities. This shows a team spirit in the organization of certain projects, so the desire to manage relationships is essential to achieve organizational goals. Discovering the mindset of organizational employees within the organization and others in an appropriate way allows us to understand how others are feeling and make them feel better because their well-being is our job.

According to Petrides, frederickson and Furnham (2004) social awareness emphasizes social relationships especially in the workplace and how social influence on one and other workers within the environment. Huynh (2018) opined that social awareness is the ability to recognize, empathize with other people from different background and cultures. Samuel and Okon (2016) social awareness is the ability to enter and sustain satisfactory interpersonal relationship. It involves the flexibility, behaviorial change and adaptability of an individual based on certain circumstances. All organizations comprises of people from diverse culture, background, upbringing, religion e.t.c characterized by norms, which express the unity of people's attitudes and behaviors with deep understanding of social context (Davidson, 2011).

Empirical evidence such as (Victoroff & Boyatzis, 2012: Huynuh, 2018) establishes that employees with high social awareness connectivity are more capable of out-performing other employee with low social awareness. Thus this clearly indicates that social awareness acutely is critical when working with other people especially in the workplace in determining performance.

$H0_2$: Social-awareness has no significant influence on employees' performance

Social awareness is the process of evaluating our norms and values and comparing them to others around us to understand their impact. There is evidence that the words, actions and decisions of those with whom we interact can be what strengthen or undermine our relationships with such people (Goleman et al., 2002). Cheok and OHiggins (2011) view relationships as the ability to use awareness of one's own emotions and those of others to effectively manage interactions. Successful relationships establish a secure framework for emotions and feelings between employees and service users (Ingram, 2013).

Since social awareness is about understanding others, relationship management is a means of connecting with others to improve their performance and life (McPheat, 2010). Dakin and Taplin (2014) point out that it's great to have people talking so you can learn from your colleagues. It is all about ones' interpersonal communication skill which will give one the ability to inspire others.

$H0_3$: Relationship management has no significant influence on employees' performance

Research Methodology

The research design was a survey research in which primary data was used. The questionnaire for emotional intelligence measured by (self-motivation, social awareness and relationship management) was adapted from the work of Schutte et al. (1998). Social awareness is having six items, relationship management having three items and self-motivation having three items respectively. The variables are having composite reliability of .793, .835, .745. Similarly, six (6) items that measured employees' performance was adapted from the work of Idris, Dabo and Mohammed (2018) with composite reliability of .835.

The populations of the study are employees of private secondary schools in Kaduna State whom were (5125) in number and krejcie and morgan sample table was used to obtain the sample. Based on the table, 361 samples were selected. Structural Equation Modelling using Smart PLS 3 statistical software was used for data analysis.

Result and Discussion

Assessment of SEM Path Model Results

This study used a two-step process to evaluate and report the results of the SEM pathway. The two-step process used in this study included (1) evaluating the measurement model, and (2) evaluating the structural model (Hair et al., 2014; & Henseler 2013).

Individual Item Reliability

The reliability of individual items is assessed by examining the external loads of each structure (Duarte & Raposo, 2010; Hair et al., 2014; Hair et al., 2012). Following a rule of thumb to keep items with a load of 0.40 (Hair et al., 2012), it was

found that out of 22 items, 6 items were removed because their load was below the 0.40 threshold. So in the whole model, only 16 items are kept because the load is between 0.477 and 0.925

Internal Consistency Reliability

Internal consistency reliability means that all items on a particular (sub) scale measure the same concept to the same degree (Sun, 2001). Cronbach's alpha coefficient and composite reliability coefficient are the most commonly used estimators of intra-instrument consistency reliability in organizational research (Peterson & Kim, 2013). In this study, the comprehensive reliability coefficient was selected to determine the internal consistency reliability of the measures taken. There are two main reasons to justify the use of a composite reliability factor

First, the combined reliability factor is far less reliable than Cronbach's alpha factor, which assumes that all items contribute equally to the structure, without considering the actual contribution of individual loads (Barclay, Higgins, and Thompson, 1995).

Second, Cronbach's alpha may overestimate or underestimate the reliability of the scale. The overall reliability can be interpreted in the same way as Cronbach's alpha given that the indicators have different loadings (i.e. no matter which specific reliability coefficient is used, for a sufficient internal consistency reliability value greater than 0.70 is considered to be an order of magnitude), while values below 0.60 indicate a lack of reliability).

However, the use of composite reliability coefficients to interpret internal consistency reliability is based on the rule of thumb provided by Hair et al. (2011), they suggest that the composite reliability factor should be at least 0.70 or higher. Table 1 shows the composite reliability coefficients of the model, indicating that the composite reliability coefficients of the items ranged from 0.705 to 0.805, each exceeding the minimum acceptable level of 0.70, indicating that the measures employed by the model have sufficient internal Consistency and reliability following Hair et al., (2011) suggestions.

TABLE 1

VARIABLE	ITEM	LOADING	Composite Reliability	(AVE)
EMPLOYEE PERFORMANCE	EP1	0.743	0.805	0.518
	EP2	0.749		
	EP3	0.742		
	EP4	0.630		
	EP6	0.477		
RELATIONSHIP MGT	PRM1	0.489	0.762	0.531
	PRM3	0.925		
	PRM4	0.707		
SELF-MOTIVATION	SLM1	0.690	0.705	0.503
	SLM2	0.801		
	SLM3	0.491		
SOCIAL AWARENESS	SAW1	0.708	0.775	0.511
	SAW2	0.503		
	SAW5	0.673		
	SAW6	0.696		
	SAW8	0.603		

Convergent Validity

Convergent validity refers to the degree to which an item truly represents the expected latent structure and does correlate with other measures of the same latent structure (Hair et al., 2011). As suggested by Fornell and Larcker (1981), convergence validity was assessed by examining the average variance extracted (AVE) for each construct. To achieve sufficient convergent validity, Chin (1998) suggested that the AVE for each construct should be 0.50 or higher. Following Chin (1998), the AVE values (see Table 1) exhibit high loadings (> .50) on their respective constructs, indicating sufficient convergent validity

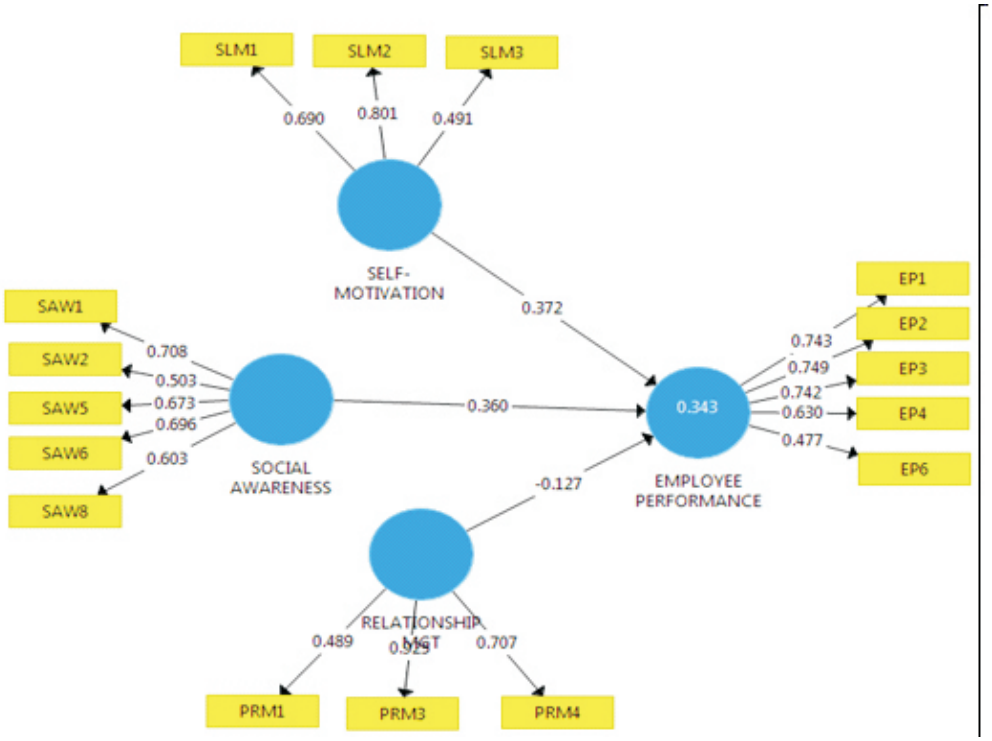
Factor Analysis

A factor analysis was performed to find out the strength of item loading and the nature of cross-loading between items. All items with loads below the 0.4 threshold are removed from the model. Five items from the independent construct (emotional intelligence) were below the 0.4 threshold and were therefore removed from the model. Similarly, if an item in the subordinate structure does not satisfy the condition, it is also deleted, as shown in Table 2 below.

TABLE 2 CROSS LOADING

	EMP	RM MGT	SAW	SM
EP1	0.743	-0.032	0.302	0.374
EP2	0.749	-0.049	0.402	0.388
EP3	0.742	0.066	0.347	0.386
EP4	0.630	-0.049	0.283	0.210
EP6	0.477	-0.074	0.084	0.169
PRM1	-0.005	0.489	0.171	0.163
PRM3	-0.031	0.925	0.166	0.013
PRM4	-0.015	0.707	0.160	0.107
SAW1	0.370	0.109	0.708	0.262
SAW2	0.212	0.222	0.503	0.008
SAW5	0.315	0.203	0.673	0.177
SAW6	0.273	0.093	0.696	0.294
SAW8	0.239	0.032	0.603	0.221
SLM1	0.341	0.011	0.144	0.690
SLM2	0.361	0.034	0.302	0.801
SLM3	0.247	0.113	0.182	0.491

Figure Measurement Model



Assessment of Significance of the Structural Model

The study also applied standard bootstrapping procedures to 5,000 bootstrapped samples and 361 cases to assess the significance of the path coefficients (Hair et al., 2011). Figure 1 and Table 3 show estimates for the full structural model, which includes the intermediate variable (i.e. emotional intelligence).

Figure Structural Model

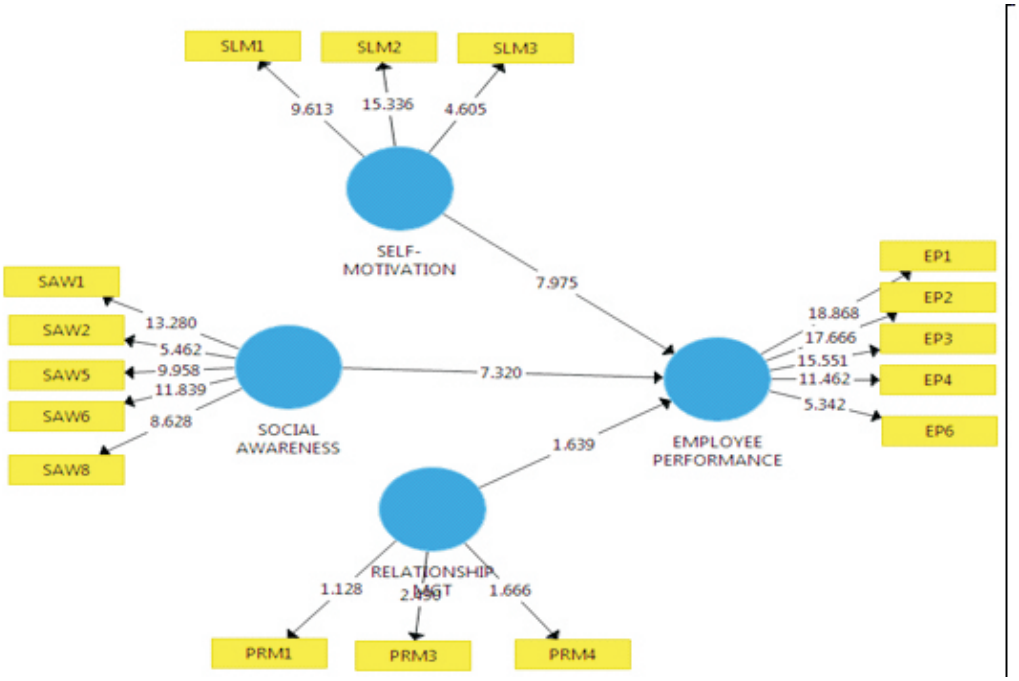


Figure 2 Structural Model

Test of Hypotheses

In this section the entire hypothesis formulated will be tested for validation as shown in table 3

	HYPOTHESIS	Beta Value	Mean	(STDEV	T- Stat	P Values	Decision
$H0_1$	SLM -> EP	0.372	0.377	0.047	7.975	0.000	REJECTED
$H0_2$	SAW -> EP	0.360	0.364	0.049	7.320	0.000	REJECTED
$H0_3$	PRM-> EP	-0.127	-0.115	0.077	1.639	0.102	ACCEPTED

p<.05; p<.01

A partial least square path analysis was conducted to test whether self-motivation influences employee performance The result revealed that self-motivation positively and significantly influences employee performance (β=0.372, t=7.975, p<0.05) .This indicated that the relationship between self-motivation and employee performance was significant. This implies that the more employees are self-motivated the higher their commitment to duties. It is on these bases that the first hypothesis was rejected as shown in Table 3

Furthermore, in the path analysis conducted to test whether social awareness influences employee performance, it was found that social awareness positively influence on employees' performance (β=0.360, t=7.320, p< 0.05). This implies that the higher the social connectivity of employees the more improvement on their performance. It is on these bases that the second hypothesis was rejected. As shown in Table 3

Nevertheless, from the analysis conducted to ascertain whether relationship management influences employee performance. It was found that relationship management does not significantly influences employee performance (β=-0.127, t=1.639, p>0.05). The implication is that managing relationship does not lead to corresponding increase on the performance of employees. It is on these bases that the third hypothesis was accepted as shown in Table 3

Assessment of Variance Explained in the Endogenous Latent Variables

Another important criterion for evaluating structural models in PLS-SEM is the R-squared value, also known as the coefficient of determination (Hair et al., 2011). The R-squared value represents the proportion of change in the dependent variable that can be explained by one or more predictor variables. Although the acceptable level of R^2 depends on the study context (Hair et al., 2011), the recommended minimum acceptable level for R-squared is 0.10. Table 4 lists the R-squared values for endogenous latent variables.

Table 4: R Square

Dependent Variable	R^2
Employees Performance	0.34 (34%)

As indicated in Table 4, the research model explains 34% of the total variance in employee performance

Discussion of the findings

The main objective of this study is to investigate the effects of emotional intelligence on employees' performance. Specifically the study determine self-motivation, social awareness and relationship management on employees' performance of private secondary schools in Kaduna state. Analysis of the collected data revealed that self-motivation and social awareness has a substantial influence on employees affecting their performance positively. This finding is in line with the study of Yıldırım, Trout and Hartzell (2019) which established that emotional intelligence factors (self-motivation& social awareness) has the capability of increasing employees' performance. The finding is also linked to social action theory which postulates that actions of individual in the acting capacity attaches a subjective meaning to their behavior either, acquiescence or omission, covert or overt.

Similarly, the finding of the study indicated that relationship management does not substantial significant influences on employees' performance of private secondary schools. This finding is in line with the study Rego, Sousa, Cunha, Correia, and Saur (2017) whom confirmed that managing relationship in organization is often complex and that suddenly leads to conflict that may affect the performance of the employees

Conclusion and Recommendation

i. This study concludes that private secondary school employees' self-motivation and social awareness is critical to their performance. Therefore, considerable effort is required to enhance self-motivation and social awareness since the duo aids in improving employees performance. Furthermore, the study also concludes that relationship management does not affect employees' performance. This study recommends that policy makers and management of private of secondary schools (authorities) should conduct regular training and workshops to their employees so as to improves the employees social interaction of the employees with the aim of giving the employees opportunities of discovering there social talent which is considered critical in improving the employee performance. Additionally, management of private secondary schools should conduct regular workshops on assisting employees to identify and develop their internal stimulus (self-motivation) with the objective of making the employee more committed to the service.

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Strategic Alliance and the Performance of Small and Medium Enterprises in North Central, Nigeria

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Abstract: *The study examined the effect of strategic alliance on the sales performance. Strategic alliance was investigated using technology strategic alliance, production strategic alliance and learning strategic alliance. The study adopted the cross-sectional survey design, thereby making the questionnaire the main instrument of data collection. The study employed the spearman's rank order correlation method with the aid of SPSS 23.0 to analyse the formulated hypotheses. From the data analysis, the study revealed that marketing and distribution strategic alliance significantly affect sales performance of SMEs in North Central Nigeria, there is significant relationship between technology strategic alliance and product innovation of SMEs in North Central Nigeria; there is significant relationship between production strategic alliance and competitive advantages of SMEs in North Central Nigeria and there is significant relationship between learning strategic alliance and product innovation of SMEs in North Central Nigeria. It is therefore recommended that for SMEs to stay competitive, expand sales capabilities and innovative, SMEs should ally strategically through technology, learning, marketing and distribution alliances.*

Keywords: (insert 4-7 keywords)

Introduction

Strategic alliances between organizations are becoming increasingly popular these days and have become cornerstones for the competitive strategy of many firms, enabling them to achieve objectives that otherwise would be difficult to realize. Companies are searching for innovative ways to enhance profitability, handle uncertainty and build competitive advantage. In recent times, alliances have become an important part of the competition and growth strategies most companies (Ajao et al., 2015).

Strategic alliance is a voluntary, long term, contractual relationship between two or more autonomous and independent organizations (firms), designed to achieve mutual and individual objectives by sharing and/or creating resources (Tjemkes, 2018). This definition encompasses inter-organizational relationship, such as joint ventures, purchase partnerships, research and development partnerships, co-makerships, co-creation efforts, multi-partner alliances, public-private partnership and consortia, but it excludes arrangements such as mergers and acquisitions (Tjemkes et al., 2018).

As Contractor and Lorange (2002) contend, there are many ways to categories different types of strategic alliances and they are divided into five types; technology transfer and improvement, Licensing, franchising, joint research and development, joint ventures and marketing agreements. Firms can decide to form part of strategic alliances when they find themselves in a vulnerable strategic position because they need resources or capabilities that cannot be developed internally at a reasonable cost in a reasonable time (Das & Teng, 2000), or cannot be achieved through an exchange on the markets (Eisenhardt & Schoonhoven, 1996) because there are no organized markets in which they can be acquired, or can be learned or assimilated through cooperation (Ireland, 2002). Companies that need particular assets that they cannot efficiently transfer on market or develop internally will seek alternative means of obtaining them. Strategic alliances appear especially attractive as they are fast, flexible method and involve a much lower commitment interms of cost and resources than other possible options.

Yet, despite their attractiveness, cooperative relationships with other organizations can be problematic. For example, alliance relationships can have high transaction costs (Eisenhardt & Schoonhoven, 2015). Moreover, alliances can null firm managers into failing to develop important firm capabilities and can be conduits by which certain types of technology and other core competencies are easily siphoned from the firm. Alliances can also reduce revenue streams by forcing firms to share profits because of this mix of advantages and disadvantages, firms are likely to adopt strategic alliances at varying rates (Eisenhardt & Schoonhoven, 2015).

The SMEs subsector is a critical one in the Nigerian enterprise development space. They collectively account for a majority of the enterprises in Nigeria and also account for a majority of the enterprises in Nigeria and also account for the highest number of jobs created in the economy (SMEDAN, 2019). In order to achieve this objective, Micro, Small and Medium Enterprises (MSMEs) in Nigeria can only play their catalytic role in economic development if their performance is improved through effective business partnership. According to the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN), a major ingredient for development of the sector is collaboration among relevant stakeholders, including the government, policy makers and operators in the subsector (SMEDAN, 2019). In view of this assertion, the Nigeria Communications Commission (NCC) has made concerted effort to promote strategic alliances

among telecommunications operators with the view of reducing tariffs changeable to customers due to high operational cost, operating in isolation leading to proliferation of telecommunications most and increase redundancy of infrastructure (NCC, 2003).

SMEs in Nigeria are generally characterized by tight resources, which puts them in particular jeopardy from increasing globalization and rapid technological changes. One might expect that SMEs would draw extensively on strategic alliances to overcome their resource & shortages and increase their viability in difficult times (Hoffman, 2005). However, recent studies show that SMEs' propensity to co-operate is significantly less than that of large companies, particularly in developing economics (Diaz, Rietdort & Dornberger, 2011). There is simple evidence that both large-small and small-small linkages are important. Unfortunately, even though a few studies examined the relationship between strategic alliance and performance in Nigeria (Aun, 2014; Ajao, 2015; Akewushola, 2015; Akpotu & Jasmrine, 2016), none of these studies has examined the relationship in relation to SMEs in Nigeria. It is against this background that this study examines the effect of strategic alliance and the performance of SMEs in North Central Nigeria.

Statement of the Problem

Globalization is an expression of a rapidly growing and changing economy that has driven both large firms and small to medium sized ones to the same competitive arena (Odour, & Murthoka, 2014). Today, the strategy of allying with other organizations has become increasingly prevalent with many organizations opting for strategic alliances inorder to strengthen their market positions and improve on their performance. In Nigeria, SMEs have not performed commendably well as they have not adequately played the expected significant role in the economic growth of the nation (Taiwo & Falohun, 2016). Over the years, SMEs have not been able to strategically ally with other firms to increase performance as a result of lack of technical capacity and necessary competence for product development and find new products for sustained competitive advantage.

Despite the increasing popularity trend of inter-firm alliance phenomenon, there is no robust empirical literature dealing with the collaboration among SMEs in Nigeria. A review of several empirical studies show that majority of the research on strategic alliance and performance were from developed economies such as UK, USA and European countries and Kenya (in terms of developing country and emerging market economy) and have basically captured large companies and banks thereby ignoring the SMEs. Besides, empirical evidence on the relationship between strategic alliance and organization performance available in the literature are mixed and inconclusive. Some researchers found a positive correlation between strategic alliance and performance (Supriyadi 2014; Warui, 2014; Kilimo, 2014; Yang, 2014; Ekawati, 2014; Akewushola, 2015; and Akpotu & Jasmine, 2016). Whereas, other researchers documented a negative and no significant relationship between strategic alliance and performance (Odour & Muthoka, 2014; and Onje & Oloko, 2016).

In addition, most of these empirical studies have not explicitly identified the performance measure adopted in the various studies. Thus the lack of performance criteria reduces confidence in generalizing the relationship between strategic alliance and performance of organization value the present study contentions for Nigeria.

From the forgoing, the aim of this paper is to evaluate the nexus between strategic alliance and performance of SMEs in North Central Nigeria. The specific objectives are to;

i. ascertain the effect of marketing and distribution strategic alliance on the sales performance of SMEs in North Central Nigeria
ii. ascertain the effect of technology strategic alliance on the product innovation of SMEs in North Central Nigeria.
iii. examine the effect of production strategic alliance on competitive advantages of SMEs in North Central Nigeria
iv. examine the effect of learning strategic alliance on product innovation of SMEs in North Central Nigeria.

Research Hypotheses

To achieve the formulated objective, the following hypotheses were developed for testing;

Ho_1: There are no significant relationship between technology strategic alliance and product innovation of SMEs in North Central Nigeria.

Ho_2: There are no significant relationship between technology strategic alliance and product innovation of SMEs in North Central Nigeria.

Ho_3: There is no significant relationship between production strategic alliance and competitive advantages of SMEs in North Central Nigeria.

Ho_4: There is no significant relationship between learning strategic alliance and product innovation of SMEs in North Central Nigeria.

The study offers a combination of both academic contributions for scholars and researchers and practical contributions for practitioners and operators. In the area of academics, the significance of this research arises from the following way: It contributes to the enrichment of the literature on strategic-on-strategic alliance in relation to performance of SMEs; the research findings and recommendations also form a base that will relied upon by other researchers who may wish to make further inquiries into the subject matter. Equally, the current study contributes to the

existing literature as few studies in this area were available. This study will be of tremendous value to the entrepreneur operating in the SMEs to comprehend access to business sectors, sharing of hazards and costs, synergistic impacts of shared learning and expertise.

This research centres on examining strategic alliance and SMEs performance in North Central Nigeria and is limited to SMEs operational in Benue, Kogi, Kwara, Nassarawa Niger, Plateau and the Federal Capital Territory, Abuja. The study uses two district concepts viz: strategic alliance and performance. However, the study utilized four strategic alliance variables (ie marketing and distribution alliance, technology alliance, production alliance and learning alliance) for analysis despite the availability of an array of them. Only three performance variables are used in this study (ie sale performance, competitive advantage and product innovation).

Strategic Alliance and Performance

According to the Institute of Certified Public Accountants of Uganda (2014) strategic alliance is an integration model in which organizations identify their areas of strengths and weaknesses so as to determine the basis of working together. This entails alliance by liaison, consultations and through mutual agreement. A typical strategic alliance formation process involves; strategy development, partner assessment, contract negotiation, alliance operation and alliance termination. This form of cooperation lies between mergers and acquisitions and organic growth.

To Deva and Knoke (2005) argued that strategic alliance involves at least two partner firms that; (1) remain legally independent after the alliance is formed; (2) share benefits and managerial control over the performance of assigned tasks; and (3) male continuing contributions in one or more strategic areas, such as technology or products. These three criteria imply that strategic alliances create interdependence between autonomous economic units, bringing new benefits to the partners in the form of intangible assets and obligating them to make continuing contributions of their partnership.

The need to measure performance cannot be over emphasized, as the evaluation brings out the differences between success and failure. That is why Human, Schieman Bellora and Guenther (2015) have advocated that the crux of management research is to prove succinctly that instruments and methods such as strategic planning, zero based budgeting, or the balanced scorecard are able to enhance organizational performance.

Gavrea et al. (2011) assert that although the concept of organizational performance is very common in the academic literature, its definition is difficult because of its many meanings. For this reason, there isn't universally accepted definition of this concept. They further explained that the years 80s and 90s were marked by the realization that the identification of organizational objectives is more complex than initially considered. Managers began to understand that an organization is successful if it accomplishes its goals (effectiveness) using a minimum of resources (efficiency).

Coulter (2010) defined organizational performance as the accumulated end results of all organization worthy processes and activities. Strategic partnership can therefore be viewed as a tool for competitive advantage which is intended to enhance performance of organization through the synergy that is derived from combined efforts of the partnering organizations.

Conceptual Framework

The conceptual framework in Figure 1, thus model explains the intersection of the dimensions of the predictor variables (strategic alliance) and measures of the criterion variable (SMEs performance). The dimensions of predictor variable (strategic alliance) are marketing and distribution alliance, technology alliance, learning alliance and production alliance while the measures of criterion variable (performance) are limited to product innovation, sales performance and

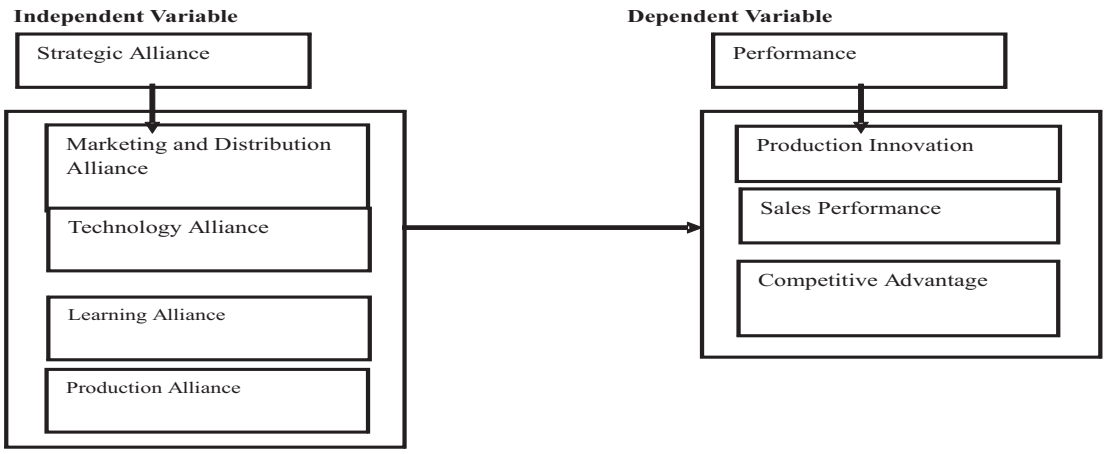

Fig 1: Conceptual Framework of Linkage between Strategic Alliance and SMEs Performance.
Source: Researcher's Conceptualization (2021)

THEORETICAL FRAMEWORK

The Theoretical Framework suggest three models;

Resource Dependency Theory (RDT)

This theory was developed by Emerson (1963) and further progressed by Pfeffer and Salanah (1978) who proposed that control over critical resources by one organization can make other firm depend on it. In essence, the theory argues that organization are often not self-sufficient for all the needed resources that can enable them to remain competitive. Therefore, they need to engage in exchanges with other organizations in one way or the other to gain the necessary resources for survival. This usually makes a strategic alliance a viable form of inter-organizational structure that can minimize uncertainties, thus enhancing access to much needed resources (Lin & Darnall, 2014)

Hence, RDT has two major implications regarding strategic alliance and firm's performance. First, the use of strategic alliance is a mechanism to manage environmental uncertainties. Second, in response to different levels of uncertainties, differences in the use of strategic alliance should affect firm's performance.

Resource Based View (RBV)

It was founded by Barney (1991), the theory assumes that firms attempt to find an optimal resource boundary that ensures the value of their resources is realized best, compared with other resource combinations. Therefore, the RBV seems particularly appropriate for examining alliances or mergers and acquisitions; firms engage in boundary spanning activities to access and obtain resources that they do not own but need in order to strengthen their competitive position.

Mergers and acquisitions and alliances work towards the same overall objective, namely; obtaining resources, but the RBV suggests that two conditions particularly favour alliances. First, an alliance constitutes a more viable alternative when not all the resources owned by the target are valuable to the firm. Second, disposing of redundant or less valuable resources induces a cost, because such resources may be tied to the desired resources. Alhances enable the focal firm to obtain only its desired resources while by passing undesired ones (Tjemkes et al., 2018).

Strategic Management Theory (SMT)

The theory was founded by Barney (1991), the theory cites the need for prospective partners to achieve synergies across their business strategies, such that an alliance can contribute to the realization of their strategic objectives. Reasons to establish partnerships are vast: short term efficiency, resource access, market position, geographical expansion, risk reduction, competitive blockades, economies of scale, speed to market, minimized transaction costs, shared investments and so on.

From the foregoing, the study therefore draws on the three theories of RBN, RDT and SMT. However, the SMT provides theoretical and managerial insights in the strategic rationales that underlie alliance formation, its primary contribution is its pragmatism towards building and sustaining competitive advantage, product innovation and sales performance.

Empirical Studies

Amir, et al. (2021) examined the relationship between strategic alliances and the performance of small entrepreneurial firms in telecommunications. The study used structural equation modeling to analyze primary data obtained from a sample of 74 small entrepreneurial firms in the telecommunications industry. The study found that strategic alliances significantly and positively impact partners' performance in terms of financial, operational and organizational effectiveness among of financial, operational and organizational effectiveness among small entrepreneurial firms in the telecommunications sector.

Rouhollah, et al. (2021) took an overview of strategic alliance and organizations in Turkey. The purpose of the study was to examine the foundations of strategic alliance and partnership of organization. The study shows that in a modern economic network, companies may assembly operate independently in market and hence without the intervention of criteria, but the strategic position of a potential market partner plays a major role in overall performance. Moreover, merely considering the compatibility of 2 companies in a partnership would lead to deficiencies in the prospects. As such, criteria for partnership must be complementary to meet the needs of both parties.

Umar (2020) reviewed 5 frequently used strategic alliances theoretical perspectives of the resource-based view, transaction cost theory, knowledge-based view, resource dependency theory and the social capital theory. Furthermore, 10 empirical studies linking strategic alliances to organizational performance were reviewed. Issues of alliance success factors and failures were investigated and it was discovered that successes are linked to trust, the establishment of information and coordination system, provision of required resources, partner alliance experience, team spirit etc while failures arise when partners misrepresent what they bring to the table, fail to commit resources and capabilities to the other partners, failure to use their complementary resources effectively etc. The study concluded that strategic alliance will provide unprecedented opportunities for organizations to collaborate among different industries, countries scale, to propel mutually beneficial progress.

Wafula and George (2016) examined the effects strategic supplier. Partnership on firm's performance in the energy sector in Kenya. The study utilized descriptive statistics and regression analysis. From the result of data analysis

revealed that strategic supplier partnership has improved communication and networking between firms and suppliers, further they were ventral that strategic supplier partnership has led to computerization of all inventory management systems and improved supply chain innovation in KPC. The study further found that strategic supplier partnership improved the time it takes for petroleum products to get to the market.

Winata and Mia (2016) examined the relationship between a firm's engagement in strategic alliance and its customer performance. Data generated through structured questionnaire was analysed using structural equation modeling with partial least squares. The results from the analysis revealed that a firm's engagement in a strategic alliance is positively related with the firm's customer-related performance, but through the managerial use of the ICT.

Methodology

The study adopted survey research design because it used research questionnaire and personal interview to get data from respondents. This is appropriate because the respondents are well versed with the issue of strategic alliance and performance across the various SMEs under reviewed.

The data for this study was obtained from primary source using structured close ended questionnaires. Secondary data have been sourced from textbooks, journals, magazines and other scholarly publications. The internet serves as a useful source of secondary data was also used for the purpose of the study.

Population of the Study

The target population of this study consists of 15,538 managers/owners of registered SMEs operational in the North Central region of Nigeria and this cut across manufacturing, pharmaceutical and communication SMEs in Benue Kogi Kwara Nassarawa, Niger, Plateau and the Federal Capital Territory, Abuja.

Table 1. Population of the study

S/N	State	No of Registered SMEs
1.	Benue State	1869
2.	Kogi State	1350
3.	Kwara State	562
4.	Nassarawa State	1792
5.	Niger State	2173
6.	Plateau State	4304
7.	FCT	2173
	Total	**15,538**

Source: SMEDAN and National Bureau of Statistics (2019)

In determining the sample size, the study adopted the stratified sampling and judgmental sampling techniques in coming up with the sample size of 390 SMEs.

Method of Data Analysis

To analyse the data obtained from the study, descriptive and inferential statistics techniques (spearman's rank order correlation method) were conducted with the aid of the statistics package for Social Sciences (SPSS) version 23.0 for Windows. However, the descriptive statistics was employed to summarize with the view to gaining better understanding of the data set (Hair, Money, Page & Samuel, 2007). The descriptive analysis (mean, barchart, frequency and percentage) was performed on all categories of data to show their general trends. For making a decision either to agree or disagree on the research question raised, the cut of mean point of 3.50 and above threshold was regarded as an agreed decision. Conversely, an average mean point of below 3.50 of the overall mean point was rejection (disagreed) decision to the research question stated.

The questionnaire distribution, out of 390 copies distributed only 375 copies representing of 96% of the total number of the questionnaires were successfully filled and returned. To this end, for the inferential statistics, the spearman rank order correlation was carried out to find if there is a relationship between strategic alliance and SMEs performance (competitive advantage, sales performance and product innovation) in the testing of hypotheses.

Data Analysis and Discussion of Findings

The study examines strategic alliance and the performance of small and medium enterprises in North-Central Nigeria. To test the hypotheses formulated, the spearman's rank order correlation was employed with the aid of SPSS version 23.0 for windows. The Z-value $= r\sqrt{n}$-1

Test of Hypothesis One

H_1: Marketing and distribution strategic alliance does not significantly affect sales performance of SMEs in North Central Nigeria.

Table 1

Table 1

Correlation Analysis of the Relationship between Marketing and Distribution Strategic Alliance (MDSA) and Sales Performance (SPERF) of SMEs in North Central Nigeria.

		MDSA	SPERF
MDSA	Pearson Correlation	1	.868**
	Sig. (2-tailed)		.000
	N	375	.375
SPERF	Pearson Correlation	868**	1
	Sig. (2-tailed)	.000	
	N	375	375

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

Source: SPSS Output (2021)

Decision: Table 1 present the result of the spearman rank order correlation statistics. The correlation coefficient (0.87) indicated a positive relationship between marketing and distribution strategic alliance and sales performance of SMEs in North Central Nigeria. However, the relationship is strong since the P-value (0.00) is less than 0.05(r_s=0.87, p<0.00). The significance of the relationship is measured by the Z value is greater than the critical Z value, the null hypothesis is rejected. Therefore, marketing and distribution strategic alliance significantly affect sales performance of SMEs in North Central Nigeria.

Test of Hypothesis Two

H_2: There is no significant relationship between technology alliance and product innovation of SMEs in North Central Nigeria.

Table 2

Correlation Analysis of the Relationship between Technology, Strategic Alliance (TSA) and Product Innovation (PINV) of SMEs in North Central Nigeria.

		TSA	PINV
TSA	Pearson Correlation	1	.899**
	Sig. (2-tailed)		.000
	N	375	.375
PINV	Pearson Correlation	.899**	1
	Sig. (2-tailed)	.000	
	N	375	375

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

Source: SPSS output (2021)

Decision: Table 2 present the result of the Spearman rank correlation statistics. The correlation coefficient (0.899) indicated a positive relationship between technology strategic alliance and product innovation of SMEs in North Central Nigeria. However, the relationship if strong, since the P-value (0.000) is less than 0.01 (r_s=0.899, P<0.00). the significances of the relationship is measured by the Z value of 17.39 and a critical value of $\pm$1.96. since the computed Z value is greater than the critical value, the null hypothesis is rejected. Therefore, there is significant relationship between technology strategic alliance and product innovation of SMEs in North Central Nigeria.

Test of Hypothesis Three

H_3: There is no significant relationship between production alliance and competitive advantages of SMEs in North Central Nigeria.

Table 3

Correlation Analysis of the Relationship between Production Strategic Alliance (PSA) and Competitive Advantages (COMADV) OF SMEs in North Central Nigeria.

		PSA	COMADV
PSA	Pearson Correlation	1	.757**
	Sig. (2-tailed)		.000
	N	375	.375
COMADV	Pearson Correlation	.757**	1
	Sig. (2-tailed)	.000	
	N	375	375

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

Source: SPSS output (2021)

Decision: Table 3 present the result of the spearman rank correlation statistics. The correlation coefficient (0.757) indicated a positive relationship between production strategic alliance and completive advantage. However, the relationship is strong since the P-value (0.00) is less than 0.014 (r_s=0.757, P<0.00). The significant relationship is measured by the Z-value of 14.64 and a critical value of $\pm$1.96 . Since the computed Z value is greater than the critical Z value, the null hypothesis is rejected. Therefore, there is significant relationship between production strategic alliance and competitive advantage of SMEs in North Central Nigeria.

Test of Hypothesis Four

H_4: There is no significant relationship between learning alliance and product innovation of SMEs in North Central Nigeria.

Table 4

Correlation Analysis of the Relationship between Learning Strategic Alliance (LSA) and Product Innovation (PINV) of SMEs in North Central Nigeria.

		LSA	PINV
LSA	Pearson Correlation	1	.910**
	Sig. (2-tailed)		.000
	N	375	.375
PINV	Pearson Correlation	.910**	1
	Sig. (2-tailed)	.000	
	N	375	375

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

Source: SPSS Output (2021)

Decision: Table 4 present the result of Spearman rank correlation statistics. The correlation coefficient (0.91) indicated a positive relationship between learning strategic alliance and product innovation of SMEs in North Central Nigeria. However, the relationship is strong since the P-value (0.00) is less than 0.01 (r_s =0.91, p<0.00). The significance of the relationship is measured by the Z value of 17.60 and a critical Z value, the null hypothesis is rejected. Therefore, there is significant relationship between learning strategic alliance and product innovation of SMEs in North Central Nigeria.

Discussion of Findings

From the result of the data analysis, the following findings as regard the subject is as follows; That marketing and distribution strategic alliance help combat the inequities posed where an SME would otherwise be competing with larger organizations for suppliers and sales. By linking with each other the SMEs have access to additional financial and human resources and geographical spread which increases their competitive advantage and sales revenue. This further revealed that marketing and distribution expansion requires a huge investment of resources and the development of new distribution channels.

The study revealed that strategic technology alliance has positive relationship towards improving organizational performance in terms of market shares and product innovations. This implies that technology alliances provide evidence that increasing the diversity of partners in the technology alliance portfolio has a significant positive impact on the ability of a firm to be the first one to launch new or significantly improved products onto the market.

The study also revealed that production alliance positively influences competitive advantage; this means that firms planning to improve their competitive advantages need to consider production alliances with other firms especially those in manufacturing sector. Production strategic alliances are hotly formed to gain market share, try to push out other companies, pool resources for large capital project, establish economics of scale, and gain access to complementary resources.

The study further revealed that learning alliances are valued part of an organizations culture which product innovations are developed both intra-organizationally and inter-organizationally. To this end, these product innovations range from new missions and strategies to new products and different ways of operating an organization. SMEs that have a strategy to seek new products or to imitate what is effective seem likely to form alliances with a learning motivation. When tacit knowledge is shared or circulated within an inter-strategies for employees to bring their know hoe to the alliance that will lead to a greater product innovation.

The summary of findings from the data analysis are;

` i. Marketing and distribution strategic alliance significantly affect sales performance of SMEs in North Central Nigeria.

ii. There is significant relationship between technology strategic alliance and product innovation of SMEs in North Central Nigeria

iii. There is significant relationship between production strategic alliance and competitive advantages of SMEs in North Central Nigeria

iv. There is significant relationship between learning strategic alliance and product innovation of SMEs in North Central Nigeria

Conclusion and Recommendations

Based on the findings of the study, the study concluded that marketing and distribution strategic alliance help combat the inequities posed where an SME would otherwise be competing with larger organizations for supplies and sales. By linking with each other the SMEs have access to additional financial and human resources, and geographic spread which increases their competitive advantage and sales revenue.

In addition, the study concluded that technology alliance provided evidence that increasing the diversity of partner in technology alliance portfolio has the positive impact on the ability of a firm to be the first one to launch new and improved products onto the market.

The study further concluded that production strategic alliance helps firms planning to improve their competitive advantages need to consider production alliances with other firms especially those in manufacturing sector, this will enable the alliance gain market share, try to push out other companies, pool resources for large capital projects, establish economics of scale and gain access to complementary resources.

Lastly, the study concluded that a result of participating in a learning alliance, SMEs performance is reflected in the degree of knowledge they acquired, opportunity created, objective satisfied. When tacit knowledge is shared or circulated within an inter-organisation relationship, it will prompt the SMEs to produce new strategic for employees to bring their know-how to the alliance that will lead to a greater product innovation.

Strategic alliance is indispensable tool in today's business environment and so the following recommendations are suggested first, for SMEs to effectively manage its marketing and distribution alliance, they should set up a team that would be responsible for coordinating contacts with partners, identifying potential partners, and even developing the terms of the alliance and monitoring its performance. Secondly, SMEs should improve on production strategic alliance in order to implement a least-cost formulation strategy that optimizes the process of creating new formulas and the quality of their products. Also, SMEs should learn from their strategic partnership as this is a prerequisite in building sustainable capabilities of improving manufacturing processes, product quality and production operations. To succeed, alliance partners must encourage true collaboration beyond the formal governance structure and learn how to adopt and integrate knowledge acquired from the alliance to serve the specific needs of their own innovative effort. Finally, when making technology alliance decisions, managers should not only consider the potential benefits of such collaborative strategic but also should take into account the additional costs of intensifying the technology alliance portfolio.

One of the limitations of this study is that it is restricted to only North Central Nigeria. It would have been desirable to cover more geopolitical region of Nigeria to ensure adequate representation. Secondly, it was also restricted to only SMEs which in essence nears that the study did not represent the generality of strategic alliance in the business world. However, one would be happy to conclude that, despite these constraints, a great deal will be achieved since literature in this area are scanty.

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Transformational Leadership Style and Employee Performance in National Research Institute of Chemical Technology Zaria, Kaduna State

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***Abstract*:** *Employee performance is essential for the growth of any organization. The essence of this paper is to seek out the connection between transformational leadership style and employee's performance. Leadership Style is how a leader directs and motivate employees to achieve organizational goals and objectives. The focus is on transformational leadership style, which has four dimensions charismatic/idealized influence, inspirational motivation, intellectual stimulation and individual consideration. The study has provided a deep insight into transformational leadership and employee performance. The study utilized primary data using the quantitative approach with the help of a survey instrument to gather data from the employees; we then drew a sample size of 241 employees from the population of 605. PLS-SEM version 3 was used. The findings suggested that the transformational leadership style significantly influences employees' performance in National Research Institute of Chemical Technology* Zaria.

Keywords: *Transformational Leadership Style, Employee Performance, Idealized Influence*

Introduction

The survival and success of an organization hinge on the performance of its employees (Steffens et al., 2014) and the role of a leader is to guide their organization in fulfilling their tasks, operations and goals. Moreover, studies highlighted that job performance depends on leadership style (Naeem & Khanzada, 2018), that is why most organizations coping with contemporary challenges put more emphasis on employee performance (Gruman & Saks, 2011). Certainly, organizations facing current challenges need to focus effort to increase employees' performance. Hence, managers need to utilize leadership style that improves performance leading to maximization of organizational goals.

The importance of employees' performance cannot be overstated and is linked to attainment of organization' set goals. Employees' performance is relevant towards accomplishing organizational goals and objectives (Wanza & Nkuraru, 2016). Consequently, employees' performance remains a prerequisite for goals attainment within organizations in today's dynamic environment. As a result, to perform at optimal levels that will lead to attainment of its goals, the National Research Institute of Chemical Technology (N.A.R.I.C.T) Zaria need such employees who will contribute to the organization' set goals by aligning with leadership style implemented by the leadership.

Both internal and external challenges that hinder achievement of organization' goals exist, and only organizations capable of overcoming them thrive. Also, Al-Hawary and Al-Hamwan (2017) asserted that competition is among these challenges, and competition is growing globally. Since the National Research Institute of Chemical Technology (N.A.R.I.C.T) is not isolated from existing global challenges by implication the organization can leverage on effective leadership style to fulfill its core mandate, which include advance scientific and technological innovations for high-impact applications in chemical process industries through research and innovation, development capabilities, commercial capabilities partnerships and strategic collaborations. However, there have been petitions against the current Director-General of N.A.R.I.C.T (Aodu, 2021) and while the petition is being handled, the development indicates that internal challenges exist in form of discontentment by some employees.

Although one would expect that N.A.R.I.C.T as a research institute filled with professionals who perform their tasks optimally when combine with specific leadership style, interestingly, literature show that leadership in an ideal situation will require a particular or combination of leadership style(s) in other to maximize employees' performance (Griffin, 1999). As such, in practice implementation of leadership style is limited because of neglect and lack of awareness (Chris, 2016). Consequently, the inactions or actions of leaders manifested in their leadership style in institutes or government organization results in challenges along ethnic, tribal, nepotistic and religious lines; merit, seniority hierarchy and experience jettisoned for expediency in decision-making; abuse of rules and regulations, and near-total absence of cooperate governance system or structure that breed indiscipline (Aodu,2019). Therefore, these challenges can undermine employees' commitment and poor application of funds. Interestingly, N.A.R.I.C.T has not been able to meet domestic demand in line with its founding goals in terms of chemical needs of Nigeria that has led to rise in imports for chemical and chemical-related products, hence the relevance of examination of the effects of leadership style on employees' performance in N.A.R.I.C.T Zaria.

The influence of leadership style on employees' performance in Nigeria is rarely examine. Frequently, examined sectors includes banking, oil and gas; and hospitality. These sectors set key performance indicators; rely on decisions of leaders along with leadership style to enhance employees' performance and by implication profits. However, due to inadequate awareness of the importance of transformational leadership style on employees' performance in N.A.R.I.C.T Zaria where consequence of leadership style, actions or inactions does not affect employees' salaries and allowances; which are paid by the government imply that leadership of the organization cannot be held accountable.

The knowledge about the impact of specific component of transformational leadership in N.A.R.I.C.T will be helpful for managers/leaders in the face of dwindling budgetary provisions and the potential contribution of institutes like N.A.R.I.C.T in halting importation and saving of foreign exchange. Because according to the Director-General of N.A.R.I.C.T, Jeffrey Barminas, Nigeria rely heavily on importation of chemicals along with chemical products which has led to the loss of $1.4 billion to importation of chemicals in 2019 (Agency Report, 2020).

Statement of the problem

Although several factors account for the performance of employees, the following are identified to influence employee performance according to Ewesuedo (2011); Saeed et al.(2013); Hammady et al. (2014); Nizam and Shah (2015) includes leadership style in N.A.R.I.C.T, personal problems, motivation, job content, career advancement opportunity, leadership effectiveness, reward and recognition; manager' attitude, training and development; and organizational culture. However, studies that proved the relevance of transformational leadership style in influencing factors that affect employees' performance (Olabode & Bakare, 2018; Olanrewaju et al., 2020; Roberts, 2020) considered banking, oil and gas; and hospitality sectors. In these sectors, pay-packs and allowances for employees are higher than what is obtainable in public sector especially research institutes. However, N.A.R.I.C.T leadership are alleged to have acted in manner that inhibit the above listed factors that affect employee' performance. According to Aodu (2021), these acts includes: abuse of office, breach of public service rules, bias in promotion exercise, witch-hunting in staff transfer, non-remittance of internally generated revenue, and irregularity in contract appointment. Additionally, the Anti-Corruption and Transparency Unit (ACTU) found previous leadership of misappropriation of budget funds, non-implementation of approved projects with cash backing and movement of the institute' property without documentation.

Cumulatively, these alleged actions affected performance of employees since in 2017; Odey (2017) observed that 26 research institutes embarked on indefinite strike due to poor funding, salary arrears, salary increase, and retirement age. Consequently, issues that concerns employees have led to industrial disharmony and transactional leadership would have mitigated some of these issues.

N.A.R.I.C.T rely on budgetary provisions for overheads, and because of poor funding employees readily resort to strikes. As such, Odey (2017) affirmed that 26 research institutes embark on strike in 2017 because of inadequate funding which affects performance, thus transactional leadership style would have had the most impact because of financial rewards hence the importance of transformational leadership style in the context of research institute that are majorly funded by government. Therefore, dearth in knowledge still exist on how transformational leadership style influences performance of employees in research institutes like N.A.R.I.C.T.

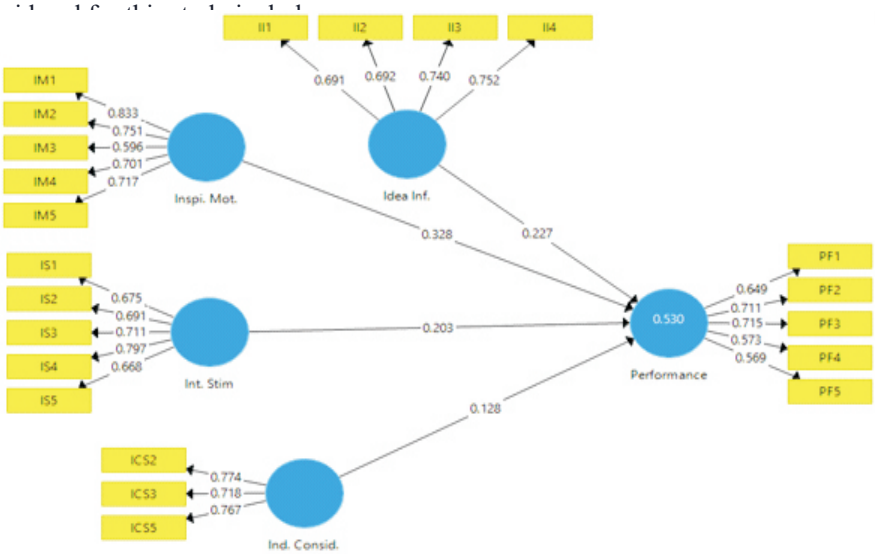
Hence, this study examines the impact of transformational leadership style on employee performance in N.A.R.I.C.T, Zaria Kaduna state.

1.2 Objectives of the study

The key objective of this study is to ascertain the effect of transformational leadership style on employees' performance in National Research Institute of Chemical Technology Zaria.

1.1 Hypothesis

The hypothesis cor



To establish composite reliability, the reliability scores were above the threshold of 0.70. This means that each construct in the model has captured indicators that have much in common and are statistically significant (Hair *et al*., 2014). An assessment of convergent validity was also conducted by examining Average Variance Extracted (AVE) values. All the AVE values in the results exceeded the threshold value of 0.50 (Hair *et al*., 2014). The most negligible value was 0.50, so convergent validity was established. Table 1 below shows the AVE values.

Table1
Item loadings, Internal consistency and average variance explained

Item Indicators	Outer Loading	Comp. Reliability	Average Variance Extracted
ICS2	0.77	0.81	0.52
ICS3	0.72		
ICS5	0.77		
II1	0.69	0.80	0.57
II2	0.69		
II3	0.74		
II4	0.75		
IM1	0.83	0.84	0.52
IM2	0.75		
IM3	0.60		
IM4	0.70		
IM5	0.72		
IS1	0.68	0.84	0.50
IS2	0.69		
IS3	0.71		
IS4	0.80		
IS5	0.67		
PF1	0.65	0.78	0.52
PF2	0.71		
PF3	0.72		
PF4	0.57		
PF5	0.57		

Source: Author' Computation

On the other hand, to ascertain the discriminant validity of the reflective constructs, the square root of AVE of each variable should be higher than its correlations with any other construct (Fornell & Larcker, 1981). As shown in Table 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 and hence, discriminant validity achieved.

Table 2
Discriminant Validity: Fornell and Larcker Criterion

Cnstruct	Idea Inf.	Ind. Consid.	Inspi. Mot.	Int. Stim	Performance
Idea Inf.	**0.72**				
Ind. Consid.	0.39	**0.75**			
Inspi. Mot.	0.45	0.36	**0.72**		
Int. Stim.	0.33	0.31	0.35	**0.71**	
Performance	0.34	0.25	0.35	0.32	**0.65**

Source: Author' Computation

4.3 Structural model

The coefficients were estimated through bootstrapping procedure subsamples of 172 cases in the dataset and a no sign change.

Figure 2: Structural Model

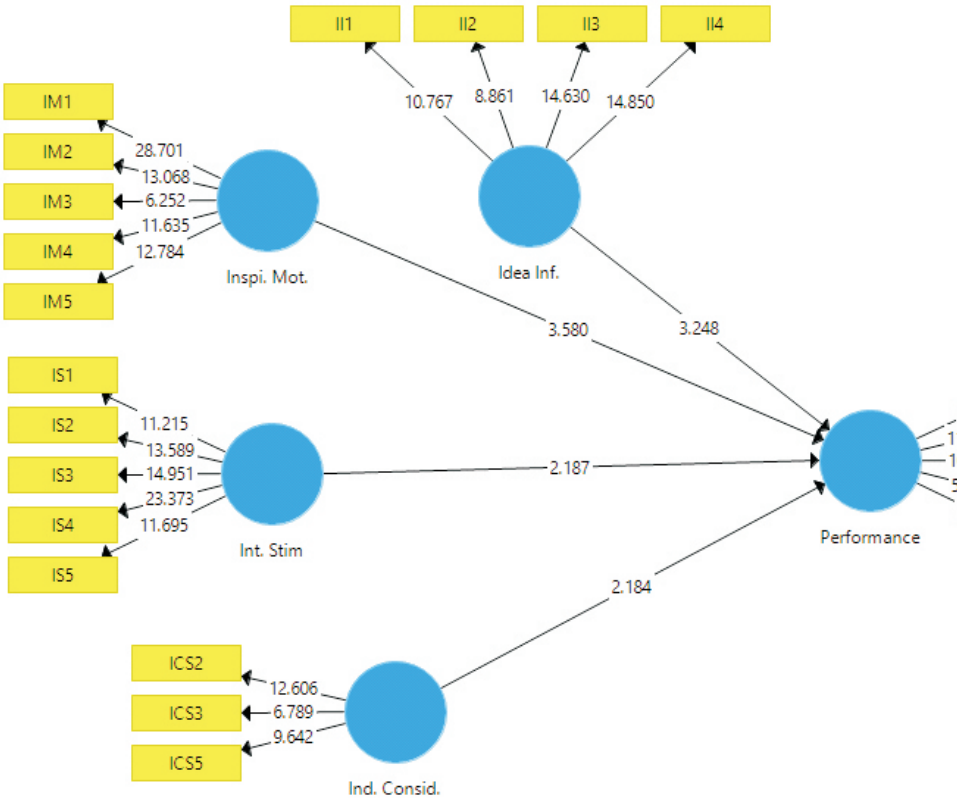


Table 3 :Result for Hypotheses Testing

Relationship	Beta Value	Std. Dev.	T Statistics	P Values
Idea Inf. -> Performance	0.24	0.07	3.25	0.00
Ind. Consid._ -> Performance	0.13	0.06	2.18	0.03
Inspi. Mot._ -> Performance	0.32	0.09	3.58	0.00
Int. Stim_ -> Performance	0.21	0.09	2.19	0.03
Rsquare	0.53			

Source: Author' Computation

The result in table 3 shows that all the hypotheses tested were positive and significant at 5% level of significance. Specifically, idealized influence has (Tvalue, 3.23, *Pvalue,* 0.00), individual consideration has (Tvalue, 2.18, *Pvalue*, 0.03), inspirational motivation (Tvalue, 3.58, *Pvalue*, 0.00), and intellectual stimulation (Tvalue, 2.19, *Pvalue,* 0.03). The empirical analysis also shows that the Coefficient of determination (R^2) for the endogenous variables is 0.53. This implies that the exogenous latent variables are good predictors of the endogenous latent variable.

Table 4: Effect Size

Variables	F2	Effect Size
Idea Inf.	0.07	Small
Ind. Consid._	0.02	Small
Inspi. Mot._	0.11	Small
Int. Stim_	0.05	Small

Source: Author' Computation

Again, the exogenous construct, idealized Influence, in intellectual stimulation, and employee performance had the effect size values of 0.07, 0.02, 0.11 and 0.05 respectively. Based on the argument of Cohen (1988), f^2 values of 0.02, 0.15, and 0.35, indicate that all the variables have minimal effects on the dependent variables.

Table 5: Predictive Relevance

Variable	SSO	SSE	Q^2 (=1-SSE/SSO)
Performance	681	918.549	0.19

Source: Author' Computation

The predictive relevance was measured by the Stone-Geisser criterion Q^2 value, obtained using the blindfolding procedure (Hair *et al*., 2014). Using the cross-validated redundancy approach, as recommended by Hair *et al*., (2014), the two reflective exogenous constructs had proven to have adequate predictive relevance as their values of Q^2 had been above zero.

Conclusions and recommendation

We examined transformational leadership and employees' performance in N.A.R.I.C.T Zaria and concluded that transformational leadership style influences employees' performance based on the study's findings. In addition, the specific components of transformational leadership like idealized influence directly affects employees' performance. At the same time, intellectual stimulation and individual consideration positively affect employees' performance. In other words, to improve employees' performance, organizations adopting transformational leadership style should focus on idealized influence, intellectual stimulation, and individual consideration.

Based on the conclusion, we recommend that leadership of National Research Institute of Chemical Technology Zaria be selective in choosing the component of transformational leadership style because not all the components are significant. Specifically, the organization' management should lay emphasis on idealized influence, intellectual stimulation, and individual consideration found to have a considerable impact on the performance of employees within that organization.

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Digital Analytical Skills: A New Frontier For Youth Employability In Osun State, Nigeria

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Abstract: *Over the past few decades, the Digital transformation of most businesses' environment have revolutionized the role of Digital technology within organizations with access to digital technologies and those without. In order to keep abreast with this new wave of Digital technology, Digital organisations seek employees that will be able to handle multiple Digital tools essential for the effective capacity building and market competiveness in order to maintaining the new generations of Digital tools. Digital skills are increasingly becoming more valued by employers and are relevant factors affecting youth employability. The aim of the study is to explore Digital Analytical Skills: A New Frontier for Youth Employability in Osun State, Nigeria, A quantitative study was conducted to explore the Digital Analytical Skills: A New Frontier for Youth Employability in Osun State, Nigeria, using cross sectional survey research design with the sample size of 210 respondents in Osun State. The multiple regression analysis was used to model the effect of digital analytical skills on youth employability in Osun State, Nigeria. The results from the statistical analysis showed that there is a significantly positive effect of sentiment analysis, data storytelling, data dashboard, on youth employability and a negative significant effect of social network analytics, and data visualization on youth employability in Osun State, Nigeria. The study recommends that the government should create an enabling environment with well equipped technological facility to train youths in the country in order to add value to the youth.*

***Keywords*:** Digital Analytical skills, Youth Employability, Sentiment Analysis, Data Storytelling, Social Network Analytics, Data Dashboard, Data Visualization

Introduction

In today's global business environment where there is an increased demand in the use of digital technologies in solving complex problem. Digital technologies have also transformed various business processes, impacting the global economy and society. Businesses of this era however needs competent and skilled individual to help manage the utilization of this technological devices in managing the day-to-day business operations. With the advent of increasingly high demand of Digital-based organizations charged with the responsibility of building and maintaining the new generations of Digital tools in recruiting Digitally competent youths with skills either vocational or technical that enhance the organizations efficiency and competitive advantage in the global world of changing ICT environment and advanced technology. Digital organisations seek employees that will be able to handle multiple Digital tools essential for the effective capacity building and market competiveness. Digital skills are not only critical to finding or keeping jobs, but also critical to closing the gap between those with access to Digital technologies and those without.

The global rate of participation of youth in the global force fell by almost 12 percentage from 53.1 to 41.2 per cent; the total number of young persons in the labour force declined accordingly from 568 to 497 million, even with the incessant increase in the youth population which increases from 1 billion to 1.3 billion. Both young men and women have experienced a decline in labour market engagement around the globe (Global Employment Trends for Youth 2020). Although worldwide about four in ten young people are engaged in the labour force (in other words, either employed or unemployed), there are marked differences across sub-regions. Participation is of youth in the labour force is higher in the Northern America, with about 52.6 percent, followed by Latin America and the Caribbean and sub-Saharan Africa, at 48.9 and 48.2 percent, respectively (Global Employment Trends for Youth 2020). The lowest rates of youth engagement are seen in West Africa, Northern Africa and the Arab States, where only about 27 percent of young people participate in the labour force. Despite these disparities, there has been a universal decline in labour force participation rates between 1999 and 2019. Young people may be outside the labour market for various reasons, including education, family responsibilities, sickness or disability and discouragement (believing that there are no jobs available) **(Global Employment Trends for Youth 2020).**

In Africa, Many young people face difficulties in finding a job because of the mismatch between their education/training. Innovation, technology and market developments have turned the world of work into a fast-changing environment. There is a need to equip a growing young workforce with skills required for the jobs of the future, not to mention re-equipping the current workforce with the skills required to keep up with a changing world. The greatest challenge lies in the technology-

and knowledge-intensive sectors that also have the highest potential for economic growth and employment (ILO, 2012). Without mincing words, Osbohien, Osuma, Ndigwe and Ozordi (2018) posit that the menace of youth unemployment and under-employment in African transcend multifaceted economic, social, and moral policy concerns. This effect captures a large number of adults in both rural and urban constituencies of which the incidence of youth, women and rural population is on a high proportion.

In Nigeria, youth employment has worsened in recent years (Adnomon, & Folorunso, 2021). The challenges of securing and retaining decent work are even more serious and complex for vulnerable and marginalized youth including young women, those living in humanitarian settings, youth with disabilities, and migrant youth because of inadequacy of digital skills among youths. Disparities within and between countries in educational participation among youth are stark, poverty, disability, and migrant/refugee status all being major reason for the inadequacy of skills amidst youths. Inequalities in access are reinforced by discrimination and violence often directed towards these same groups. According to Musa and Dikko (2018), the youth in every society are considered to be the engine of growth. Their contribution is therefore the most needed for a society to thrive and develop in all ramifications. Nigeria being the most crowded nation in the African, it is being looked with real difficulties of powerlessness give quality occupation to its young populace. The nation's joblessness rate in 2011 remained at 23.9 percent with youth joblessness rate at more than 50 percent (Salami, 2013). National Population Commission (2001) reports that young people between 15-29 years constitutes over portion of the roughly 180 million Nigerians. In 2018, according NBS it was about 23.1 percent and 16.6 percent respectively and in 2021 it was about 32.5 percent with a projection of over 33.3 percent in 2022 (NBS 2022; Oloni, 2011; Adnomon, & Folorunso, 2021) As per Oloni (2011) joblessness rate in Nigeria is developing at the rate of 21 percent yearly. From this gauge, the young affected the most representing three out of four. Youth joblessness particularly in Nigeria has turned into a risk to financial harmony and solidness. The menace of youth unemployment across the country had drawn millions of youth into violent crimes. The annual increase in the number of graduates from higher institutions causes an increase in youth unemployment (Ajaegbu, 2012, Yunusa, & Deepika 2019; Christian, 2019).

Digitally equipped youths have advantage of high employment and other benefits for life. Because of the increasing number of versatile Digital sources, the demand for building and maintaining the new generations of Digital tools and market competiveness Digital organisations seek employees that will be able to handle multiple Digital tools. Upon rapid increase in technological development organizations such as health service, and education, has employed the concept of digital analytical skills. It however important that youths acquire technical skills related to digital analytical skills in order to develop critical thinking skills, access various information and Digital from different sources, evaluate, analyze and synthesize information and Digital, in order to communicate effectively with people, take constructive social that reflects the level of socialization. (Onursoy, 2018; Sönmez & Gül, 2014, Özerbaş & Kuralbayeva, 2018, Key et al., 2019).

The barriers to youth getting employed could be a lack of Digital skills. The level of Digital skills also increases the growth or certainty of employment for youths (Eseyin, et al., 2021, Onyekwere, 2021). Employers are seeking only youths who can continue to learn and adapt; read, write and compute competently; listen and communicate effectively; think creatively; solve problems independently; manage themselves at work; interact with co-workers; work in teams or groups; handle basic technology, lead effectively as well as follow supervision. These core skills for employability are both important to employers' recruitment and enhance an individual's ability to secure a job, retain employment and move flexibly in the labour market as well as engage in lifelong learning. Digital Analytical skills are skills needed for education and the workplace in the current economy (van Laar, van Deursen, van Dijk, & de Haan, 2020). In order to define and systemize these skills, a number of initiatives have outlined frameworks. The Partnership for 21st Century Skills (P21, 2007) is a joint government–corporate organization which lists three types of skills: learning skills (creativity and innovation; critical thinking and problem-solving; communication and collaboration), literacy skills (information literacy; media literacy; ICT literacy), and life skills (flexibility and adaptability; initiative and self-direction; social and cross-cultural skills; productivity and accountability; leadership and responsibility).

Upon this background, the purpose of this study is to explore Digital Analytical Skills: A New Frontier for Youth Employability in Osun State, Nigeria, using cross-sectional survey research design with the sample size of 160 youths in Osun State. However, the specific objective is to; evaluate the effect of digital analytical skill on youth employability in Osun State, Nigeria;

Literature Review

Digital Analytical Skills

A skill can be generally defined as the learned ability to perform actions with ease and mastery, without requiring much conscious effort. When related to a tool, a skill integrates the ability to manipulate and operate this tool, but also to mobilize it relevantly, along with other resources, to reach given goals. For instance, as a skilled Photoshop user, Marie uses the software seamlessly and does not need to focus on the various features of the application. She can therefore truly focus on the aesthetic of the photos she is working on. Users develop their skills progressively: as they use their

tools repeatedly, their manipulation becomes more fluid (development of operational skills), their integration in the practice becomes smoother (articulation with other resources and workflows), and the class of situations where the tool is deemed relevant becomes clearer for the user (development of task-related skills) (Belin, Prié, & Tabard, 2014; Kaptelinin, 1996). This developmental process, well analyzed for traditional tools, is challenged in digital environments (Climent, & Haftor, 2021).

Previous literature emphasizes a broad spectrum of skills, yet do not explicitly integrate digital aspects. The digital analytical skills literature, on the other hand, often does not cover the broad spectrum of skills posed by skills studies. Van Laar et al. (2017) conducted a systematic literature to synthesize the relevant academic literature concerned with digital analytical skills. The review resulted in seven core and five contextual skills. As ICT is pervasive in the workplace, the digital component can be integrated into digital analytical skills. This study elaborates on the seven core skills supported by the use of ICT: technical, information management, communication, collaboration, creativity, critical thinking, and problem-solving.

These skills are fundamental for performing tasks in a broad range of occupations.

Youth Employability

According to Dacre and Sewell (2007) the concept of employability refers to the ability of a young person to gain initial employment, to maintain employment, and to obtain new employment if required. They defined employability as a set of skills, knowledge, understanding and personal attributes that make young person capable of getting, keeping and successfully fulfilling the work.

Al-Braizat (2016) sought to identify the key significance of educating young people and edifying them in order to attain sustainable development goals. To that end, he found that educational processes vis-a-vis youth populations are constitutive of the base of their personal development. In addition, he demonstrated that traditional education systems limit young people in terms of accepting a dynamic culture of change and creativity. Furthermore, he concluded that a comprehensive educational system should be continually reviewed and improved upon. According to Chan (2016), higher education can be regarded as a focal point of knowledge acquisition, and as such it makes a great contribution to both economic growth and development via the fostering of innovation and increasing the repertoire of skills of graduated students.

Based on the Digital sets from EUROSTAT and ILO, for the selected countries, like Bosnia and Herzegovina; Croatia; Montenegro; North Macedonia; Serbia; and, Slovenia depict the changes in educational structure, the trends in employment, unemployment, and NEET pertaining to the youth population aged 15 to 24 during the period 2009 to 2019.

The youth populations with completed primary educational levels (ISCED 0-2) in selected SEE countries are almost equally represented amongst the countries. The interval of their participation is from 42% to 37%, on average during the period 2010 to 2019, and this is less than the EU28 average. In EU 28 participation of the population aged (15–24), with completed primary and lower secondary education, the figure is approximately 44% on average during the period analyzed. One of the reasons for the lower and decreasing rates of youth population (15–24) with completed education levels (ISCED 0-2) is the negative demographic and intensive emigration patterns in the observed countries. Msigwa and Kipesha (2013) observed that qualified, energetic and courageous youth can influence the social-economic development of a nation if utilized and managed well. More so, in the submission of Kew (2001), and Ayele et. al. (2017), Youth employability is the great tsunami of the economy that goes lurking on and people are caught up in tidal wave.

Theoretical Review

Theory of Connectivism

Connectivism, is a theory advanced by George Siemens, is touted as a learning theory for the digital age. According to the theory of connectivism, learning is derived from forming connections. Educators must help students connect previous knowledge to new knowledge, and students must be able to recognize gaps in their knowledge as well.

With technology, students have an increased ability to independently seek the most current information on any topic. This type of exploration and self-motivated learning should be encouraged. Connectivism embraces the idea that learning is no longer a completely internal process. Students should have opportunities to connect knowledge and ideas, independently seek understanding, and connect with others to share knowledge via technology. This theory however, connects digital analytical skills and youth employability (Lynch, 2018).

OCL Theory

OCL is a theory related to learning through online discussions. Students engage in collaborative problem-solving that is facilitated by the instructor. Students brainstorm, compare, and analyze their ideas before synthesizing these ideas and attempting to reach a consensus. The teacher facilitates this process, provides resources to students, and provides input and feedback. This learning theory emphasizes discussion over reading and memorization. This study relates to the study

thereby establishing a significant association with digital analytical skill and youth employability (Lynch, 2018).

Empirical Review

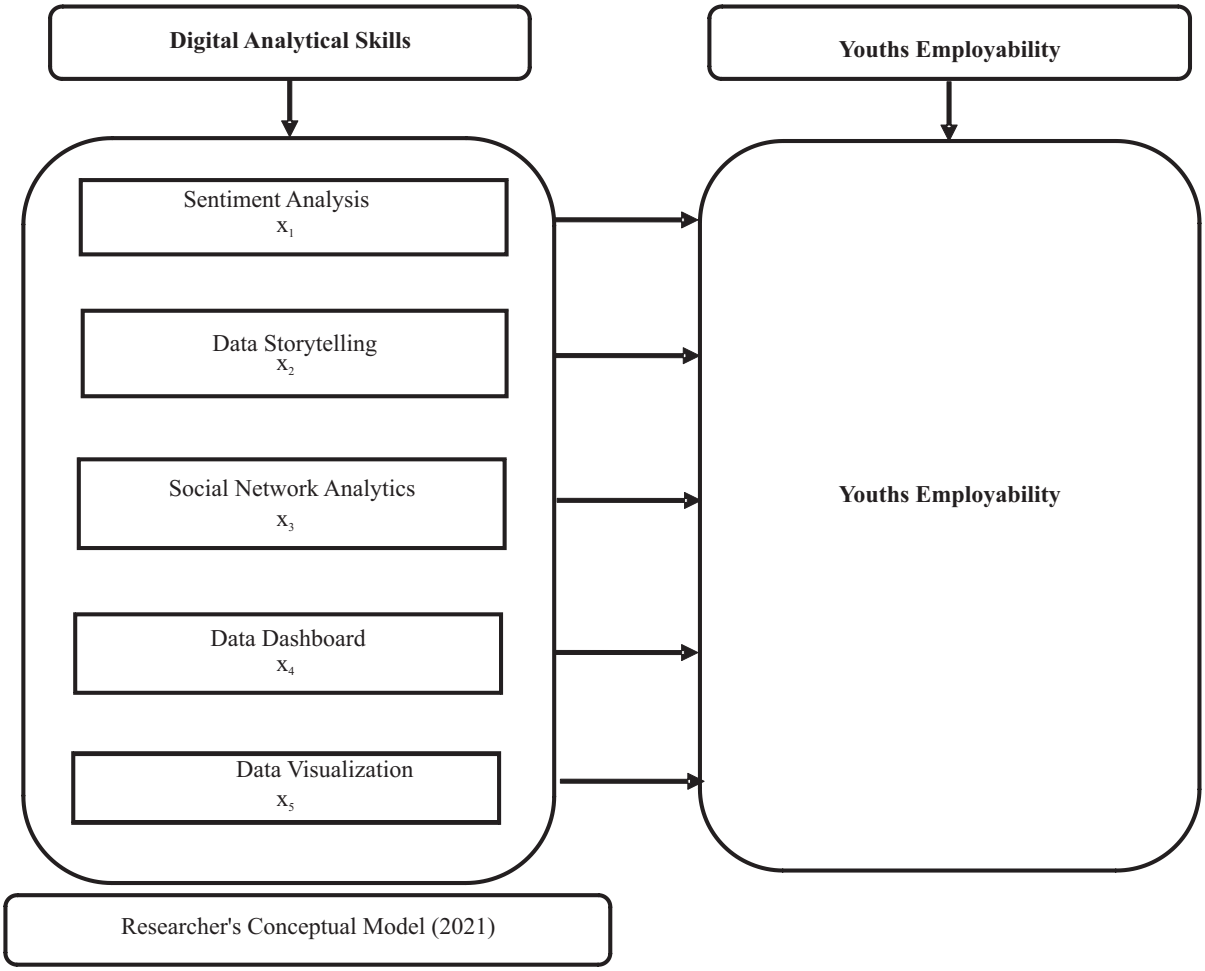
The empirical studies reviewed here show that a firm's use of digital technology can enable the activation of any of the four business model themes (novelty, efficiency, complementarity, or lock-in), which co-condition that firm's performance. Therefore, activation of these themes should be the operational mechanism that leverages digital technology. Inspired by the recent proposal of the co-evolution of business model themes (Costa Climent & Haftor, 2021).

Bell and Blanchflower (2011) found that youth unemployment rates have been increasing relative to the adult groups of unemployment rates. The last recession has increased the size of the gap between the rates of unemployment of these groups. According to them, the youth population group with the lowest levels of education and skills are particularly concerning. Youths in this group were those most negatively impacted upon by the recession since jobs requiring relatively low levels of skills were taken by those with higher levels of skills. Furthermore, they noted that jobs previously held by young people both during and after the recession were taken by older people with more experience.

Refrigeri and Aleandri (2013) have argued that the problem of youth unemployment is a consequential one which arises from the difficulties in the process of transition from school to work. They showed that high rates of youth unemployment in Europe have emerged (up to 30%) and that these rates are notably higher than those for older adults (up to 10%). They pointed out that youth unemployment can only be reduced through the introduction of policies which promote a work-related curriculum but also seek to reform education systems and professional development.

Piteres (2013) has adopted a more microeconomic approach in analyzing the determinants of youth employment in developing countries, analyzing three groups of determinants: labor demand, labor supply, and labor market functioning.

Conceptual Model



Methodology

Research Design

The research employed the cross-sectional survey research design this is because of its capacity to investigate the characteristics, opinion, behavior of a group of people (Osuagwu, 2020).

The Study Area

This study will be conducted in Osun State, Nigeria because of the relatively large number of youths and the consistent use of the social media network among youths. Osun State is located in the Southwest Zone of Nigeria with a total land area of 9,251 square kilometres. The samples were taken from the three Senatorial Districts in Osun State which are Osun Central, Osun East and Osun West. Two out of the most populous Local Government Areas were selected for this study.

Table 1: Study Area

S/N	Senatorial Districts	LGAs	Population
1	Osun Central	Osogbo	39
2		Boripe	31
3	Osun East	Ife East	53
4		Ife Central	48
5	Osun West	Iwo	61
6		Aiyedaade	34
	Total		**266**

Source: Researcher Survey, 2022

Sample Size and Sampling Technique

The samples were taken from the Senatorial Districts in Osun State which are Osun Central, Osun East and Osun West. Two most populous Local Government Areas each were selected respectively for this study. Two hundred and ten (210) copies of questionnaire will be distributed in the study area to youths between the ages of 18-35 years.

The provisional matrixes for finite population by Yamane (1976) was employed by the study and statistically illustrated as follows:

$n = \frac{N}{1 + N(e^2)}$ *where* N = known population and e = error level or % percent confidence interval or alpha level.

For 0.95 confidence interval, e = 0.05.

$n = \frac{440}{1 + 266(0.05^2)}$

n = 209 approximately 210

Instruments

The study employed a combination of both qualitative and quantitative instruments. The principal method of Data collection employed in this study is the survey method. The primary Digital were generated through the use of structured questionnaire that consisted of open and close-ended questions, in addition to key informant interview and in-depth interview where necessary; while the secondary sources were essentially the use of other ancillary instruments like literature searches and use of available records and documents. Out of a total population of 266 respondents, 160 respondents were selected through simple random sampling procedure. This sampling technique was selected for this study because it selected a sample without bias from the target or accessible population and this is to ensure each of the target population members has an equal and independent right of being included in the sample. Based on this, the researcher was able to adopt a mathematical formula for the purpose of determining the sample size.

Method of Data Analysis

The ordinal regression method was used to model the relationship between the analytical skill on youth employability in Osun State, Nigeria, youth employability variable the dependent variable and the independent variable digital analytical skills; sentiment analysis, data storytelling, social network analytics, data dashboard and data visualization. This is because it facilitates the interactions between dependent variables with one or more independent variable (Yatskiv, & Kolmakova, 2011).

Table 2: Reliability Test of Result

	Variables	Number of Items	Cronbach's Alpha	Reliability
1	Sentiment Analysis	**4**	**0.800**	Reliable
2	Data Storytelling	**4**	**0.722**	Reliable
3	Social Network Analytics	**4**	**0.798**	Reliable
4	Data Dashboard	**4**	**0.852**	Reliable
5	Data Visualization	**4**	**0.944**	Reliable
6	Youth Employability	**4**	**0.857**	Reliable
	Total	**24**	**0.963**	Reliable

Source: Researcher's Field Survey 2022

Where,

Y is dependent variable and X is independent variable.

In the models:

Y = Youth Employability (YE)

X = Digital Analytical Skills

SA = Sentiment Analysis

DS = Data Storytelling

SN = Social Network Analytics

DD = Data Dashboard

DV = Data Visualization

Discussion of Result

Table 3a Personal Digital of Respondents

Variable	Frequency	Percentage
Age		
Below 18	7	3.3
18-25	67	31.9
26-35	54	25.7
36-45	45	21.4
46 and above	37	17.6
Total	**210**	**100**
Gender		
Male	109	51.9
Female	101	48.1
Total	**210**	**100**
Marital Status		
Single	62	29.5
Married	128	61.0
Divorced	10	4.8
Separated	10	4.8
Total	**210**	**100**
LGA		
Osogbo	19	9.0
Boripe	35	16.7
Ife East	26	12.4
Ife Central	23	11.0
Iwo	69	32.9
Ayedaade	38	18.1
Total	**210**	**100**
Educational Qualification		
NCE/ND	11	5.2
BSc./HND	69	32.9
Postgraduate Degree	130	61.9
Total	**210**	**100**
Digital Skills		
Very Low	38	18.1
Moderately low	43	20.5
Low	33	15.7
High	27	12.9
Moderately High	32	15.2
Very High	37	17.6
Total	**210**	**100**

Source: Researcher's Field Survey 2022

Two hundred and ten (210) copies of questionnaire were designed and distributed to the respondents. The table showed the respondents profile in frequency and percentage distribution of age,, gender marital status, LGA educational qualification, digital skills.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.969[a]	.940	.938	.25161

a. Predictors: (Constant), Digital Visualization, Digital Storytelling, Sentiment Analysis, Digital Dashboard, Social Network Analytics

The result of the Model Summary table shows that the R, R-square and adjusted-R values, which are measures of predictability of the model, using all the predictors simultaneously R = .969, and the R-Square value is .940 and adjusted R square is .938 meaning that about 94.0 % of changes in youth employability can be predicted from the predictors in this model and this is very strong. The remaining 6.0% are due to various other factors that influence youth employability.

ANOVA [a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	201.210	5	40.242	635.653	.000[b]
	Residual	12.915	204	.063		
	Total	214.125	209			

a. Dependent Variable: Y outh Employability
b. Predictors: (Constant), Data Visualization, Data Storytelling, Sentiment Analysis, Data Dashboard, Social Network Analytics

The ANOVA test result shows that the model was significant enough, and there is not a model fitness problem. From the multiple linear regression analysis results, it can be concluded that sentiment analysis, data storytelling, social network analytics, data dashboard, datal visualization have a positive significant effect on youth employability in the Osun State. Multiple linear regression analysis and hypothesis testing multiple linear regressions were used to be estimated to determine the effect/influence of each independent variable on the dependent variable.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.234	.073		-3.225	.001
	Sentiment Analysis	.971	.060	.927	16.186	.000
	Data Storytelling	.300	.043	.259	6.935	.000
	Social Network Analytics	-.104	.110	-.097	-.944	.346
	Data Dashboard	.116	.079	.102	1.464	.145
	Data Visualization	-.217	.051	-.235	-4.295	.000

a. Dependent Variable: Y outh Employability

The statistical analysis showed that from the regression model coefficient, it can be concluded that sentiment analysis, data storytelling, and data dashboard, both have a positive significant effect on youth employability at B = .971, P = .000, B = .300, P = .000, B = .116, P = 0-145 respectively. While social network analytics, and data visualization have a negative significant effect on youth employability at B = -0.104, P = 0.346, B = -0.217, P = 0.000 respectively. From this result, we can observe that sentiment analysis, is the most predicting determinant of youth employability, and data storytelling is the next while data dashboard follows. This result supports the previous findings of (Onyekwere, 2021; Yunusa, Deepika 2019; Eseyin, et., 2021; Osbohien, et al., 2018). Also, the Coefficients table and supplies the significance coefficient of each of the factors considered in the model. From this table the *Beta* coefficient gives a rank value of significance from one factor to the other. However, three out of the predictors indicated a significant effect of youth employability such as sentiment analysis, data storytelling, and data dashboard while social network analytics, and data visualization have a negative significant effect on youth employability.

The unstandardized beta coefficient had proven that when sentiment analysis, is increased in one unit, there will be change/increment in youth employability by 97.1%, also when data storytelling is increased in one unit, there will be change/increment in youth employability by 30.0%, and also when data dashboard is increased in one unit, there will be change/increment in youth employability by 11.6%. In general, the regression coefficient clarifies that the average amount of change in youth employability was affected by a unit of change in digital analytical skill by the stated beta value for each strategy. In conclusion, the study objective is accomplished well by originated findings as previously supposed.

Implication

This study helps organization as well as the government in considering youth when it comes to employment and digital analytical skills (sentiment analysis, data storytelling, social network analytics, data dashboard and Digital visualization). In the same vein organisations, and government agencies can attain and maintain competitiveness while combating youth unemployment through public sector reforms (Onyekwere, 2021). The involvement of well equipped youth with adequate digital analytical skills in the organisation will also enhance the organizations efficiency and competitive advantage in the global world of changing ICT environment and advanced technology. Eseyin, et., (2021) also supports the implication of the findings from this study and precludes that achievement of youth employment is not automatic. It can only stem of achievement of positive economic growth. Considering the fact that, opportunities for youth employment cannot be actualized if there is downward swing of economic activities in the country. It is also, established that expansion in aggregate output usually comes as a result of increase in investment. It implies that more investment in the country will indirectly cause youth employment.

As a result of the challenge of unemployment in Nigeria, a National Employment Council was set up in 2002. The policy goals, plans and framework for containing rising underemployment and unemployment in Nigeria, were spelt out in the National Employment Policy (FMOYD, 2008).

The need to promote employment for the youth was embedded in the 2001 National Youth Policy. This was expected to be achieved through the following key areas:

- ✓ Education and vocational training to make youth self-reliant and employable citizens, and
- ✓ Gainful employment and entrepreneurial development by enhancing their access to employment opportunities.

Msigwa and Kipesha (2013) observed that qualified, energetic and courageous youth can influence the social-economic development of a nation if utilized and managed well. More so, in the submission of Kew (2001), and Ayele et. al. (2017), Youth employability is the great tsunami of the economy that goes lurking on and people are caught up in tidal wave.

Conclusion

This study explored Digital Analytical Skills: A New Frontier for Youth Employability in Osun State, Nigeria identified the main challenges of digital analytical skills; a new frontier for youth employability in Osun State, Nigeria. The study measured five independent vatiables sentiment analysis, data storytelling, social network analytics, data dashboard, and data visualization on youth employability in Osun State, Nigeria. However, The results of the statistical analysis showed that: (a) there is a strong positive significant effect of sentiment analysis on youth employability; (b) there is a positive significant effect of data storytelling and youth employability; (c) there is a positive effect of data dashboard on youth employability; (d) there is a negative effect of and social network analytics on youth employability and (e) there is a negative effect of on data visualization youth employability in Osun State, Nigeria.

Recommendation

Based on the findings of this study, it is therefore recommended that Government policies aimed at increasing the capacity of both public and private investments in the country should be specified and the government and business owners should workout policies that will be focused on increasing economic growth in order to create employment opportunities for youth. The government should also, come up with policies that address the problem of unemployment especially amidst the youth in the country. More so, the government should create an enabling environment with well equipped technological facility to train youths in the country in order to add value to the youth.

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Financial Deepening and Per Capita Income in Nigeria: An Impact Assessment

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Abstract: *The study investigated the impact of financial deepening on Nigeria's Per capita income from 1981 – 2019 using secondary data and ordinary least squares estimation technique. The study employed two standard indicators commonly used in literature in measuring financial development namely the ratio of broad money stock (MS) to GDP and the ratio of private sector credit (PSC) to GDP. The study found that financial deepening when measured by ratio of broad money supply to GDP had a positive significant impact on Nigeria's per capita income (PCI). However, when financial deepening was measured by ratio of private sector credit to GDP the study found that it had a negative and insignificant impact on Nigeria's per capita income thus suggesting that improvements in financial institutions' payment system and saving opportunities positively contributes to Nigeria's per capita income more than the credit channel. The study therefore recommended the urgent need to further deepen the financial sector in Nigeria through improved financial instruments, innovations and infrastructures, adequate regulation and supervision, sound and efficient legal system that will guarantee efficient credit delivery system.*

Keywords: Financial Deepening, Economic Growth and Per Capita Income.

Introduction

The contribution that finance makes to growth and development has over the years generated so much interest amongst researchers and economists. This long standing interest dates back to the pioneering work of Schumpeter (1911) who argued that the services provided by the financial intermediaries are important for innovation and growth. Ever since, a growing body of empirical literature now exits which provide evidence that there is a strong connection between the financial development of any country and its economic performance (Levine 1997, 2004 and DFID 2004).

The major assertion in some of these studies is that a well-developed financial system performs several critical functions in an economy which improves productivity and economic growth. Some of these functions include the financial intermediation role in bridging the information asymmetries between borrowers and savers, savings mobilization, capital funds allocation, monitoring the use of funds and risk management. In addition, Jalilian and Kirkpatrick (2002) stated that a sound and efficient financial system is a necessary condition for long term growth as it enhances economic performance by providing the platform for an efficient transfer of funds and resources which in turn improves the overall welfare of the people. However, while several attempts have been made to investigate the relationship between financial development and economic growth, very few studies (Ndukwe-Ani et al, 2018) have attempted to examine its impact on per capita income. Most studies on finance and growth nexus tend to assume that once there is growth it could have an impact on the whole economy but according to Fields (2001) the imperative of growth for income per capita improvement does not mean that growth is all that matters. Thus, though a large number of literature finds that financial development produces faster economic growth with income per capita implications, it is still very unclear whether the aggregate income per capita gains of financial development benefit the whole population equally or whether it disproportionally benefits the rich or the poor. For instance, if financial development increases income inequality then the country will enjoy positive economic growth without any benefit to its poorest household. In this case, high income group will be richer while the low income group will be poorer. Consequently, if financial sector reform policies that produce financial development are not accompanied with proper and adequate regulatory framework, sound fiscal and macroeconomic stability then financial development can have far reaching consequences on the distribution of wealth and adverse income per capita effects. It is against this background, that the present research study becomes imperative.

For Nigeria, studying the relationship between financial deepening or development and per capita income is a vital one considering the several efforts it has made over the years to reform and develop its financial sector. Considered as an integral part of macroeconomic policy the financial sector reforms were expected to bring about significant economic benefits particularly through effective mobilization of savings and efficient use of resources (CBN 2017). Some of these

reforms includes the deregulation and liberalization of the financial sector activities under SAP in 1986, banking sector consolidation in 2005, financial system strategy (FSS) in 2007 and the National Financial Inclusion Strategy (NFIS) which was launched in 2012. The NFIS strategy provided initiatives to addressing the barriers to financial services in Nigeria and sets a clear agenda for increasing both access to and usage of financial services.

Despite, these huge efforts, Nigeria's economic growth has slowed and remains weak, unable to considerably lower the current level of poverty and inequality, even though the various indices used to measure financial progress have been gradually improving over time. According to the Central Bank of Nigeria (CBN) statistical bulletin 2020, the depth of the financial sector showed some significant improvements as the ratio of broad money supply (M_2) to GDP which measures the systematic relevance of the financial sector increased from 10.39% in 1981 to 15.41% in 2001 then to 19.82% in 2011 and further increased to 23.35% in 2020. The banking sector also showed stronger capacity to finance real sector activities with substantial credit flow to the core private sector thus ratio of private sector credit to GDP increased from 6.15% in 1981 to 9.29% in 2001 then to 15.07% in 2011 and in 2020 it stood at 18.83%. From the above indices, one would wonder why these improvements in financial development indicators have not reflected on the living standards of the Nigerian Populace. An overview of Nigeria's GDP per capita as published by the World Bank 2020 shows that Nigeria's per capita income (PCI) has been stagnant after 40 years, remaining at the same level in 2020 as it was in 1981. PCI measures the average income earned per person in a given country in a specified year, calculated by dividing the country's total income by its total population. In 1981, according to World Bank data, Nigeria's PCI was $2,180.2 and $2,097 in 2020. This simply means that Nigeria today has real per capita income that was the same as 40 years ago – in 1981 indicating a case of someone whose growth has been stunted. Furthermore, the value for GDP per capita growth (annual %) in Nigeria was -15.45% in 1981 and -4.26% in 2020. The maximum value of 12.46% was recorded in 2020 while the minimum value of -15.45 was recorded in 1981 within the period under review.

Thus, it is in the light of above that the present study aims at investigating the relationship between financial deepening and per capita income in Nigeria. In essence the study will seek to answer the question as to whether financial sector deepening is related to Nigeria's per capita income growth. Answering the above research question would help us to see whether, how and to what extent financial development affects per capita income in Nigeria.

The rest of this paper is structured as follows; Section II deals with the literature review while section III describes the methodology to be used followed by a discussion of major findings and result in section IV while section V concludes the study.

1. Literature Review

2.1 Theoretical Review

2.1.2 The Endogenous Growth Theory

The endogenous growth literature provides an understanding of the importance of financial development in long-run economic growth through its positive influence on capital accumulation, savings and technological innovation (Romer, 1986; 1990 and Aghion and Howitt 1992). The central argument in the endogenous growth model is that financial development can affect growth in three different ways namely, increasing the efficiency of financial intermediation, increasing the social marginal productivity of capital and influencing the private savings rate. This therefore, makes a well-functioning financial system the core of endogenous technical progress since it increases the efficiency of human and physical capital and this expands the scope of innovative activity. Greenwood and Jovanovich (1990) in their own contribution stressed the information role of financial intermediation in an endogenous growth model by arguing that its role is crucially related to productivity growth of capital. In a related theoretical study, Bencivenga and Smith (1991) argued that efficient financial intermediation encourages savers to hold their wealth increasingly in productive assets thereby contributing to productive investment and growth through its reduction of liquidity risk. Following the same line of thought, Saint Paul (1992) explained the role of the financial sector in stimulating economic growth through sharing of risks and by allowing investors and entrepreneurs to hold diversified portfolios. Pagano (1993) in particular used the simplest endogenous growth model - the 'AK' growth model to show the channels through which the financial sector can affect the long run growth rate. The AK model is a special case of a Cobb-Douglas production function with constant returns to scale.

2.1.2 McKinnon-Shaw Hypothesis

While the endogenous growth model focused on capital accumulation channel of growth, the McKinnon-Shaw (1973) model of the effect of financial development on growth focused on the saving variable. According to McKinnon (1973) and Shaw (1973), the financial sector is growth inducing but when repressed become an obstacle in the path of real growth. The crucial role of the financial sector arises from their transfer of savings from household to investors. McKinnon - Shaw (1973) argued that policies which led to the repression of the financial market reduced incentives to save. McKinnon stressed the need for developing countries to use high nominal interest rate to stimulate investment and growth. They pointed to the inability of developing countries to attain real positive growth and attributed this to the interventionist policies of their government in the operation of the financial system. These interventions take the form of ceilings on deposit and loan rates often stipulated in nominal terms resulting to low and sometimes negative real rates of return on financial assets even in the face of inflation. McKinnon - Shaw (1973) therefore argued that financial liberalization is critical to the level of capital stock or the level of productivity rather than their own growth rates. Though the McKinnon – Shaw framework informed the design of financial sector reforms in many developing counties, it glossed over the micro level interactions in the financial market and among financial institutions which affect the supply of savings and demand for credit by economic agents and their subsequent effect on economic growth. The problem of market imperfections as argued by Stiglitz (1993) and Stiglitz and Weiss (1981) is the bedrock of analysis of financial development and economic growth in the context of information asymmetries and agency problems. The endogenous growth theories attempted to link the resource mobilization of savings framework implicit in the works of McKinnon, and Shaw to micro level consideration through finance. The new growth theory therefore argued that financial intermediaries and market appear endogenously in response to market incompleteness and thus contribute to long no growth. This new insight relied heavily on the assumption that endogenous productivity growth result as a byproduct of rational investment decision. Financial institutions and market who arise endogenously to mitigate the effects of information and transaction cost functions influence decisions to invest in productive activities through evaluation of most prospective entrepreneurs. The underlying assumption is that financial intermediaries can provide these evaluation and monitoring services more efficiently than individuals. Levine (1997) after an extensive survey of literature identified five key functions that the financial system can accomplish to ameliorate information and transactions frictions and contribute to long run growth. These functions are savings mobilization, risk management, acquiring information about investment opportunities, monitoring borrowers and exerting corporate control and facilitating the exchange of goods and services.

1.2 Empirical Review

In one of the earliest studies in this area king and Levine (1993) found that higher levels of financial development are significantly and robustly correlated with faster current and future rates of economic growth, physical capital accumulation and economic efficiency improvements. In agreement, Demiruc-Kunt (2006) opined that a well-functioning financial system is considered as one of the key foundations on which sustained economic development can be built.

Odhiambo (2008) investigated the causal link between financial deepening, savings and economic growth in Kenya from 1969 to 2005 using a trivariate causality model. The empirical result of the study showed that economic growth caused financial deepening within the period under review. The result further revealed that while economic growth granger caused savings, savings on the other granger caused financial development. The study therefore concluded that the hypothesis and notion that financial development always leads to economic growth should be treated with extreme caution.

Ayinde and Olumuyiwa (2016) examined the relationship between financial development and inclusive growth in Nigeria for the period 1980-2013 using a quantile regression to obtain a threshold for which the former impacts on the later. The empirical result of the study found a threshold level of both percentile. The result further revealed that the influence of financial development on inclusive growth depends on the measure of the former up to the threshold level and not beyond. On the direction of causality, the result revealed that inclusive growth granger caused financial development while financial depth had a negative significant relationship with inclusive growth.

Ho and Iyke (2017) examined the link between bank based financial deepening and economic growth in Hong Kong during the period 1990 to 2014. The study specifically tested whether Hong Kong follows a supply leading or demand following hypothesis using the Toda-Yamamoto test for causality and two indicators of bank based financial sector

development. The study found Hong Kong to follow the supply leading hypothesis suggesting that the banking sector is an important driving force in the economic growth of Hong Kong.

Using multivariate distributed lag framework to re-assess the finance growth poverty linkage in Ghana for the period 1960-2015, Ho and Iyke (2018) found that financial development caused economic growth in Ghana. Dewi et al (2018) empirically explored the dynamics of financial development, economic growth and poverty reduction in Indonesia using ARDL co integration approach and covering the period 1980 – 2015. The study found that there is a long run relationship between financial development, economic growth and poverty reduction in Indonesia. It also found a unidirectional causality running from financial development and poverty reduction and bidirectional causality between economic growth and poverty reduction.

Nyasha and Odhiambo (2018) in their own study titled "financial development and growth nexus a revisionist approach" argued that the connection between financial development and economic growth is very complicated and is tied to so many factors. Thus, the hypothesis that financial development always influences economic growth should be taken with extreme caution.

In a panel study which included Nigeria, Bist (2018) examined the long run relationship between financial development and economic growth using panel unit root and panel co integration analysis in 16 selected low- income African countries from 1995 to 2014. Estimating the long run relationship using modified and dynamic OLS techniques showed that there is a cross sectional dependence across countries. The result of the Pedroni's panel co integration test established the presence of a long run equilibrium relationship between financial development and growth. Performing a times series analysis on individual country basis showed that financial development exerted a positive significant effect on the growth of majority of the counties while the flow of credit to the private sector was found to be very low in the region.

Ndukwe-Ani et al (2018) empirically examined the impact of financial deepening on per capita GDP growth in Nigeria using ARDL Model and quarterly data from 1986 to 2014. Financial deepening was represented by the ratio of private sector credit to gross domestic product (PSC/GDP). A major finding of the study showed that financial deepening can contribute to GDP per capita growth, if there are improvement in domestic resources mobilization, and efficiency in capital allocation in the country. The result further revealed that various financial development policies have not contributed enough to Nigeria's per capita growth. The study therefore suggested that Nigerians can benefit from the deepening of the financial sector and domestic savings in the long-run development of the country if government and financial institutions can encourage mobilization of domestic savings, develop credit and equity markets, minimize financial risk, and ensure capital allocation efficiency. Guru and Yadav (2019) investigated the link between financial development and economic growth in five emerging economies from 1993 –2014 using generalized method of moment system estimation. The study found that financial development significantly contributed to economic growth in these economies.

Yang Fan (2019) in his study titled "the impact of financial development on economic growth in middle income countries" examined how financial system development positively contributes to economic development in middle income nations. Utilizing new proxies of financial development together with earlier models and methodology in Levine (2004). The study found that financial system development affects economic growth through physical capital stock and total factor producing channels.

Olufemi et al (2020) constructing a composite financial development index which accounted for the multi dimensions of financial development and using a panel data set of 33 countries examined the finance growth relationship in sub Saharan Africa for the period 19900-2015. The empirical result of the study established the presence of long run relationship between financial development and economic growth and relationship between financial development and economic growth. Based on the findings the study concludes that the finance growth relationship is sensitive to the choice of econometric methodology.

Ioannou and Wojcik (2020) examined the link between finance and economic growth in the metropolitan areas of 75 countries from 2001-2015. The empirical result of their analysis provided evidence of an inverted U shaped relationship between finance and growth. Using cross country regression approach, the result of their study showed the risks associated with excesses of financial development thus leading credence to the calls for a more decentralized financial system.

Using quarterly data from 2000Q1 to 2019Q4, Akintola et al (2020) evaluated the impact of financial sector development on economic growth in Nigeria by looking at the independent contributions of the money, capital, and foreign exchange markets to the growth of the economy. While financial deepening, banking system liquidity, and the all-share index all had positive and significant long-run effects on real production growth, the behavior of the exchange rate spread was consistent with falling real output growth. To enhance the degree of economic growth in Nigeria, macroeconomic

managers should emphasize the growth of the money and capital markets, according to the study. More specifically, the monetary authorities should adjust her policy rates and other instruments of monetary policy, such as the cash reserve ratio in order to boost the amount of banking system liquidity. This will improve commercial banks private-sector lending capability, resulting in increased economic growth in Nigeria.

For the period 1981 to 2018, Osuji (2020) looked at the relationship between financial development and savings in Nigeria. The study employed secondary data from the Statistical Bulletin of the Central Bank of Nigeria (CBN) that spanned 37 years and was analyzed using the Ordinary Least Square (OLS) econometric technique and the Granger Causality test. The study found that in Nigeria, Financial Development had a positive significant link with savings while savings rate had a positive but insignificant effect on savings. Furthermore, the Granger causality test revealed that there is a unidirectional causality running from financial development and savings. Sennuga and Olayemi (2021) used time series data on the annual growth rate of gross domestic product, real interest rate, the ratio of gross domestic savings to GDP, and the ratio of domestic credit to the private sector to GDP to examine the effect of financial development on economic growth in Nigeria between 1980 and 2019. The results showed that when two of the variables (real interest rate and gross domestic savings) are combined, they are inversely related to the dependent variable (GDP annual growth rate), whereas domestic credit to the private sector is positively related to the dependent variable, with the coefficient of multiple determination indicating that the model is well-fitting, with the variables accounting for approximately 93 percent of the gross domestic product.

3. Methodology

3.1 Model Specification

In order to estimate the impact of financial deepening on per capita income in Nigeria, the linear regression model based on the ordinary least square (OLS) technique would be employed. Ordinary least square (OLS) is extensively used in regression analysis primarily because it is intuitively appealing and mathematically much simpler than any other econometric technique (Gujarati, 2004). The general functional form of the linear regression model is stated below based on McKinnon and Shaw Hypothesis and following Ndukwe – Ani (2018).

PCI = f (MS, PSC, SAV, INT) (1)

The mathematical/econometric form is specified in the long run as follows:

$$PCI_t = \alpha_0 + \alpha_1 MS + \alpha_2 PSC + \alpha_3 SAV + \alpha_4 INT + U_t \quad (2)$$

Where;

PCI = Per Capita Income. It measures the average income earned per person in a given country in a specified year, calculated by dividing the country's total income by its total population.

MS = Ratio of broad money supply to GDP is a major indicator of financial deepening. It measures the depth and the systematic relevance of the financial sector in providing transactions services and saving opportunities.

PSC = Ratio of private sector credit to GDP. This is another indicator of financial sector development which is the most appropriate measure of financial development since it isolates credit issued to public sector

SAV= Savings measured by total savings as ratio of GDP at current basic prices. It is used as a measure of savings mobilization.

INT = Interest rate spread. This is the difference between borrowing and lending rates by financial institutions. The rate influences the amount of savings channeled to investment. It therefore captures the transactions cost of financial intermediation.

$\mathbf{U_t}$= Error term

According to Engel and Granger once a number of variables are found to be co integrated, there always exist a corresponding error correction representation which implies that changes in the dependent variable are a function of the level of disequilibrium in the co integration relationship (captured by the error correction term) as well as changes in other explanatory variables. The short run/ECM corresponding to our situation is specified below;

Augmented Dickey Fuller (ADF) Test

Variable	Level Form		First Difference		Second Difference		Order of Integration
	ADF Stat	5% Critical Value	ADF Stat	5% Critical Value	ADF Stat	5% Critical Value	
PCI	2.7083	-2.9434	-0.8239	-2.9434	-8.4136	-2.9434	I (2)
MS	-0.6036	-2.9434	-5.8978	-2.9434			I (1)
PSC	-0.9245	-2.9434	-5.0145	-2.9434			I (1)
SAV	-2.3002	-2.9434	-6.6587	-2.9434			I (1)
INT	-1.5564	-2.9434	8.0310	-2.9434			I (1)

In table 4.1, it is observed that per capita income (PCI), Ratio of broad money supply to GDP (MS), Ratio of private sector credit to GDP (PSC), Savings (SAV) and interest rate (INT) were non-stationary in their respective level forms. At 5 percent critical value, the null hypothesis was accepted for the five variables however while MS, PSC, SAV and INT became stationary after first difference, PCI on the other hand became stationary after second difference. Hence conclude that MS, PSC, SAV and INT are integrated of order one I (1) while PCI is integrated of order two I (2).

4.2 Co integration Test Result

Two variables are co integrated if they have a long-run relationship or an equilibrium relationship. Hence, a co integration test was carried out to establish whether there is a long-run relationship between financial deepening and per capita income in Nigeria. This was done using Engle-Granger two step procedure which first involves running a regression of the long-run model and obtaining the residuals. The second step involves carrying out a unit root test on the residuals. If the residuals are stationary then there is co integration but if they are not then there is no co integration. The result of the test is presented in the table below

Table 4.2: ADF Unit Root Test on Residual

Variable	ADF Test Stat	5% Critical Value	Remark
Residual (RESID 01)	-2.6406	- 2.9411	Non Stationary

The result in table 4.2 clearly shows that the ADF Test statistic (-2.64) is less than the 5% test critical value (-2.94) in absolute terms. This implies that the residuals are not stationary leading us to conclude that the variables are not co integrated.

4.3 Presentation and Discussion of Regression Result

Presented in Table 4.3.1 below is the regression result of the estimated model which addresses the main objective of the study. In the model per capita income (PCI) is the dependent variable while Ratio of broad money supply to GDP (MS), ratio of private sector credit to GDP (PSC), Savings (SAV) and Interest rate (INT) are the independent variables.

Table 4.3.1: OLS Estimated Result

Variables	Coefficient	Std Error	t-statistics	Prob
D(MS)	0.380926	0.097312	3.914462	0.0004
D(PSC)	-0.699064	1.414941	-0.494059	0.6246
D(SAV)	-1.597278	0.708594	-2.254152	0.0312
D(INT)	-0.359096	0.414155	-0.867056	0.3924
C	1.595197	1.639028	0.973258	0.3377

R-squared : 0.6089 **Adjusted R-squared:** 0.5099
F-statistic: 5.1119 **Prob (F-statistic):** 0.0023 **Durbin-Watson stat** = 2.1293

The result from table 4.3.1 shows that financial deepening when measured by Ratio of broad money supply to GDP (MS) is estimated to have a positive relationship with per capita income (PCI) in Nigeria with an estimated coefficient and t-statistic value of 0.3809 and 3.9145 respectively. This suggests that broad money supply contributes positively to GDP per capita in Nigeria. The implication of this finding is that the ability of the financial sector in providing financial services such as transactions and saving opportunities contributed positively to Nigeria's per capita income. This finding is in line with laid down economic theory which posits that a well-developed financial sector is essential for the growth process of an economy.

The result further revealed that ratio of private sector credit to GDP (PSC) which is another measure of financial deepening has a negative relationship with per capita income (PCI) in Nigeria. The estimated coefficient is negative (-0.699) thus did not conform to a priori economic expectation while the t-statistics was statistically insignificant (t-stat value is less than 2). This is consistent with the finding of Ndukwe- Ani (2018). It suggests that the higher the flow of credit to the private sector the lower the growth in per capita income. This finding though strange may be attributed to the preference of commercial banks in Nigeria to short term lending to the public sector than long term lending to private sector enterprises. Deposit money banks in Nigeria avoid financing long term projects of real sector due to perceived risks associated with such lending, they rather prefer to lend to the public sector and this results in heavy public sector deficit which crowds out the needed private investment for growth and development.

Similarly, Savings (SAV) is also estimated to have a negative and statistically significant relationship with per capita income (PCI). Its estimated coefficient and t-statistic being -1.5973 and -2.2542 respectively. This implies the higher the volume of savings the lower the level of per capita income in Nigeria. This finding is not consistent with economic theory and clearly suggest that Nigeria as a country has not been able to utilize its domestic savings mobilization in a productive way. This also indicates a failure on the part of financial intermediaries in Nigeria whose major responsibility is to mobilize and allocate savings into productive investment. However, poor investment policies, political instability, dearth of technological innovations and inadequate foreign investment may be responsible for Nigeria's inability to benefit from its huge savings potentials.

Interest rate (INT) on the other hand is estimated to have a negative relationship with per capita income in Nigeria with an estimated of -0.3501. This suggests that high interest rate inhibits per capita income growth in Nigeria. This finding though consistent with a priori economic expectation is however not statistically significant.

The adjusted coefficient of multiple determinations (R^2) is estimated to be 0.5099. This implies that Ratio of broad money supply to GDP (MS), ratio of private sector credit to GDP (PSC), Savings (SAV) and interest rate (INT) jointly explain 50.99% of the total variations in per capita income (PCI) in Nigeria. Furthermore the result of the f-statistics suggests that the model is statistically stable and can be relied upon for inferences. The F-statistics in econometrics test the overall significance of the sample parameter estimate from the population parameters from which it is drawn. The result of the f-statistics which test for the joint statistical significance of the parameter estimates shows that the F-statistics [5.11] ($P<0.05$) is statistically significant.

Conducting a test for the existence or otherwise the presence of auto correlation using Durbin Watson statistics reveals that the model is free from the problem. This is because the DW-statistics value (2.13) is greater than Du value (1.722). A similar result was obtained using Breusch-Godfrey serial correlation LM test. We arrived at this conclusion because the probability value (0.23) of its F-statistics is greater than 5% i.e. (0.05) significant level. Finally, a test for heteroskedasticity using Breusch-Pagan-Godfrey shows that the residuals of the regression are not heteroskedastic. This is because the probability value of the f-statistics is also greater than 5% (i.e 0.97>0.05). The table below summarizes the result of Breusch-Godfrey LM test and Breusch-pagan-Godfrey Heteroskedastic test.

Table 4.3.2: Residual Diagnostic

	Names of Test	Type of Test	F-stat	Prob
1	Breusch-Godfrey	Serial Correlation	1.539801	0.2309
2	Breusch-Godfrey	Heteroskedastic	0.134029	0.9687

Conclusion and Recommendations

This present research study sought to investigate the link between financial deepening and Nigeria's per capita income from 1981 – 2019. Specifically, the study examined the impact of ratio of broad money supply to GDP and ratio of private sector credit to GDP on Nigeria's GDP per capita. Following a detailed time series analysis which involved the use Augmented Dickey-Fuller unit root test, Engel Granger Co integration test and ordinary least square estimation technique, the empirical result revealed the following.

1. The co integration result revealed that there is no long run relationship between financial deepening and per capita income in Nigeria.
2. The empirical result further showed that while ratio of broad money supply to GDP had a positive significant effect on Nigeria's per capita income, ratio of private sector credit to GDP on the other hand had a negative and insignificant effect on Nigeria's per capita income. The implication of this finding is that improvements in financial institutions' payment system and saving opportunities positively contributes to Nigeria's per capita income more than the credit channel.
3. Savings exerted a negative significant effect on Nigeria's per capita income. This finding from our study portrays the weakness of the financial sector in Nigeria to mobilize and allocate savings to the productive sector.
4. Finally, interest rate also had a negative but insignificant effect on Nigeria's per capita GDP income.

Based on the findings above, the study recommends the following.

1. Since the empirical finding of the study provided evidence that financial deepening when measured by ratio of broad money supply to GDP had a positive significant effect on Nigeria's per capita income (PCI) then there is need to further deepen the financial sector in Nigeria through improved financial instruments, innovations and infrastructures, adequate regulation and supervision, sound and efficient legal system that will guarantee efficient credit delivery system.

2. In order to ensure that credit to the private sector significantly contributes to Nigeria's GDP per capita income government should minimize their borrowing activities especially from domestic financial markets as huge government deficit financing crowds out private sector investments. Furthermore both monetary and fiscal authorities should introduce a set of policies that would stimulate banks to grant credit facilities to the key neglected pro poor sectors of the economy.

3. Finally, to reverse the negative impact of savings on Nigeria's per capita GDP, policies that ensures effective mobilization and channeling of savings to the productive sectors should be formulated by the monetary authorities. One of such policies that would improve domestic savings mobilization and accumulation is the reduction in the interest rate spread (i.e. gap between deposit and lending rates) which at present is 3.1% and 31% respectively. Consequently, there is the urgent need to increase the savings and deposit rate which is very critical for domestic savings mobilization.

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Effect of Population Growth on Carbon Emissions in Selected West African Countries

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Abstract: This study examined the effect of population growth on carbon emissions in selected West African Countries from 1980 to 2019. The study used secondary data for Nigeria, Ghana, Senegal and Niger and the data were obtained from the database of the World Bank Group and tested at the 0.05 confidence level. The result revealed that population growth is directly proportional to emission of carbons in the selected West African Countries; a 1 unit rise in population, will result to 225 unit growth in carbon emissions; and concludes that there is a positive and significant relationship between population growth and carbon emissions in the selected sample areas. The study recommends the implementation of deliberate population control measures by the respective governments.

Keywords: Carbon Emission, Greenhouse Gas, Population Growth, West Africa.

JEL Classification: Q54, Q56, Q57, R22

Introduction

Human population breathes in oxygen (O2) and expels carbon-dioxide (CO2) into space which is absorbed by plants through a chemical-organic reaction of photosynthesis. This explains the analogy that as birth rate rises, the rate of carbon-dioxide (CO2) emissions multiplies into space.

The mutual existence between human population and natural vegetation can be altered by human activities through increased energy consumption. This may result to imbalance ecosystem causing global climate change or global warming. The threat to living organisms and their habitats lead to disruptions in global climate due to large build-up of human generated greenhouse gases (United Nation, 2013). To curtail the amount of greenhouse gases emitted into space, scientists have suggested that atmospheric CO2 must be reduced to 350ppm to avoid global catastrophe (Chindo & Abdul-Rahim, 2018). Arguably, as population doubles the level of activities are increasingly influencing climate change.

Studies such as Chindo & Abdul-Rahim, (2018), United Nation, (2013) and Hannah & Max, (2017) have shown that in West Africa, the total regional greenhouse emissions is on the increase (USAID FACTSHEET, 2019). The study also discovered that the use of energy efficient facilities reduced the rate of greenhouse gas emissions while carbon legacy per child had increased 20 times. The study therefore canvassed for population reduction mechanisms (United Nation, 2013).

Also, Chindo and Abdul-Rahim (2018) assert that population growth increases greenhouse gas emissions particularly CO2 emission through increase in human activities-deforestation, cattle grazing, bush burning, industrialization and transportation. However, the study seeks to empirically examine whether population growth affects carbon emission in selected West African countries reckoned for their high population with increasing greenhouse gas emissions (Nigeria, Ghana, Senegal and Niger) (United Nations, 2013). In West African countries, growth in population is increasing despite some measures of family planning and public enlightenments on general family development in modern world and has resulted to growth in carbon emissions in line with Thomas Malthus predictions (Chindo & Abdul-Rahim, 2018).

To validate this theorization in West Africa, this paper tests the effect of population changes on carbon emissions. This study is of great importance to policy makers because it will keep them informed about the determinants of carbon emission (CO2) in West Africa. It would also provide policy recommendations on measures that could assist in curtailing population spread in West Africa sub-region.

The main objective of the study is to determine whether population changes affect carbon-dioxide (CO2) emissions in West Africa and the specific objectives are;

1. To ascertain whether population increase affects carbon emissions in the short-run using selected West Africa sample countries namely – Nigeria, Ghana, Senegal and Niger.
2. To examine whether population increase affects carbon emissions in the long-run using selected West Africa sample countries – Nigeria, Ghana, Senegal and Niger.

The study will equally test two corresponding hypothesis that; 1. There is no significant effect of population growth on carbon emission in the short-run in selected sample areas and 2. There is no significant effect of population growth on carbon emission in the long-run in selected sample areas.
The rest of the paper is organized into literature review, materials and methods, data analysis and conclusion.

2.0 Review of Related Literature

2.1 Conceptual Analysis

2.1.1 Carbon and Greenhouse Gas Emissions.

Carbon is the basis of life because it is the largest component of life on earth. Carbon emission is the release of carbon-dioxide (CO2) into the atmosphere (United Nations, 2013). A natural source of carbon emissions is the diffusion of carbon-dioxide (CO2) between oceans and atmosphere. According to World Bank (2019), Man and plants through various activities release CO2 into the environment and atmosphere, such activities include extraction of minerals, refinements, transportation and burning of fossil fuels like coal, natural gas and oil releases excess carbon and other gases into the air; also, natural vegetation which helps to reduce the amount carbon emissions when cut down and burnt or decomposed emits more CO2 into the atmosphere. Hannah and Max (2017) define greenhouse gas (CO2, methane and water vapour) as gases that have capacities of cooling heat energy transferred into the atmosphere and sending the heat back to the earth layers, thus contributing to greenhouse effect. Carbon-dioxide (CO2) is of greenhouse gas that absorbs radiation that causes heat in the atmosphere. Excess heat creates disruptions in climate conditions, depletion in the ozone cover resulting to global warming associated with climate change and green house emissions. Climate change is a pressing challenge to the developed and developing nations because of effusions of gases such as carbon dioxide (CO2), nitrous oxide, methane and others had accelerated world's temperature by 10C since pre-industrial times (Hannah & Max, 2017). The 5th Intergovernmental Panel on Climate Change (IPCC) (2015) had 10 points in its summary report- that global average temperatures have increased by more than 10C since pre-industrial era, carbon-dioxide (CO2) concentration are well over 400ppm- their highest levels in over 800,000 years, that globally, over 36billion tones of CO2 are emitted annually—and grows steadily to more than 100-fold in per capita CO2 emission among countries with China being the largest global CO2 emitter (Hannah and Max, 2017).
The earth must be salvaged and also allowed to find its natural balance by reducing carbon foot prints through several measures- population control, reduction of rate of energy consumption and reforestation. Klassen and Lawson (2007) see population growth as increase in population per 1000 population. It is well-defined as the birth rate (number of birth per 1000 population) minus the death rate (number of deaths per 1000 population) minus net emigration.
Ohlan (2015) investigation showed that change in population, GDP and energy consumptions had positively significant effect on emission of carbon in long—run and short-run periods.

2.1.2 Nigeria Population Increase and Emissions of Carbons

Nigeria is Africa's giant in terms of human population and natural resources. Records had shown that it's the populated Black Country in the world. According to census statistics, in 1960, the county's was about 45, 138,468m, 10 years after the population increased to 55,982,144m while in 1990, Nigeria's population had surged up to 95,212,450m. Worldometers statistics (United Nations Data, 2019), estimated Nigeria's population as 203,413, 903m people. Nigeria's current population is approximately 2-6% of total world population. The average population weight in Nigeria for instance is put at 221 per Km2 (amounting to 571 persons per square miles) with a land mass of 910,720 km2 (translating to 351,650 square miles). The report puts urban population at 57.2% (102,805,995 people in 2019) and rural population is 48.8% representing 100,407,908 people. The average age in Nigeria is roughly 18 years.
World Bank (2019), records showed that carbon emission (CO2) in 1960 was 0.075mt per capita. While in 1966, CO2 emission grew to 0.252mt per capita and increased to 1.01mt per capita in 1974. In Africa, Southern Africa and Nigeria are the highest contributors of CO2 emissions.
Nigeria contributed 94,037Kt and South Africa contributed 398,569Kt in 2001-2008 (World Development Indicator Data, 2012). Though Nigeria is more populated than South Africa, the huge differences between these countries emissions rate is not attributed to increase in population but more industrial activities in South Africa.

2.1.3 Ghana Population Increase and Emissions of Carbons

Ghana's population in 1960 was 6,635,230m. It grew up to 8.7million persons in 1970. In 1980, the population arose to 11 million people. The growth rate of Ghana's population in 1980 and 1984 were 2.32% and 3.06 % respectively. Ghana's population was estimated at 30,417,856 people (UN data, 2019). Ghana's population represents 0.39% of total world population. The population weight of Ghana is 134 per Km2 (346 people per Mi2). The land mass is 227, 540Km2 (87,854 sq miles) and 56.1% of the population is urban (17,067,171 people) and 43.9% of the population is rural (13,360,685 people) in 2019 (Worldometers 2019).
Carbon emissions have tremendously increased due to rise in population and energy consumption. As at 1960, Ghana's carbon emission was 0.22mt per capita and has risen to 0.31mt in 1970. Carbon emissions (CO2) per capita in Ghana are

equivalent to 0.571 tones based on the population of 28,481,945 in 2016, translating to a rise by 1% per 50% CO2 tons for each registered person in 2015.

2.1.4 Senegal's Population Increase and Emissions of Carbon

According to population estimates of 2019, Senegal has 16,296,364 peoples (UN Data) as at mid-year. In December, 2019, its population rose to 16,508,063 (Worldometers, UN). Senegal's population is equivalent to 0.21% of total world population. Senegal's population weight is 85 per Km2 (219 people per Mi2). The land mass is 192,530Km2 (74,336sq.miles). The urban population is 49.0% (7,978,972 people, 2019) while the rural populace is 51.0% (8,529,091 people in 2019). Senegal ranks number 71 among dependency by population.

Senegal's carbon (CO2) emissions were 8,855.81 in 2014, a 5.14% increase from 2013. Per capita emission of CO2 in Senegal is equivalent to 0.55 tons based on the population of 14,993,519 in 2016 (Worldomenter info.). Its yearly change is +3.69%, Global share 0.02 and tons per capita 0.55mt.

2.1.5 Niger Republic Population Increase and Emissions of Carbon

Niger's population as at December 23, 2019 is 23,732,243 (Worldometer, UN). Niger's population represents 0.3 per cent of global world population. The population density is 18 per Km2 (48 people per Mi2). The land mass is 1,266,700Km2 (489,075 sq miles). Urban population represents 16.4% (3,828,158 people n 2019) while the rural populace is 83.6% (19,904,085). The median age in Niger is 15.0 years.

In 1960, Niger had 0.009mt per capita carbon emission and rose to 0.032mt per capita in 1967. It went up to 0.067mt per capita in 1972 and in 1983 it increased to 0.148mt per capita. This was the peak level of carbon emission in Niger.

2.3 Theoretical Analysis

This study is anchored on the population growth theory developed by Thomas Robert Malthus (1766-1834) popularly referred to as Malthusian theory. He contended that population growth occurred exponentially, food production was increasing arithmetically, as it only increased at specified periods. He warned that if population is left unchecked, it will outgrow resources.

Malthus however, recommended two major types of checks — preventive checks and moral restraints. The geometric increase in population of West African countries in recent years has attested to this postulation, which has necessitated investigation into the nexus between population growth and carbon emission.

Chindo and Abdul-Rahim (2018) suggested theoretically that, population growth increases greenhouse gas emissions through increased human inventions along with environmental activities.

2.4 Empirical Review

Noah, Mark, Francis et al (2017) investigated population growth and carbon dioxide emissions, the study revealed that population is directly proportional to social cost of CO2 (SCC) while average zenith temperature is inversely proportional to the Dynamic Integrated Climate-Economy Model.

Chindo and Abdul-Rahim (2018) in their study showed that in the long run, CO2 emissions were not determined by population. In the short-term, CO2 emissions were affected by population, economic growth and energy consumed. Khan et al (2013) study indicated that consumption of energy raises the rate of carbon-dioxide (CO2) emissions in Pakistan.

Ohlan (2015) investigation showed that population density, trade openness and economic growth had positive effect on carbon-dioxide (CO2) in both long-run and short-run. This result contrasted the long-run submission of Chindo and Abdul-Rahim (2018). Sulaiman (2014) study concluded that population growth affects carbon-dioxide emissions while energy consumption increases CO2 emissions. The study believe there exists a two-way effects between population rise and consumption of energy.

Liddle (2015) investigation asserts that increase in population increases energy use causing a rise in CO2 emissions in subsequent decades. Dantama, Abudllahi and Inuwa (2012) suggested that energy consumption in forms of petroleum and electricity consumption promotes economic growth in Nigeria. This explains the fact that the larger the population, the more the rate of energy consumption.

3.0 Materials and Methods

The study adopted a post-facto design method using secondary data obtained from World Bank Group database and covered the period from 1980 to 2019 using Nigeria, Ghana, Senegal and Niger as study samples. The statistical technique employed the panel data econometric model since the study cuts across four West African countries.

3.1 Data and Model Specification

This study Follows the earlier work of Sulaiman (2014) and Liddle (2015) which used model containing Population growth, CO2 Emissions and Energy consumption with slight modifications as below;

$CO2EM = \alpha_0 + \alpha_1 ENCSP + \alpha_2 POPGR + \mu \ldots (1)$ [Sulaiman, 2014]

From (1), we derived equation (2)

$CO2EM = \alpha_0 + \alpha_1 ENCSP + \alpha_2 POPGR + \alpha_3 EXCR + \mu \ldots (2)$

Where CO2EM = Carbon Dioxide Emission
ENCSP = Energy Consumption
POPGR = Population Growth rate
EXCR = Exchange rate
$\alpha_0 - \alpha_3$ = Parameters
μ = Error term
Apiriori Expection – Positive and significant

Transforming the series model into a panel model, we derive three panel model scenarios as below;

$CO2EM_{it} = \alpha_0 + \alpha_1 ENCSP_{it} + \alpha_2 POPGR_{it} + \alpha_3 EXCR_{it} + \mu_{it} \ldots (2)$ (Pooled Effect)
$CO2EM_{it} = \alpha_0 + \alpha_1 ENCSP_{it} + \alpha_2 POPGR_{it} + \alpha_3 EXCR_{it} + \mu_i + v_{it} \ldots (3)$ (Fixed Effect)

4.1 Diagnostics Tests

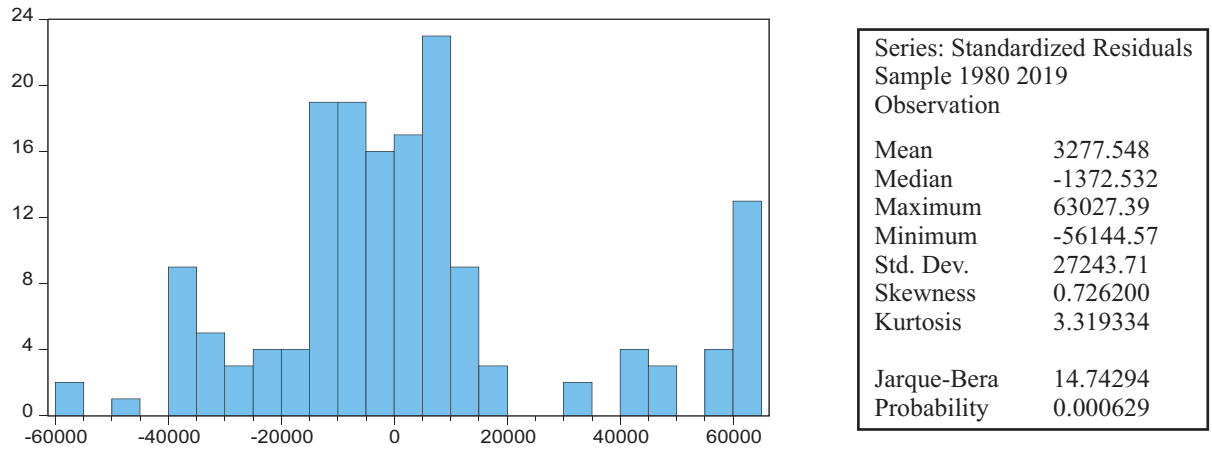
Table 1 – Panel Descriptive Statistics

	C02_EMT	ENER_CON	EXCH_RATE	POP_GWT
Mean	20648.30	154.2195	251.8047	2.799636
Median	3877.853	129.9908	232.3858	2.681175
Maximum	131685.6	408.2541	732.3977	3.907245
Minimum	0.000000	0.000000	0.000000	0.000000
Std. Dev.	34212.28	136.5186	238.8514	0.535660
Skewness	1.851583	0.162912	0.331908	-1.088350
Kurtosis	5.178672	1.577968	1.621591	11.05339
Jarque-Bera	123.0670	14.18891	15.60441	463.9676
Probability	0.000000	0.000830	0.000409	0.000000
Sum	3303727.	24675.13	40288.75	447.9417
Sum Sq. Dev.	1.86E+11	2963336.	9070948.	45.62209
Observations	160	160	160	160

Source: Author's Eviews 10 Computation

Table 1 shows the diagnostic tests for the panel series where the mean, median and standard deviation reveal even spread and variation of the series. The values of the mean, medium, maximum and standard deviation show positive and healthy trends. The average kurtosis is in excess of 3, showing that the series are mainly platykurtic. The Jarque-Bera and probability of the pooled panel data show strong evidence of normality considering the variable spread and significant probability of 0.000 at the 5% chosen level of significance. This implies that any plausible outlinear in the individual country series have been corrected through the panel pool effect.

Fig. 1 – Histogram and Panel data Normality



Source: Author's Eviews 10 Computation

The histogram in figure 1 above shows is bell shaped with Jarque-Bera and significant probability of 0.000629 at the significance level of 5%, thus showing strong normality in the distribution

Table 2- Test of Stationarity – Using Levin, Lin & Chu Unit Root Panel test

Variable	ADF test statistic	t-Statistics	Probability	Integration level
CO2EM	-6.87223	-9.0570	0.0000	I(1)
ENCSP	-6.20722	-9.3090	0.0000	I(1)
POPGR	-6.53892	-11.014	0.0000	I(1)
EXCR	-4.01183	-7.9520	0.0000	I(1)

Source: Author's Eviews 10 Computation

Table 2 shows the Stationarity test using Levin, Lin and Chu test for the panel series, at levels, all the variables are insignificant, and only shows that they are all statistically significant, stationary and integrated at first difference level at the chosen 5% level of significance.

4.2 Hypothesis Testing

4.2.1 Restatement of Hypothesis One

H_0: Population Growth rate of the selected West African Countries have no significant effect on Carbon emission (CO2) in the short-term period.

This hypothesis was tested using different variants of least square regression analysis as detailed below;

Table 3: Robust Least Square Regression Result

Dependent Variable: CO2EM				
Method: Robust Least Squares				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	848.1973	4835.462	0.175412	0.8608
ENCSP(-21)	-275.3017	11.88452	-23.16473	0.0000
POPGR(15)	47697.37	2601.533	18.33433	0.0000
EXCR(15)	-95.62155	10.68168	-8.951917	0.0000

Source: Author's E-views 10 Computation

The Robust Least Square result in table 3, shows that while energy consumption in the West African region have significant but negative effect on carbon dioxide emission at a lag of 21, population growth had significant and positive effect on carbon dioxide emission in the region at a lead of 15. Exchange rate in the panel series serves as a moderating variable at a lead of 15. The implication of this result is that while a 1% rise in ENCSP in the selected sample area results to a 275.3017% decline in carbon dioxide emission, a 1% increase within same period will result to a 47,697.37% rise in carbon dioxide emission in the subregion (i.e. West Africa) at the 5% chosen level of significance.

Table 4: Vector Error Correction Table

Vector Error Correction Estimates				
Date: 04/04/22 Time: 11:45				
Sample (adjusted): 1983 2019				
Included observations: 141 after adjustments				
Standard errors in ( ) & t-statistics in [ ]				
Cointegrating Eq:	CointEq1			
CO2E(-1)	1.000000			
ENCSP(-1)	120.4608			
	(52.8894)			
	[2.27760]			
EXCR(-1)	21.03050			
	(28.9163)			
	[0.72729]			
POPGR(-1)	-88293.85			
	(16300.9)			

	[-5.41649]			
C	204789.1			
Error Correction:	D(CO2E)	D(ENCSP)	D(EXCR)	D(POPGR)
CointEq1	-0.027224	-0.000392	-0.000266	1.18E-06
	(0.04107)	(0.00016)	(0.00017)	(6.3E-07)
	[-0.66290]	[-2.40132]	[-1.57898]	[1.87341]
D(CO2E(-1))	-0.039908	0.000244	0.000294	2.13E-05
	(0.08843)	(0.00035)	(0.00036)	(1.4E-06)
	[-0.45130]	[0.69446]	[0.81150]	[15.6335]
D(CO2E(-2))	0.097888	0.000190	0.000157	9.74E-07
	(0.15044)	(0.00060)	(0.00062)	(2.3E-06)
	[0.65070]	[0.31810]	[0.25395]	[0.42087]
D(ENCSP(-1))	5.853974	-0.003678	0.010763	-0.000483
	(21.6571)	(0.08615)	(0.08877)	(0.00033)
	[0.27030]	[-0.04269]	[0.12124]	[-1.45069]
D(ENCSP(-2))	123.9629	-0.034329	-0.040355	-0.000159
	(27.0375)	(0.10756)	(0.11082)	(0.00042)
	[4.58485]	[-0.31918]	[-0.36413]	[-0.38196]
D(EXCR(-1))	-7.005577	0.027781	0.058121	-0.000101
	(21.1758)	(0.08424)	(0.08680)	(0.00033)
	[-0.33083]	[0.32980]	[0.66962]	[-0.30873]
D(EXCR(-2))	-12.60187	0.022060	-0.093145	-0.000435
	(21.3918)	(0.08510)	(0.08768)	(0.00033)
	[-0.58910]	[0.25923]	[-1.06229]	[-1.32225]
D(POPGR(-1))	2919.163	9.490153	-148.2799	1.484122
	(50706.3)	(201.711)	(207.840)	(0.78009)
	[0.05757]	[0.04705]	[-0.71343]	[1.90249]
D(POPGR(-2))	1921.972	-58.03918	-21.01756	-0.525092
	(43652.5)	(173.651)	(178.927)	(0.67157)
	[0.04403]	[-0.33423]	[-0.11746]	[-0.78188]

Source: Author's E-views 10 Computation

Equation: D(CO2E) = C(1)*(CO2E(-1) + 120.460832552*ENCSP(-1) + 21.0305010375*EXCR(-1) - 88293.8462628*POPGR(-1) + 204789.08185) + C(2)*D(CO2E(-1)) + C(3)*D(CO2E(-2)) + C(4) *D(ENCSP(-1)) + C(5)*D(ENCSP(-2)) + C(6)*D(EXCR(-1)) + C(7) *D(EXCR(2)) + C(8)*D(POPGR(1)) + C(9)*D(POPGR(2)) + C(10)

Comments: The Panel Vector Error Correction model does not show any long run causality from the independent variable to the dependent variable, indicating an acceptance of the null hypothesis, that there is no co-integration between the dependent and the independent variable(s).

WALD TEST:

Table 5: Wald Test Result for Energy Consumption

Wald Test: C(4) = C(5) =0			
System: %system			
Test Statistic	Value	df	Probability
Chi-square	21.09104	2	0.0000

Source: Author's E-views 10 Computation

The wald test indicates the direction of short run causality of the variable in the panel vector error correction model. With a statistically significant p-value of 0.0000, the outcome indicates a statistically significant causality from energy consumption (with coefficients C4 =C5=0) to carbon dioxide.

Table 6: Wald Test Result for Exchange rate

Wald Test: C(6)=C(7)=0			
System: %system			
Test Statistic	Value	df	Probability
Chi-square	0.494354	2	0.7810

Source: Author's E-views 10 Computation

The p-value of exchange rate (with co-efficients C6=C7), to carbon dioxide, being 0.7810 is statistically insignificant and thus shows no short-run causality from the independent and dependent variable.

Table 7: Wald Test Result for Population Growth

Wald Test: C(8)=C(9)=0			
System: %system			
Test Statistic	Value	df	Probability
Chi-square	0.057957	2	0.9714

Source: Author's E-views 10 Computation

The p-value of population growth (with co-efficients C8=C9), to carbon dioxide, being 0.9714 is statistically insignificant and thus shows no short-run causality from Population growth to carbon dioxide emission.

Table 8: Wald Test Result for combined independent variables

Wald Test:			
System: %system			
Test Statistic	Value	df	Probability
Chi-square	21.72848	6	0.0014
Null Hypothesis: C(4)=C(5)=0, C(6)=C(7)=0, C(8)=C(9)=0			

Source: Author's E-views 10 Computation

The combined p-value (0.0014) of all the independent variables in the model, indicates an overall statistically significant causality from the independent variables to the dependent variable, which position corresponds with the outcome in tables 3, 9 and 10, that there is a positive and statistically significant effect of the combined independent variables on the dependent variable.

[Table 9: Panel Least Square Regression Result

Dependent Variable: CO2EM				
Method: Panel Least Squares				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	226531.1	19694.00	11.50254	0.0000
ENCSP(-20)	-211.5225	23.07180	-9.168010	0.0000
POPGR(-10)	-53744.35	4792.498	-11.21427	0.0000
EXCR(-10)	-60.36590	4.648302	-12.98666	0.0000

Source: Author's E-views 10 Computation (See appendix 1 for details)

The result in table 9 for panel least square regression while showing similar result in terms of significance at the 5% chosen level, it however reveals that the relationship is inversely significant between population growth rate and carbon dioxide emission in the selected West African region.

Table 10: Generalized Linear Model Result

Dependent Variable: CO2EM				
Method: Generalized Linear Model				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
ENCSP(-20)	-104.6714	25.05097	-4.178335	0.0000
POPGR(-10)	22496.29	2782.015	8.086329	0.0000
EXCR(-10)	-93.19740	17.76345	-5.246584	0.0000

Source: Author's E-views 10 Computation

The contradictory nature of significance between table 9 and table 10, necessitated an additional test using Generalized Linear Model and the result revealed that in the selected West Africa region, at a lag level of 20, energy consumption had a negative but significant effect on carbon dioxide emission. However, at a lag level of 10, while exchange rate had negative but significant effect on carbon dioxide emission, the rate of population growth had positive but effect was significant on carbon emission at the chosen level of 5% level of significance.
In order to understand the nature of the relation that exists at individual selected country level, Granger Causality tests were carried out on all the selected West African countries [see appendices 6 – 9] and it was observed that of the four selected West African countries, only in Nigeria did carbon dioxide emission granger-caused population growth in a Uni-directional fashion with a p-value of 0.0321. While, for the other sample countries, the relationship between carbon dioxide emission and population growth is insignificant

Decision Rule: Based on the outcome of the various tests carried out, we convincingly reject the null hypothesis to accept the alternative that population growth rate has positive and significant effect on carbon dioxide emissions in the short-run while energy consumption showed a negatively significant effect.

4.2.2 Restatement of Hypothesis Two

H_0: Population Growth rate of the selected West African Countries have no significant effect on Carbon emission (CO2) in the long-term period.
A Cointegration econometric analysis was conducted to determine whether population rise had any effect on carbon emission (CO2) with the underlying result;

Table 11: Johansen Fisher Panel Cointegration Test

Series: C02_EMT ENER_CON EXCH_RATE POP_GWT				
Sample: 1980 2019				
Unrestricted Cointegration Test (Using Trace and Maximum Eigenvalue)				
Hypothesized	Fisher Stat.*		Fisher Stat.*	
No. of CE(s)	(from trace test)	Prob.	(from max-eigen test)	Prob.
None	94.46	0.0000	60.28	0.0000
At most 1	46.70	0.0000	35.86	0.0000
At most 2	19.42	0.0127	16.73	0.0331
At most 3	13.85	0.0858	13.85	0.0858

Source: Author's E-views 10 Computation

The result of a long-run, cointegration test carried out in table 11 using the Johansen Fisher Panel cointegration test of Trace and Maximum Eigenvalue. The result shows three (3) cointegrating vectors at the 5% chosen level of significance with p-values of 0.0000, 0.0000 and 0.0127/0.0331 respectively.
Decision Rule: Based on the overwhelming result of this test, we accept the alternative hypothesis to reject the null that population growth has positively significant effect on carbon emission in the selected West African countries in the longer run.

4.3 Discussion

This paper focused on the study whether population growth had any effect on carbon (CO2) emission using selected West African countries namely Nigeria, Ghana, Senegal and Niger covering a 40 year period from 1980 to 2019. Basic diagnostic tests were carried out using descriptive statistics, Normality tests and Stationarity tests to appropriately prepare the data in the panel series for relevant econometric analysis.
The first hypothesis tested population growth effect on carbon emissions in the short run and several variants of least square regression tests were carried out robust least square regression test to generalized linear model regression tests. It was discovered that energy consumed and population increase had significant effects on carbon emissions (p-value = 0.0000) measured by CO2 (carbon dioxide) at a lag of 21 and 15, as well as at a lag of 20 and 10 respectively. The test statistic effect of energy consumption was negative but significant on carbon emissions while the effect of population increase was positive and significant (p-value = 0.0000) on carbon emission measured by CO2 in the short-term. Hence, the implication of the above result is that a 1% rise in energy consumed for instance, will lead to a significant 104.67% decline in carbon emission while a 1% rise in population growth rate will lead to a corresponding 22,496.29% growth in carbon emission in the short-term best described as a year period. The effect of 22,496.29% in production of carbon by population increase, is considered excessive and is corroborated by the findings of the study of Sulaiman (2014) and Liddle (2015) of a positively significant effect. A further investigation using Granger-causality econometric test

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APPENDIX

1. Table - 9 - Panel Least Square Regression Result

Dependent Variable: CO2EM				
Method: Panel Least Squares				
Total panel (balanced) observations: 80				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	226531.1	19694.00	11.50254	0.0000
ENCSP(-20)	-211.5225	23.07180	-9.168010	0.0000
POPGR(-10)	-53744.35	4792.498	-11.21427	0.0000
EXCR(-10)	-60.36590	4.648302	-12.98666	0.0000
R-squared	0.729051	Mean dependent var		26212.75
Adjusted R-squared	0.718356	S.D. dependent var		42153.59
S.E. of regression	22370.98	Akaike info criterion		22.91762
Sum squared resid	3.80E+10	Schwarz criterion		23.03672
Log likelihood	-912.7049	Hannan-Quinn criter.		22.96537
F-statistic	68.16527	Durbin-Watson stat		0.517668
Prob(F-statistic)	0.000000			

Source: Author's E-views 10 Computation

2. Table 7: NIGERIA Least Square Regression Result

Dependent Variable: C02EM				
Method: Least Squares				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-313007.1	117833.1	-2.656360	0.0166
ENCSP(20)	17.77810	3.947467	4.503673	0.0003
POPGR(3)	146057.6	45776.35	3.190677	0.0054
EXCR(8)	-112.8458	40.78975	-2.766524	0.0132
R-squared	0.815719	Mean dependent var		53458.75
Adjusted R-squared	0.783199	S.D. dependent var		15196.13
S.E. of regression	7075.613	Akaike info criterion		20.73634
Sum squared resid	8.51E+08	Schwarz criterion		20.93530
Log likelihood	-213.7316	Hannan-Quinn criter.		20.77952
F-statistic	25.08345	Durbin-Watson stat		1.804311
Prob(F-statistic)	0.000002			

Source: Author's E-views 10 Computation

3.Table 8: GHANA Least Square Regression Result

Dependent Variable: C02EM				
Method: Least Squares				
Sample (adjusted): 1980 1999				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7492.617	7928.281	0.945049	0.3587
ENCSP(20)	-2.450690	1.119660	-2.188780	0.0438
POPGR(3)	-1280.749	2697.030	-0.474874	0.6413
EXCR(8)	1869.803	1503.227	1.243859	0.2315
R-squared	0.911601	Mean dependent var		4153.611
Adjusted R-squared	0.895026	S.D. dependent var		1299.090
S.E. of regression	420.9014	Akaike info criterion		15.09953
Sum squared resid	2834528.	Schwarz criterion		15.29868
Log likelihood	-146.9953	Hannan-Quinn criter.		15.13841
F-statistic	54.99897	Durbin-Watson stat		2.063683
Prob(F-statistic)	0.000000			

Source: Author's E-views 10 Computation

4.Table 9: SENEGAL Least Square Regression Table

Dependent Variable: C02EM				
Method: Least Squares				
Sample (adjusted): 1980 1999				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	8903.780	1866.683	4.769839	0.0002
ENCSP(20)	2.659093	1.244028	2.137487	0.0483
POPGR(3)	-2067.370	630.9104	-3.276805	0.0047
EXCR(8)	-0.934580	0.796954	-1.172690	0.2581
R-squared	0.570829	Mean dependent var		3254.279
Adjusted R-squared	0.490360	S.D. dependent var		420.8532
S.E. of regression	300.4433	Akaike info criterion		14.42525
Sum squared resid	1444259.	Schwarz criterion		14.62440
Log likelihood	-140.2525	Hannan-Quinn criter.		14.46413
F-statistic	7.093734	Durbin-Watson stat		1.906097
Prob(F-statistic)	0.003020			

Source: Author's E-views 10 Computation

5. Table 10: NIGER Least Square Regression Result

Dependent Variable : C02EM				
Method: Least Squares				
Date: 07/23/20 Time: 14:46				
Sample (adjusted): 1987 1999				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3211.545	623.3500	5.152074	0.0006
ENCSP(20)	0.146805	0.601783	0.243949	0.8127
POPGR(2)	-617.6890	178.2415	-3.465461	0.0071
EXCR(-7)	-1.303210	0.456491	-2.854842	0.0189
R-squared	0.750172	Mean dependent var		705.7565
Adjusted R-squared	0.666896	S.D. dependent var		180.6074
S.E. of regression	104.2379	Akaike info criterion		12.37889
Sum squared resid	97789.86	Schwarz criterion		12.55272
Log likelihood	-76.46277	Hannan-Quinn criter.		12.34316
F-statistic	9.008258	Durbin-Watson stat		1.897655
Prob(F-statistic)	0.004492			

Source: Author's E-views 10 Computation

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Financial Deepening and Per Capita Income in Nigeria: An Impact Assessment

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Abstract: *The study investigated the impact of financial deepening on Nigeria's Per capita income from 1981 – 2019 using secondary data and ordinary least squares estimation technique. The study employed two standard indicators commonly used in literature in measuring financial development namely the ratio of broad money stock (MS) to GDP and the ratio of private sector credit (PSC) to GDP. The study found that financial deepening when measured by ratio of broad money supply to GDP had a positive significant impact on Nigeria's per capita income (PCI). However, when financial deepening was measured by ratio of private sector credit to GDP the study found that it had a negative and insignificant impact on Nigeria's per capita income thus suggesting that improvements in financial institutions' payment system and saving opportunities positively contributes to Nigeria's per capita income more than the credit channel. The study therefore recommended the urgent need to further deepen the financial sector in Nigeria through improved financial instruments, innovations and infrastructures, adequate regulation and supervision, sound and efficient legal system that will guarantee efficient credit delivery system.*

Keywords: Financial Deepening, Economic Growth and Per Capita Income.

Introduction

The contribution that finance makes to growth and development has over the years generated so much interest amongst researchers and economists. This long standing interest dates back to the pioneering work of Schumpeter (1911) who argued that the services provided by the financial intermediaries are important for innovation and growth. Ever since, a growing body of empirical literature now exits which provide evidence that there is a strong connection between the financial development of any country and its economic performance (Levine 1997, 2004 and DFID 2004).

The major assertion in some of these studies is that a well-developed financial system performs several critical functions in an economy which improves productivity and economic growth. Some of these functions include the financial intermediation role in bridging the information asymmetries between borrowers and savers, savings mobilization, capital funds allocation, monitoring the use of funds and risk management. In addition, Jalilian and Kirkpatrick (2002) stated that a sound and efficient financial system is a necessary condition for long term growth as it enhances economic performance by providing the platform for an efficient transfer of funds and resources which in turn improves the overall welfare of the people. However, while several attempts have been made to investigate the relationship between financial development and economic growth, very few studies (Ndukwe-Ani et al, 2018) have attempted to examine its impact on per capita income. Most studies on finance and growth nexus tend to assume that once there is growth it could have an impact on the whole economy but according to Fields (2001) the imperative of growth for income per capita improvement does not mean that growth is all that matters. Thus, though a large number of literature finds that financial development produces faster economic growth with income per capita implications, it is still very unclear whether the aggregate income per capita gains of financial development benefit the whole population equally or whether it disproportionally benefits the rich or the poor. For instance, if financial development increases income inequality then the country will enjoy positive economic growth without any benefit to its poorest household. In this case, high income group will be richer while the low income group will be poorer. Consequently, if financial sector reform policies that produce financial development are not accompanied with proper and adequate regulatory framework, sound fiscal and macroeconomic stability then financial development can have far reaching consequences on the distribution of wealth and adverse income per capita effects. It is against this background, that the present research study becomes imperative.

For Nigeria, studying the relationship between financial deepening or development and per capita income is a vital one considering the several efforts it has made over the years to reform and develop its financial sector. Considered as an

integral part of macroeconomic policy the financial sector reforms were expected to bring about significant economic benefits particularly through effective mobilization of savings and efficient use of resources (CBN 2017). Some of these reforms includes the deregulation and liberalization of the financial sector activities under SAP in 1986, banking sector consolidation in 2005, financial system strategy (FSS) in 2007 and the National Financial Inclusion Strategy (NFIS) which was launched in 2012. The NFIS strategy provided initiatives to addressing the barriers to financial services in Nigeria and sets a clear agenda for increasing both access to and usage of financial services.

Despite, these huge efforts, Nigeria's economic growth has slowed and remains weak, unable to considerably lower the current level of poverty and inequality, even though the various indices used to measure financial progress have been gradually improving over time. According to the Central Bank of Nigeria (CBN) statistical bulletin 2020, the depth of the financial sector showed some significant improvements as the ratio of broad money supply (M_2) to GDP which measures the systematic relevance of the financial sector increased from 10.39% in 1981 to 15.41% in 2001 then to 19.82% in 2011 and further increased to 23.35% in 2020. The banking sector also showed stronger capacity to finance real sector activities with substantial credit flow to the core private sector thus ratio of private sector credit to GDP increased from 6.15% in 1981 to 9.29% in 2001 then to 15.07% in 2011 and in 2020 it stood at 18.83%. From the above indices, one would wonder why these improvements in financial development indicators have not reflected on the living standards of the Nigerian Populace. An overview of Nigeria's GDP per capita as published by the World Bank 2020 shows that Nigeria's per capita income (PCI) has been stagnant after 40 years, remaining at the same level in 2020 as it was in 1981. PCI measures the average income earned per person in a given country in a specified year, calculated by dividing the country's total income by its total population. In 1981, according to World Bank data, Nigeria's PCI was $2,180.2 and $2,097 in 2020. This simply means that Nigeria today has real per capita income that was the same as 40 years ago – in 1981 indicating a case of someone whose growth has been stunted. Furthermore, the value for GDP per capita growth (annual %) in Nigeria was -15.45% in 1981 and -4.26% in 2020. The maximum value of 12.46% was recorded in 2020 while the minimum value of -15.45 was recorded in 1981 within the period under review.

Thus, it is in the light of above that the present study aims at investigating the relationship between financial deepening and per capita income in Nigeria. In essence the study will seek to answer the question as to whether financial sector deepening is related to Nigeria's per capita income growth. Answering the above research question would help us to see whether, how and to what extent financial development affects per capita income in Nigeria.

The rest of this paper is structured as follows; Section II deals with the literature review while section III describes the methodology to be used followed by a discussion of major findings and result in section IV while section V concludes the study.

1. Literature Review

2.1 Theoretical Review

2.1.2 The Endogenous Growth Theory

The endogenous growth literature provides an understanding of the importance of financial development in long-run economic growth through its positive influence on capital accumulation, savings and technological innovation (Romer, 1986; 1990 and Aghion and Howitt 1992). The central argument in the endogenous growth model is that financial development can affect growth in three different ways namely, increasing the efficiency of financial intermediation, increasing the social marginal productivity of capital and influencing the private savings rate. This therefore, makes a well-functioning financial system the core of endogenous technical progress since it increases the efficiency of human and physical capital and this expands the scope of innovative activity. Greenwood and Jovanovich (1990) in their own contribution stressed the information role of financial intermediation in an endogenous growth model by arguing that its role is crucially related to productivity growth of capital. In a related theoretical study, Bencivenga and Smith (1991) argued that efficient financial intermediation encourages savers to hold their wealth increasingly in productive assets thereby contributing to productive investment and growth through its reduction of liquidity risk. Following the same line of thought, Saint Paul (1992) explained the role of the financial sector in stimulating economic growth through sharing of risks and by allowing investors and entrepreneurs to hold diversified portfolios. Pagano (1993) in particular used the simplest endogenous growth model - the 'AK' growth model to show the channels through which the financial sector can affect the long run growth rate. The AK model is a special case of a Cobb-Douglas production function with constant returns to scale.

2.1.2 McKinnon-Shaw Hypothesis

While the endogenous growth model focused on capital accumulation channel of growth, the McKinnon-Shaw (1973) model of the effect of financial development on growth focused on the saving variable. According to McKinnon (1973) and Shaw (1973), the financial sector is growth inducing but when repressed become an obstacle in the path of real growth. The crucial role of the financial sector arises from their transfer of savings from household to investors. McKinnon - Shaw (1973) argued that policies which led to the repression of the financial market reduced incentives to save. McKinnon stressed the need for developing countries to use high nominal interest rate to stimulate investment and growth. They pointed to the inability of developing countries to attain real positive growth and attributed this to the interventionist policies of their government in the operation of the financial system. These interventions take the form of ceilings on deposit and loan rates often stipulated in nominal terms resulting to low and sometimes negative real rates of return on financial assets even in the face of inflation. McKinnon - Shaw (1973) therefore argued that financial liberalization is critical to the level of capital stock or the level of productivity rather than their own growth rates. Though the McKinnon – Shaw framework informed the design of financial sector reforms in many developing counties, it glossed over the micro level interactions in the financial market and among financial institutions which affect the supply of savings and demand for credit by economic agents and their subsequent effect on economic growth. The problem of market imperfections as argued by Stiglitz (1993) and Stiglitz and Weiss (1981) is the bedrock of analysis of financial development and economic growth in the context of information asymmetries and agency problems. The endogenous growth theories attempted to link the resource mobilization of savings framework implicit in the works of McKinnon, and Shaw to micro level consideration through finance. The new growth theory therefore argued that financial intermediaries and market appear endogenously in response to market incompleteness and thus contribute to long no growth. This new insight relied heavily on the assumption that endogenous productivity growth result as a byproduct of rational investment decision. Financial institutions and market who arise endogenously to mitigate the effects of information and transaction cost functions influence decisions to invest in productive activities through evaluation of most prospective entrepreneurs. The underlying assumption is that financial intermediaries can provide these evaluation and monitoring services more efficiently than individuals. Levine (1997) after an extensive survey of literature identified five key functions that the financial system can accomplish to ameliorate information and transactions frictions and contribute to long run growth. These functions are savings mobilization, risk management, acquiring information about investment opportunities, monitoring borrowers and exerting corporate control and facilitating the exchange of goods and services.

1.2 Empirical Review

In one of the earliest studies in this area king and Levine (1993) found that higher levels of financial development are significantly and robustly correlated with faster current and future rates of economic growth, physical capital accumulation and economic efficiency improvements. In agreement, Demiruc-Kunt (2006) opined that a well-functioning financial system is considered as one of the key foundations on which sustained economic development can be built.

Odhiambo (2008) investigated the causal link between financial deepening, savings and economic growth in Kenya from 1969 to 2005 using a trivariate causality model. The empirical result of the study showed that economic growth caused financial deepening within the period under review. The result further revealed that while economic growth granger caused savings, savings on the other granger caused financial development. The study therefore concluded that the hypothesis and notion that financial development always leads to economic growth should be treated with extreme caution.

Ayinde and Olumuyiwa (2016) examined the relationship between financial development and inclusive growth in Nigeria for the period 1980-2013 using a quantile regression to obtain a threshold for which the former impacts on the later. The empirical result of the study found a threshold level of both percentile. The result further revealed that the influence of financial development on inclusive growth depends on the measure of the former up to the threshold level and not beyond. On the direction of causality, the result revealed that inclusive growth granger caused financial development while financial depth had a negative significant relationship with inclusive growth.

Ho and Iyke (2017) examined the link between bank based financial deepening and economic growth in Hong Kong during the period 1990 to 2014. The study specifically tested whether Hong Kong follows a supply leading or demand

following hypothesis using the Toda-Yamamoto test for causality and two indicators of bank based financial sector development. The study found Hong Kong to follow the supply leading hypothesis suggesting that the banking sector is an important driving force in the economic growth of Hong Kong.

Using multivariate distributed lag framework to re-assess the finance growth poverty linkage in Ghana for the period 1960-2015, Ho and Iyke (2018) found that financial development caused economic growth in Ghana. Dewi et al (2018) empirically explored the dynamics of financial development, economic growth and poverty reduction in Indonesia using ARDL co integration approach and covering the period 1980 – 2015. The study found that there is a long run relationship between financial development, economic growth and poverty reduction in Indonesia. It also found a unidirectional causality running from financial development and poverty reduction and bidirectional causality between economic growth and poverty reduction.

Nyasha and Odhiambo (2018) in their own study titled "financial development and growth nexus a revisionist approach" argued that the connection between financial development and economic growth is very complicated and is tied to so many factors. Thus, the hypothesis that financial development always influences economic growth should be taken with extreme caution.

In a panel study which included Nigeria, Bist (2018) examined the long run relationship between financial development and economic growth using panel unit root and panel co integration analysis in 16 selected low- income African countries from 1995 to 2014. Estimating the long run relationship using modified and dynamic OLS techniques showed that there is a cross sectional dependence across countries. The result of the Pedroni's panel co integration test established the presence of a long run equilibrium relationship between financial development and growth. Performing a times series analysis on individual country basis showed that financial development exerted a positive significant effect on the growth of majority of the counties while the flow of credit to the private sector was found to be very low in the region.

Ndukwe-Ani et al (2018) empirically examined the impact of financial deepening on per capita GDP growth in Nigeria using ARDL Model and quarterly data from 1986 to 2014. Financial deepening was represented by the ratio of private sector credit to gross domestic product (PSC/GDP). A major finding of the study showed that financial deepening can contribute to GDP per capita growth, if there are improvement in domestic resources mobilization, and efficiency in capital allocation in the country. The result further revealed that various financial development policies have not contributed enough to Nigeria's per capita growth. The study therefore suggested that Nigerians can benefit from the deepening of the financial sector and domestic savings in the long-run development of the country if government and financial institutions can encourage mobilization of domestic savings, develop credit and equity markets, minimize financial risk, and ensure capital allocation efficiency. Guru and Yadav (2019) investigated the link between financial development and economic growth in five emerging economies from 1993 –2014 using generalized method of moment system estimation. The study found that financial development significantly contributed to economic growth in these economies.

Yang Fan (2019) in his study titled "the impact of financial development on economic growth in middle income countries" examined how financial system development positively contributes to economic development in middle income nations. Utilizing new proxies of financial development together with earlier models and methodology in Levine (2004). The study found that financial system development affects economic growth through physical capital stock and total factor producing channels.

Olufemi et al (2020) constructing a composite financial development index which accounted for the multi dimensions of financial development and using a panel data set of 33 countries examined the finance growth relationship in sub Saharan Africa for the period 19900-2015. The empirical result of the study established the presence of long run relationship between financial development and economic growth and relationship between financial development and economic growth. Based on the findings the study concludes that the finance growth relationship is sensitive to the choice of econometric methodology.

Ioannou and Wojcik (2020) examined the link between finance and economic growth in the metropolitan areas of 75 countries from 2001-2015. The empirical result of their analysis provided evidence of an inverted U shaped relationship between finance and growth. Using cross country regression approach, the result of their study showed the risks associated with excesses of financial development thus leading credence to the calls for a more decentralized financial system.

Using quarterly data from 2000Q1 to 2019Q4, Akintola et al (2020) evaluated the impact of financial sector development on economic growth in Nigeria by looking at the independent contributions of the money, capital, and foreign exchange

markets to the growth of the economy. While financial deepening, banking system liquidity, and the all-share index all had positive and significant long-run effects on real production growth, the behavior of the exchange rate spread was consistent with falling real output growth. To enhance the degree of economic growth in Nigeria, macroeconomic managers should emphasize the growth of the money and capital markets, according to the study. More specifically, the monetary authorities should adjust her policy rates and other instruments of monetary policy, such as the cash reserve ratio in order to boost the amount of banking system liquidity. This will improve commercial banks private-sector lending capability, resulting in increased economic growth in Nigeria.

For the period 1981 to 2018, Osuji (2020) looked at the relationship between financial development and savings in Nigeria. The study employed secondary data from the Statistical Bulletin of the Central Bank of Nigeria (CBN) that spanned 37 years and was analyzed using the Ordinary Least Square (OLS) econometric technique and the Granger Causality test. The study found that in Nigeria, Financial Development had a positive significant link with savings while savings rate had a positive but insignificant effect on savings. Furthermore, the Granger causality test revealed that there is a unidirectional causality running from financial development and savings. Sennuga and Olayemi (2021) used time series data on the annual growth rate of gross domestic product, real interest rate, the ratio of gross domestic savings to GDP, and the ratio of domestic credit to the private sector to GDP to examine the effect of financial development on economic growth in Nigeria between 1980 and 2019. The results showed that when two of the variables (real interest rate and gross domestic savings) are combined, they are inversely related to the dependent variable (GDP annual growth rate), whereas domestic credit to the private sector is positively related to the dependent variable, with the coefficient of multiple determination indicating that the model is well-fitting, with the variables accounting for approximately 93 percent of the gross domestic product.\

3. Methodology

3.1 Model Specification

In order to estimate the impact of financial deepening on per capita income in Nigeria, the linear regression model based on the ordinary least square (OLS) technique would be employed. Ordinary least square (OLS) is extensively used in regression analysis primarily because it is intuitively appealing and mathematically much simpler than any other econometric technique (Gujarati, 2004). The general functional form of the linear regression model is stated below based on McKinnon and Shaw Hypothesis and following Ndukwe – Ani (2018).

PCI = f (MS, PSC, SAV, INT) (1)

The mathematical/econometric form is specified in the long run as follows:

$$PCI_t = \alpha_0 + \alpha_1 MS + \alpha_2 PSC + \alpha_3 SAV + \alpha_4 INT + U_t \quad (2)$$

Where;

PCI = Per Capita Income. It measures the average income earned per person in a given country in a specified year, calculated by dividing the country's total income by its total population.

MS = Ratio of broad money supply to GDP is a major indicator of financial deepening. It measures the depth and the systematic relevance of the financial sector in providing transactions services and saving opportunities.

PSC = Ratio of private sector credit to GDP. This is another indicator of financial sector development which is the most appropriate measure of financial development since it isolates credit issued to public sector

SAV= Savings measured by total savings as ratio of GDP at current basic prices. It is used as a measure of savings mobilization.

INT = Interest rate spread. This is the difference between borrowing and lending rates by financial institutions. The rate influences the amount of savings channeled to investment. It therefore captures the transactions cost of financial intermediation.

U_t= Error term

According to Engel and Granger once a number of variables are found to be co integrated, there always exist a corresponding error correction representation which implies that changes in the dependent variable are a function of the

level of disequilibrium in the co integration relationship (captured by the error correction term) as well as changes in other explanatory variables. The short run/ECM corresponding to our situation is specified below;

Augmented Dickey Fuller (ADF) Test

	Level Form		First Difference		Second Difference		Order of
Variable	**ADF Stat**	**5% Critical Value**	**ADF Stat**	**5% Critical Value**	**ADF Stat**	**5% Critical Value**	**Integration**
PCI	2.7083	-2.9434	-0.8239	-2.9434	-8.4136	-2.9434	I (2)
MS	-0.6036	-2.9434	-5.8978	-2.9434			I (1)
PSC	-0.9245	-2.9434	-5.0145	-2.9434			I (1)
SAV	-2.3002	-2.9434	-6.6587	-2.9434			I (1)
INT	-1.5564	-2.9434	8.0310	-2.9434			I (1)

In table 4.1, it is observed that per capita income (PCI), Ratio of broad money supply to GDP (MS), Ratio of private sector credit to GDP (PSC), Savings (SAV) and interest rate (INT) were non-stationary in their respective level forms. At 5 percent critical value, the null hypothesis was accepted for the five variables however while MS, PSC, SAV and INT became stationary after first difference, PCI on the other hand became stationary after second difference. Hence conclude that MS, PSC, SAV and INT are integrated of order one I (1) while PCI is integrated of order two I (2).

4.2 Co integration Test Result

Two variables are co integrated if they have a long-run relationship or an equilibrium relationship. Hence, a co integration test was carried out to establish whether there is a long-run relationship between financial deepening and per capita income in Nigeria. This was done using Engle-Granger two step procedure which first involves running a regression of the long-run model and obtaining the residuals. The second step involves carrying out a unit root test on the residuals. If the residuals are stationary then there is co integration but if they are not then there is no co integration. The result of the test is presented in the table below

Table 4.2: ADF Unit Root Test on Residual

Variable	ADF Test Stat	5% Critical Value	Remark
Residual (RESID 01)	-2.6406	- 2.9411	Non Stationary

The result in table 4.2 clearly shows that the ADF Test statistic (-2.64) is less than the 5% test critical value (-2.94) in absolute terms. This implies that the residuals are not stationary leading us to conclude that the variables are not co integrated.

4.3 Presentation and Discussion of Regression Result

Presented in Table 4.3.1 below is the regression result of the estimated model which addresses the main objective of the study. In the model per capita income (PCI) is the dependent variable while Ratio of broad money supply to GDP (MS), ratio of private sector credit to GDP (PSC), Savings (SAV) and Interest rate (INT) are the independent variables.

Table 4.3.1: OLS Estimated Result

Variables	Coefficient	Std Error	t-statistics	Prob
D(MS)	0.380926	0.097312	3.914462	0.0004
D(PSC)	-0.699064	1.414941	-0.494059	0.6246
D(SAV)	-1.597278	0.708594	-2.254152	0.0312
D(INT)	-0.359096	0.414155	-0.867056	0.3924
C	1.595197	1.639028	0.973258	0.3377

R-squared : 0.6089 **Adjusted R-squared:** 0.5099
F-statistic: 5.1119 **Prob (F-statistic):** 0.0023 **Durbin-Watson stat** = 2.1293

The result from table 4.3.1 shows that financial deepening when measured by Ratio of broad money supply to GDP (MS) is estimated to have a positive relationship with per capita income (PCI) in Nigeria with an estimated coefficient and t-statistic value of 0.3809 and 3.9145 respectively. This suggests that broad money supply contributes positively to GDP per capita in Nigeria. The implication of this finding is that the ability of the financial sector in providing financial services such as transactions and saving opportunities contributed positively to Nigeria's per capita income. This finding is in line with laid down economic theory which posits that a well-developed financial sector is essential for the growth process of an economy.

The result further revealed that ratio of private sector credit to GDP (PSC) which is another measure of financial deepening has a negative relationship with per capita income (PCI) in Nigeria. The estimated coefficient is negative (-0.699) thus did not conform to a priori economic expectation while the t-statistics was statistically insignificant (t-stat value is less than 2). This is consistent with the finding of Ndukwe- Ani (2018). It suggests that the higher the flow of credit to the private sector the lower the growth in per capita income. This finding though strange may be attributed to the preference of commercial banks in Nigeria to short term lending to the public sector than long term lending to private sector enterprises. Deposit money banks in Nigeria avoid financing long term projects of real sector due to perceived risks associated with such lending, they rather prefer to lend to the public sector and this results in heavy public sector deficit which crowds out the needed private investment for growth and development.

Similarly, Savings (SAV) is also estimated to have a negative and statistically significant relationship with per capita income (PCI). Its estimated coefficient and t-statistic being -1.5973 and -2.2542 respectively. This implies the higher the volume of savings the lower the level of per capita income in Nigeria. This finding is not consistent with economic theory and clearly suggest that Nigeria as a country has not been able to utilize its domestic savings mobilization in a productive way. This also indicates a failure on the part of financial intermediaries in Nigeria whose major responsibility is to mobilize and allocate savings into productive investment. However, poor investment policies, political instability, dearth of technological innovations and inadequate foreign investment may be responsible for Nigeria's inability to benefit from its huge savings potentials.

Interest rate (INT) on the other hand is estimated to have a negative relationship with per capita income in Nigeria with an estimated of -0.3501. This suggests that high interest rate inhibits per capita income growth in Nigeria. This finding though consistent with a priori economic expectation is however not statistically significant.

The adjusted coefficient of multiple determinations (R^2) is estimated to be 0.5099. This implies that Ratio of broad money supply to GDP (MS), ratio of private sector credit to GDP (PSC), Savings (SAV) and interest rate (INT) jointly explain 50.99% of the total variations in per capita income (PCI) in Nigeria. Furthermore the result of the f-statistics suggests that the model is statistically stable and can be relied upon for inferences. The F-statistics in econometrics test the overall significance of the sample parameter estimate from the population parameters from which it is drawn. The result of the f-statistics which test for the joint statistical significance of the parameter estimates shows that the F-statistics [5.11] ($P<0.05$) is statistically significant.

Conducting a test for the existence or otherwise the presence of auto correlation using Durbin Watson statistics reveals that the model is free from the problem. This is because the DW-statistics value (2.13) is greater than Du value (1.722). A similar result was obtained using Breusch-Godfrey serial correlation LM test. We arrived at this conclusion because the probability value (0.23) of its F-statistics is greater than 5% i.e. (0.05) significant level. Finally, a test for heteroskedasticity using Breusch-Pagan-Godfrey shows that the residuals of the regression are not heteroskedastic. This is because the probability value of the f-statistics is also greater than 5% (i.e 0.97>0.05). The table below summarizes the result of Breusch-Godfrey LM test and Breusch-pagan-Godfrey Heteroskedastic test.

Table 4.3.2: Residual Diagnostic

	Names of Test	Type of Test	F-stat	Prob
1	Breusch-Godfrey	Serial Correlation	1.539801	0.2309
2	Breusch-Godfrey	Heteroskedastic	0.134029	0.9687

Conclusion and Recommendations

This present research study sought to investigate the link between financial deepening and Nigeria's per capita income from 1981 – 2019. Specifically, the study examined the impact of ratio of broad money supply to GDP and ratio of private sector credit to GDP on Nigeria's GDP per capita. Following a detailed time series analysis which involved the use Augmented Dickey-Fuller unit root test, Engel Granger Co integration test and ordinary least square estimation technique, the empirical result revealed the following.

1. The co integration result revealed that there is no long run relationship between financial deepening and per capita income in Nigeria.
2. The empirical result further showed that while ratio of broad money supply to GDP had a positive significant effect on Nigeria's per capita income, ratio of private sector credit to GDP on the other hand had a negative and insignificant effect on Nigeria's per capita income. The implication of this finding is that improvements in financial institutions' payment system and saving opportunities positively contributes to Nigeria's per capita income more than the credit channel.
3. Savings exerted a negative significant effect on Nigeria's per capita income. This finding from our study portrays the weakness of the financial sector in Nigeria to mobilize and allocate savings to the productive sector.
4. Finally, interest rate also had a negative but insignificant effect on Nigeria's per capita GDP income.

Based on the findings above, the study recommends the following.

1. Since the empirical finding of the study provided evidence that financial deepening when measured by ratio of broad money supply to GDP had a positive significant effect on Nigeria's per capita income (PCI) then there is need to further deepen the financial sector in Nigeria through improved financial instruments, innovations and infrastructures, adequate regulation and supervision, sound and efficient legal system that will guarantee efficient credit delivery system.

2. In order to ensure that credit to the private sector significantly contributes to Nigeria's GDP per capita income government should minimize their borrowing activities especially from domestic financial markets as huge government deficit financing crowds out private sector investments. Furthermore both monetary and fiscal authorities should introduce a set of policies that would stimulate banks to grant credit facilities to the key neglected pro poor sectors of the economy.

3. Finally, to reverse the negative impact of savings on Nigeria's per capita GDP, policies that ensures effective mobilization and channeling of savings to the productive sectors should be formulated by the monetary authorities. One of such policies that would improve domestic savings mobilization and accumulation is the reduction in the interest rate spread (i.e. gap between deposit and lending rates) which at present is 3.1% and 31% respectively. Consequently, there is the urgent need to increase the savings and deposit rate which is very critical for domestic savings mobilization.

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Effect of insurgency on Extension service and Livestock production in Maiduguri and Bama Local Government of Borno State of Nigeria

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Abstract: *Insurgency is a global phenomenon affecting Agricultural production. Since the outbreak of insurgency in Borno state in 2009 there have been disruption of agricultural production. The purpose of this study is to assess the effect of Insurgency on livestock production and extension services. The study adopted a survey research design. The study utilized primary data through the use of questionnaires, having a sample of four hundred and forty (440) respondents. The population comprised of residents of Maiduguri and Bama local governments. Descriptive statistics were used to summarise the quantitative data, while simple linear regression was used to test and interpret the hypotheses with the help of Statistical Package for Social Science (SPSS version 20). The findings of the study showed that insurgency has a strong negative effect on livestock production and extension services. It was recommended that efforts should be put in place by the Nigerian Armed Forces to end the insurgent's onslaught on the state, the study also recommended that the state government and the North East Development Commission should massively invest in the agricultural sector with policies and programmes that put extension service and livestock production at the fore.*
Key words:

Introduction

Conflicts are major constraints preventing growth of agricultural production in sub-Saharan Africa in recent decades (Rockmare, (2020); Adelaja and George (2019). Aggressions against the civil population destroy or deteriorate agricultural production through killing and maiming, thus decreasing the productive capacity of households. Conflict could adversely affect agricultural production in several ways. For example, conflict can lead to disruption of farming activities, collapse of supply and value chain, create price shocks and cause massive displacement of labour.

Agricultural production pertains to the act of providing increased output of crops, fisheries and livestock for livelihood and food security. It involves the availability of labour on farm land, agricultural extension services and minimal loss of harvest by farmers. Although the availability and increase in agricultural production is today a topical issue due to insurgents attacks and other conflicts.

In the 19th and early 20th centuries, effect to convey agricultural knowledge to farmers to boost agricultural production became known as extension services. Extension service from agricultural production point of view can be defined as a service system which assist farmers through educational procedure, improve farming methods and technique (Sivile, 1987) Extension service was adopted from programs at oxford and Cambridge design to extend the knowledge generated at the universities to surrounding communities which has remained an essential and integral part of agricultural production, it remain the only way through which agriculture could be beneficial to the rural poor. Its education and teaching nature help improve farmer's productivity

While the term livestock was first used between 1650 and 1660 as a compound word combining the word “Live” and “Stock”. These are domesticated animals raised in an agricultural setting to provide labour and produce commodities such as meat, eggs, milk, fur, leather and wool. The term is sometimes used to refer solely to animals that are raised for consumption, such as cattle, sheep, and goats. Livestock and livestock product are estimated to make up over half of the total value of agricultural gross output in the industrialize countries, and about a third of the total in the developing countries (Bruinsma 2003). The global importance of livestock and their products is increasing as consumer demand in the developing countries expands with population growth and rising income. According to the United Nations Food and Agricultural Organization (FAO), livestock contribute approximately 12.9% of global calories and 27.9% of global protein consumed. Livestock are also a vital source of employment in rural areas and developing countries, providing food, a source of power for draught, ploughing for crops and transport through to providing clothing products

Insurgency world over takes a heavy toll on the quality and quantity of food that people require for nourishment (Onwusiribe et al. 2015). Insurgency is one element of the spectrum of political violence, it is a violent activity by an armed group in contention with a state authority over control that often leads to wanton destruction of lives and property and hampers all facets of development. The United States Department of Defence, defines insurgency as 'an organized movement aimed at the overthrow of a constituted government through use of subversion and armed conflict' (DoD-US 2017).

Several studies have looked at the impact of insurgency on both the broader economy and agricultural sector, for instance Madu (2019) investigate the Effect of Insurgency on Farming Communities in Chibok Local Government Area, Borno State, however much information have not been documented specifically on the effects of insurgency on livestock production and extension services which are integral and important stimulus of agricultural production. More so, most studies on extension service were specifically an assessment of extension service on a particular crop or agricultural activities, for example Mustapha et al., (2016) and Ibrahim et al., (2016) made an assessment of extension service delivery on fish farming.

In view of the above, this study aim at the generation of some body of scientific knowledge that contributes to an improved understanding of the effects of insurgency on extension service and livestock production in Borno state because a state facing armed conflict might lack the capacity to provide and meet basic societal demand. Citizen trapped in a vicious circle of violent insurgency might face legacy of being unable to purse legitimate economic activities to meet their basic need and possible suffer from a natural resources curse.

Towards this end the study is examined along nine parts, including statement of the problem and literature review used to derive the hypothesis and theoretical framework that is a scheme or device for adopting or applying the assumptions of a theory in analysis of a research problem. The sixth section which is the methodology is used to derive data for the study. The seventh section focuses on the data presentation and analysis. The eight deals with conclusion and recommendation as the final parts.

Statement of the problem

There are ample evidence that insurgency attacks has changed the very fabric of farming population. For example, Ksoll, Macchiavello & Morjaria (2010) show how post-election violence negatively affected the export volumes of the cut flower industry in Kenya. Adelaja and George (2019) shows that increase conflict involving insurgents within the local government area reduces agricultural output, productivity, and hours of hired labour at the household level. Before the outbreak of insurgency an estimated 70-80 percent of the population in Borno state depend on agriculture, fisheries and livestock for their livelihood and food security. The estimated value of the impacts on agriculture (farmlands, livestock, farm assets, extension services and equipment) between 2009 and 2014 are around 3.7 billion dollars (World- Bank et al, 2015)

Apart from the normal difficulties faced in daily work in rural areas by agricultural extension workers in Borno state, the present challenges are fears of insurgent's attacks. Insurgency has impacted negatively on the way extension management, administration and activities are being implemented, this is because extension activities cannot successfully take place in a conflict ridden environment, as extension agents are afraid of being killed, some of the negative effects of the dearth of extension service are, unavailability of early maturing seeds, lack of access to farm implements and machinery, lack of access to inputs, inadequate information on planting, cultivation and processing techniques and unimproved farming process due to lack of innovation among others.(Gbenga A. 2018)

Furthermore, the persistent killings and bombing in the State of Borno has made livestock to plummet, animals were lost either during fleeing or made away with by the insurgents. Thieves and cattle rustlers have also taken advantage of the situation to steal the livestock as the owners were displaced. Other animals were roasted during attacks, others killed by stray bullets or injured during attacks.

Nomadic herdsmen can no longer go far into the bushes to graze out of fear of attacks, many have since migrated along with their animals to other safer places, and others now graze close to military check points, while the non-nomadic ones sold off their animals. According to Nwanegbo and Odigbo, (2013) the insurgent's activities have not only forced termination of livestock farms and production but it also compromised the welfare of animals

In the light of the foregoing, if there must be optimal agricultural production, livestock production and extension service have major roles to play, as developing agriculture rapidly requires large numbers of agents, who would in turn improve farmer's capacity to understand and solve niggling production problems but the moribund state of extension services and dwindling livestock production in the state has become a big challenge for agricultural production.

Literature Review

Insurgency

Insurgency has existed throughout history but ebbed and flowed in strategic significance. At times insurgency forms “background noise” to competition or conflict between great powers. At other times, it is strategically significant, undercutting regional stability, drawing outsiders into direct conflict, and spawning humanitarian disasters (Metz & Millen, 2005). It is an over-arching phenomenon existing all over world (Shuja, 2007). To start with, insurgencies in light of ideological grievances, ideological basis that punctual to guerrilla developments are among the most incessant reasons for insurgency (Sahay, 2010). Islamic and socialist insurgencies are the most obvious sorts of ideological based insurgencies in the modern world. The more remote and mal-imparted a general public is the more potential are there for rebellion and radical developments to start (Sharif, 2018). However, terrorism has become the commonly adopted strategy

by the insurgents. Terrorism in modern usage is associated with certain kind of violent actions carried out by individuals and groups rather than by the state and with events which take place in peace time rather than as part of conventional war. In Nigeria, the linkage that is establish between Boko haram insurgents and Al-Qaeda terrorist group buttresses the international network of modern insurgent groups.

Livestock Production

Livestock production are vital to subsistence and economic development. Livestock production now occupies over a quarter of the land surface of the globe(Robinson et al.2004) livestock production are part of a socio- ecological system (Biggs et al.2015) meaning that human play a major role in determining the outcome of interactions between components of the system. In general terms livestock means any species of animal that has been domesticated and which are kept in an agricultural context. Many of the traditional livestock production systems of sub- Saharan Africa is now in decline due to violent conflicts. Since the insurgent's uprising in 2009 in Borno state, there have been threat to security, while the group's stated objective does not include direct disruption of the agricultural sector, their act directly or indirectly affect lives of rural agricultural household.

Extension Services

The concept of extension service differ from one country to the other and from one agricultural agency to another, for instance in Australia and New Zealand, it refers to as agricultural advisory work, while in USA it's a cooperative extension service. The importance of agricultural extension in agricultural development is widely acknowledge, its impacts on food crop diversity are significantly affected positively and negatively with or without establishing joint planning, monitoring, learning and evaluation experience sharing through workshop and training. Extension service describes the services that provides rural people with the access to knowledge and information they need to increase productivity and sustainability of their production systems and improve their quality of live and livelihood.

Empirical Literature Review

Ojo, et al (2018) Examine effect of Insurgency on food crop farmer's productivity in Borno and Gombe states, Nigeria. A two-stage sampling technique was used. The first stage involved random selection of one Local Government Area (LGA) each from the six Agro ecological zones in the States making six (6) LGAs altogether. In Borno State, Jere, Damboa and Kukawa LGAs and the farming communities such as Auno, Beneshiekh, Dalwa, Mallam Fatori, Kekeno and Bagawere selected. While Akko, Kaltungo and Kwami LGAs and the farming communities such as Kashere, Kalshingi, Bule, Kaltin, Bojude and Malleri were selected in Gombe State. The second stage involved random selection of twenty five (25) food crop farmers from each village in Borno State making one hundred and fifty (150) food crop farmers selected, while fifteen (15) food crop farmers were selected in each village of Gombe State making ninety (90) food crop farmers selected. The total number of food crop farmers selected in the study area was two hundred and forty (240). The primary data for this study were collected using structured questionnaire and descriptive and inferential statistics were used to describe access to farm inputs and to compare the output of crop farmers that were most and least affected by insurgency in the study area. The ordinary least square (OLS) regression analysis was used to determine the effect of insurgency on food crop farmers' productivity. The results shows that farmers had less access to productive inputs and this might have been due to the conflict caused by the insurgency in the study area there by affecting their productivity.

Mustapha et al., (2016) in their study titled Assessment of Extension Service Delivery on Fish Farming in Maiduguri Metropolis, Borno State, Nigeria. Two stage sampling procedure was employed for the study. In the first stage, four (4) wards were purposively selected out of the fifteen (15) wards, being the areas were fish farming is dominant. 30 farmers were randomly selected from each ward making a total of 120 respondents in the study area. Descriptive statistics was employed for analysis which includes percentage and frequency distribution. The findings revealed that most (53.3%) of the respondents had no access to extension services. The impact of extension agents had not been felt in the study area and this is, because of the non-chalet attitude of the government towards financing the extension. The study basically looked at the impact of extension agents of only fishing farming population and area which cannot be generalize.

Similarly, Ibrahim et al., (2016) Made an Assessment of Extension Service Delivery on Improved Fishing Technologies among Artisanal Fishermen in Baga Area of Lake Basin, Nigeria. Multi-stage sampling technique was employed for selecting the respondents. At the first stage, Agricultural Research Council of Nigeria (ARCN) adopted villages (Baga, Doro, Dumba. Monguno, Kwata Yobe and Sabon Daba) for programmes on fisheries in Baga area of Lake Chad was selected. At the second stage, four adopted villages as a result of predominantly large numbers of fishermen were purposively selected. The analytical technique used in this study was descriptive statistics such as percentages and frequency distribution to analyse the specific objectives. The result implies that the aims and objectives of agricultural extension which is to improve the efficiency of the human capital in an effort to rapidly increase the rate of agricultural production were achieved. The study is similar to Mustapha et al., (2016) which narrow the study to fish farming population that did not provide an extensive information on extension services in Borno state.

Hypothesis

H01 Insurgency has not affected Extension service in Borno State
H02 Insurgency has not affected Livestock production in Borno State

Theoretical Framework

Fragile State Theory: Fragile state theory was propounded by Sara in 2008. A fragile state is trapped in a vicious circle of violent conflict. It is an expansive label that describes states at risk of civil war or are already mired in conflict. In the policy world, state fragility has emerged as a central theme in the work of major international and influential states, transcending traditional boundaries between international security and developmental policy. The US defence secretary for instance calls fragile state " The main security challenge of our time (Gates 2010) and the president of the world Bank describes them as " The toughest developmental challenges of our era" (Zoelick 2008). Fragility is a state failure to perform its function effectively and to provide basic social services, such as Agricultural activities, education, security; incapacity to uphold the rule of law, and failure to provide sustainable sources of income for the population, including state that are recovering from conflict, that are experiencing long term insecurities, recurrent violence out break or localize conflict such as the Boko Haram insurgency in Borno State

3.0 Methodology

The population of the study constitute all residents of Maiduguri and Bama local government.
The 2006 census figure has an estimated population of 540,016 and 270,119 respectively, with an annual growth rate (AGR) of 3.2%.

Table 3.1: Estimated Population for Maiduguri Local Government Area of 2006 Census, with Annual Growth Rate of 3.2%.

Year	Population Growth Rate (PGR) 3.2%	Population Growth	Estimated Population of Maiduguri LG.
2006	3.2	17,281	540,016
2007	3.2	17,834	557,296
2008	3.2	18,405	575,129
2009	3.2	18,994	593,533
2010	3.2	19,602	612,526
2011	3.2	20,229	632,127
2012	3.2	20,876	652,355
2013	3.2	21,544	673,230
2014	3.2	22,233	694,773
2015	3.2	22,944	717,006
2016	3.2	23,678	739,950
2017	3.2	24,436	763,628
2018	3.2	25,218	788,064
2019	3.2	26,025	813, 282
2020	3.2	26,857	839,307
2021	3.2	27,717	866,164

Source; Researcher's Computation, 2022

Table : Estimated Population for Bama Local Government Area of 2006 Census, with Annual Growth Rate of 3.2%.

Year	Population Growth Rate (PGR) 3.2%	Population Growth	Estimated Population of Bama LG.
2006	3.2	8,644	270,119
2007	3.2	8,921	278,763
2008	3.2	9,206	287, 683
2009	3.2	9,501	296, 889
2010	3.2	9,805	306, 389
2011	3.2	10,119	316, 193
2012	3.2	10,443	326, 311

2013	3.2	10,777	336, 753
2014	3.2	11,122	347, 529
2015	3.2	11,478	358, 650
2016	3.2	11,845	370, 126
2017	3.2	12,224	381, 970
2018	3.2	12,615	394, 193
2019	3.2	13,017	406,807
2020	3.2	13,347	419,824
2021	3.2	13,864	433,258

Source; Researcher's Computation, 2022

Sampling Size and Sampling Technique

Simple random Sampling was used by the researcher to collect needed information from respondents. The sample size will be determined using the formula suggested by Yamane (1967) for a finite population with 95% confidence level and 5% sampling error assumption.

Sample size formula

$$n = \frac{N}{1+N\,(e)2}$$

Where
n = sample size
N = total population
E = accepted margin of error
1 = constant
Determination of sample size for Maiduguri and Bama Local government
Maiduguri – 866,164\
Bama - 433,258
1,299,422

Where:
n = unknown
N = 1,299,422
e = 5% i.e 0.05
1= Constant

Using the above formula, the size of Maiduguri and Bama population to be sampled is reduced to 400. However, in order to take care of improper filling and inability of some respondents to return the questionnaire, the study added a margin of 10% as suggested by Israel (2009).
That is 400 +40 = 440 Therefore, the total number to be sample in Maiduguri and Bama is 440
The study adopt the proportionate sampling technique for the distribution of questionnaire to the two Local government areas, this is to ensure that each Local government area is appropriately and proportionately represented.
This is illustrated thus:
The population figure _ 1,299,422
Sample size = 440
Maiduguri = 866,164 x (440 ÷ 1,299,422) = 293
Bama = 433,258 x (440 ÷ 1,299,422) = 147
Total = 440

Instrument of Data Collection and its Administration

The study brings in questionnaire. 440 questionnaires was shared using simple random sampling, 412 questionnaire was returned while 402 was found valid. Data generated were presented using tables, frequency counts and percentages. The descriptive statistic (mean, minimum, and standard deviation) was used to explain the results of the respondents. The inferential statistic which include multivariate regression, was used to analyse the effect of insurgency on Extension service and livestock production. Hypotheses of the study were tested using the technique at 5% level of significant (95% confidence level). This was achieved with the aid of statistical package for social science (SPSS 16.0), software for data coding and analyses

4.0 Data presentation and analysis

4.1 Reliability

Reliability is concerned whether the procedures of data collection and analysis will generate the same results on other occasions or will other observers make similar observations and arrive at conclusions from the raw data.

Table 4.1Reliability Statistics

Cronbach's Alpha	N of Items
.871	6

Source: SPSS OUTPUT, 2022

A reliability test based on Cronbach's Alpha coefficient was used to assess the consistency of the questionnaires as well as the general reliability of the components they were measuring. Cronbach's Alpha can be compared to a correlation coefficient, with a coefficient range ranging from 0 to 1. Acceptable reliability is defined as a reliability coefficient (alpha) greater than or equal to 0.7. That is, the targeted questions in the questionnaires are capable of answering the study's goal. As a result of the reliability test, all of the items in the pilot questionnaire were found to be reliable, as evidenced by the fact that the test scores were more than 0.7, as shown in the Table 4.1. As a result, the responses provided for all of the variables employed in this study were sufficiently reliable for data analysis.

Figure 4.1 Age distributions
Source: Field Survey, 2022

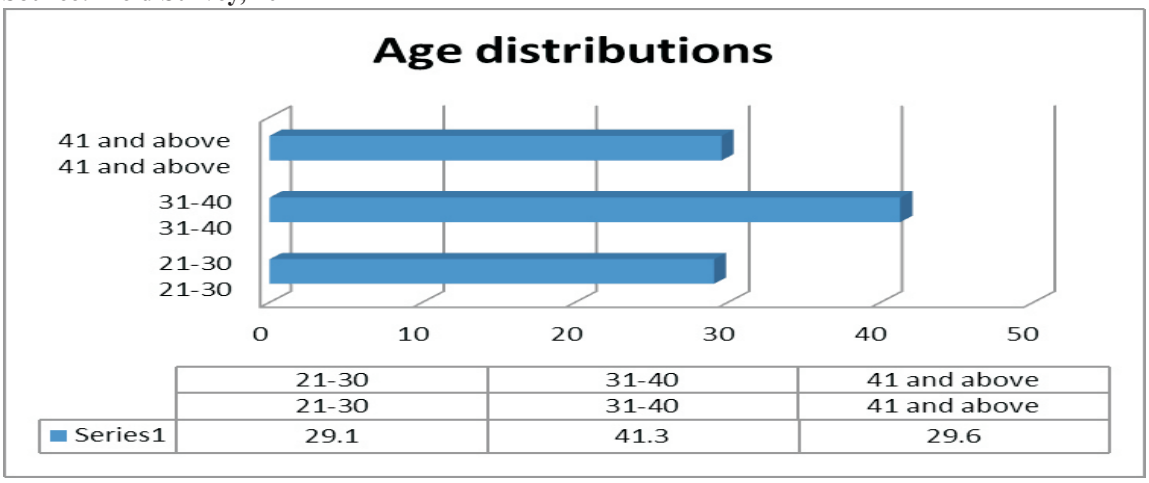
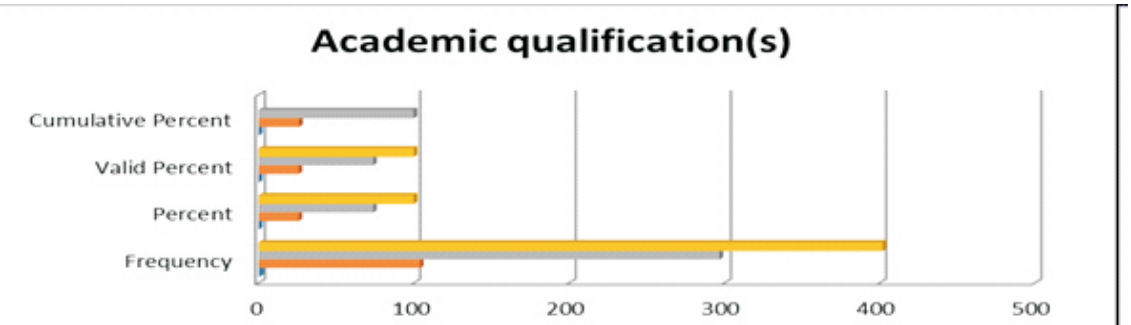


Figure 4.1 shows the age distribution of respondents, 29.1% falls within 21-30 years, 41.3% within 31-40 years and 29.6% within 41 years and above. It can be deduced that the majority of respondents captured for this study are within 31 to 40 years of age

Figure 4.2 Respondents Qualification(s)



	Frequency	Percent	Valid Percent	Cumulative Percent
Total	402	100	100	
Tertiary	297	73.9	73.9	100
Secondary	104	25.9	25.9	26.1
Primary	1	0.2	0.2	0.2

Source: Field Survey, 2022

As seen in Figure 4.2, 1 (0.2%) of the respondent had only primary school certificate, 104 (25.9%) respondents had only secondary school certificate. Finally, 73 (73.9%) of the respondents had tertiary school certificate. It can be deduced from the result above that majority of the respondents captured in this study were holders of tertiary school certificate.

Normality distribution of the data is another paramount assupmtion of linear regression where it is considered as condition for parametric test analysis. This is because, one of the parametric test condition is that, the data most be normaly distributed across the variables for the test to stand for generalization (Park 2008). However, it was argued that the normality is to be conducted on the residuals of the model and not the data where the dependent variable determine the parameteric analysis to be conducted (Ghasemi and Zahediasl 2012).One of the major ways of checking normality recommended by Pallant (2007), is by examining the normal casewise Diagnostics of the regression standardized residuals. The Normal casewise Diagnostics method was used to investigate the normality of the distribution of the residual or error.

Table 4.2 Casewise Diagnostics [a]

Std. Residual	Agricultural extension	Predicted Value	Residual
-4.898	0	4.45	-3.151

a. Dependent Variable: Extension Service

Table 4.3 Casewise Diagnosticsa

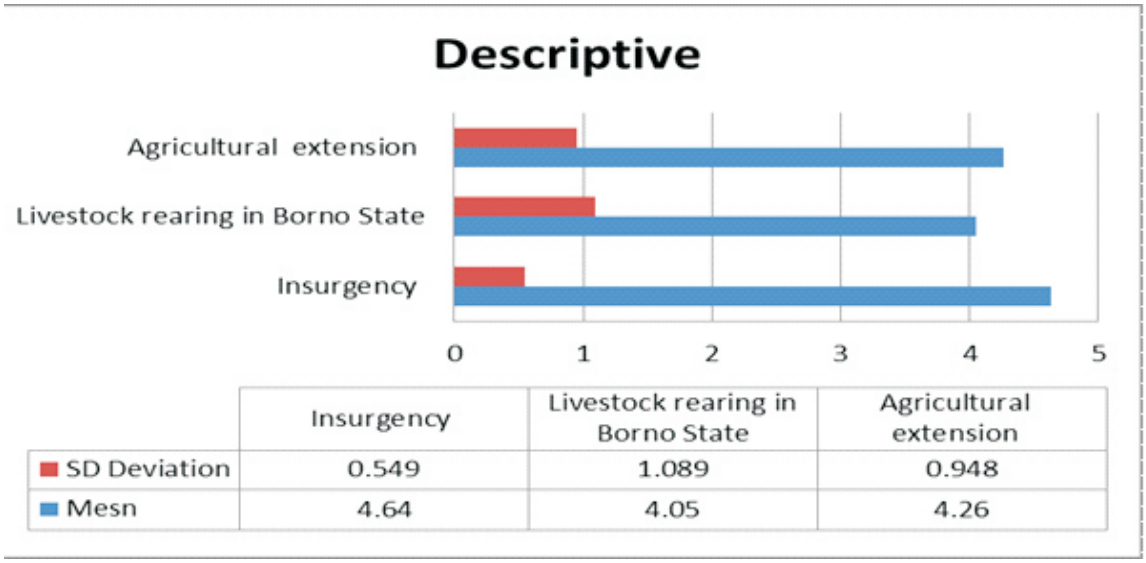
Case Number	Std. Residual	Livestock rearing in Borno state	Predicted Value	Residual
402	-5.217	0	4.96	-3.92

a. Dependent Variable: Livestock Rearing

Source: SPSS OUTPUT, 2022

The table 4.2 and 4.3 titled Case Wise Diagnostics was also used to verify the normality distribution of the error term. In a normally distributed sample at most, only one percent of the cases in which standardized residual fall above ±3.0 is expected to occur. Presented in the tables above show that only case (case 402)for the two models have a standardized residual value (-4.898) and (-5.217) that fall outside the range (±3.0).This is particularly so as the performance score for the selected aggregated to 0.00, while the estimated model predicted a value is 4.2 and 4.3. However, since only one case is recorded from each model, which is less than 1%, we conclude that our chosen sample is normally distributed and therefore possess a normally distributed error term.

Figure 4.3 Descriptive Statistics



Source: Field Survey, 2022

Figure 4.3 provides a summary of the descriptive statistics of the dependent and independent variables for the sampled target respondents. This shows the average indicators of variables computed from the responses obtained in respect of the selected variables. Respondents' opinions ranged from strongly agreed, agreed, strongly disagreed, disagreed and undecided were measured on a scale of one to five (1-5) respectively. The average of responses obtained from the respondents in respect of insurgency, livestock rearing and extension service in Borno State are 4.64, 4.05 and 4.26 with standard deviation of 0.549, 1.089 and 0.948, which shows that there are low disparity opinions across the target respondents.

4.4. Regression result for insurgency

Table 4.4 and 4.5 below revealed the overall results of interrelationship between the variables of the study.

Table 4.4

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	.969	.303		3.200	.001
Insurgency	-.266	.055	.230	-4.820	.000

a. Dependent Variable: livestock rearing

R	0.431
R Square	0.386
Adjusted R Square	0.380
F-statistics	30.290
Sig	0.000

Source: SPSS OUTPUT, 2022

Table 4.5

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	2.037	.225		9.074	.000
Insurgency	-.480	.050	-.430	-9.519	.000

a. Dependent Variable:	Extension service
R	0.622
R Square	0.513
Adjusted R Square	0.458
F-statistics	15.377
Sig	0.000

Source: SPSS OUTPUT, 2022

Discussion of results

The regression results table above, reports the multiple linear correlation coefficient(R), the coefficients of determination (R2) and the variance (Adjusted R2) Statistics. The regression value of 0.431 indicates that there is a strong relationship between the dependent and the joint independent variables. The R2 value of 0.386 and 0.513 show that changes in livestock rearing and agricultural extension is explained or captured by the estimated model to the tune of about 38.6% and 51.3% respectively. Meanwhile, after accounting for the number of regressor included in the model estimated, variation in the dependent variable accounted for by the independent variables to the tune of 0.380(38%) and 0.513(51.3%) respectively.

From the regression results table above, the coefficients (Beta) indicate the relative effect of the independent variables on the dependent variable. The larger the value estimated for an independent variable, the more important is the variable in predicting the dependent variable. Considering the results of Beta in Table 4.4 showed that, insurgency (β=-0.266, t=-4.820, P= .000) has low beta coefficient, which indicated significant negative relationship between insurgency and livestock rearing in Borno State. This means in insurgency will lead to decrease in levels of livestock rearing. This is due to the fact that insurgency disrupts production and distribution networks, consistent attacks on many towns have led to displacement of many rural farmers from these places thereby leading to significant draw backs in livestock productions. Moreover, livestock farming was more or less affected by the insurgency as many animal rearers who were mainly nomadic herdsmen have relocated to remote places considered to be safer. Thus, the null hypothesis was rejected while the alternate was accepted

In addition, Table 4.5 showed that, insurgency (β=-0480, t=-9.51, P= .000) has moderate beta coefficient, which indicated significant negative relationship between insurgency and extension service. This means in insurgency will lead to decrease in extension service. This is because the capacity for delivering satisfactory services is being affected by insurgent's attacks. Many extension agents were injured, killed and some displaced as a result of threat to life. Thus, the null hypothesis was rejected while the alternate was accepted.

This findings shows that the effect of Insurgency on extension service and livestock production will adversely affect the Agricultural Promotion Policy (APP) developed and approved by the Government of Nigeria to drive the growth and development of the agriculture sector for the production of enough fresh and high quality food for Nigeria market and export market to earn foreign exchange. This is because the mechanism for improved governance of agricultural production by supervising institutions and improved quality engagement between the federal and Borno state government is at a low ebb.

Conclusion

The effect of insurgency on extension service and livestock production in Maiduguri and Bama local government of Borno state of Nigeria provides an insight into the devastating and overwhelming effect of conflicts on agricultural production. Insurgency hinders agricultural production in all facets and ramification. Extension agents that transfers knowledge geared toward robust agricultural output and livestock producers that domesticate animals on agricultural setting are hindered from smooth operations, this is because no meaningful activity takes place in conflict ridden environment.

The findings shows that insurgency led to decrease in livestock production, frequent attacks on towns and villages led to significant draw backs in livestock production. The findings is in tandem with Nwanegbo and Odigbo, (2013) who posits that insurgent's activities have not only forced termination of livestock farms and production but it also compromised the welfare of animals, thus, the null hypothesis was rejected while the alternate was accepted. In the same fashion, insurgency dwindle the performance of extension agents in the state. This findings concurred with the report of Gbenga (2018) that Insurgency has impacted negatively on the way extension management, administration and activities are being implemented, this is because extension agents are afraid of being killed and as such the null hypothesis was rejected while the alternate was accepted and also supports the fragile state theory. The state is incapacitated and the government can no longer deliver agricultural functions and the citizens are unable to purse legitimate economic activities.

Recommendations

Base on the findings and conclusion of the study, the following recommendations are put forward for consideration. The starts with a broad recommendation that intends to profer solution to the causal factor (independent variable) before moving to specific recommendation for each of the findings.

The broad recommendation calls on the Armed forces to intensify measures and efforts towards defeating the insurgent group and restore normalcy in Borno state. This is because addressing the security issue is fundamental and a precursor to any development initiatives

1. Special agricultural programme and policy that encourages and put extension services at the fore front with new scientific methods to boost agricultural production should be implemented by the Borno state Government and the North East Development Commission

2. Livestock production should be strongly encourage in the state with possible loans to household to heavily invest in livestock production with an enabling environment for rearing without fear of attacks

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Forecasting Stock Price Behaviour using Technical Analysis: Case Study of Access Bank

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Abstract: *This study aims to determine the ability to predict the movement and direction of the stock using daily stock price. The sample used in this research is daily stock price of Access and Plc. from January 2020 – December 2021. Data analysis technique used is Line chart, to see the movement and direction of the stock prices during the period under review and to be able to know when to buy/hold the stock to so as to maximize ones investment. The results showed that there was a significant difference between month-end and the beginning of the month prices of stock. The prices are usually very low at the last 3days of the month than at the beginning of the month, and usually in the second week of the month, the prices tend to rise which is the best time to sell. Also the result showed that the news of covid-19 greatly affected the market as the prices were at its lowest and unstable at these periods which make it difficult to predict the market because of it random-walk movement. However it was the best time to invest as most stocks prices were very low because of the economic meltdown. The study recommends that detailed Intra-day analyses that enable researchers to determine the exact point in time at which specific return pattern accrue should be put in place.*

Key Words: Chart Analysis, Stock Price Movement, Technical Analysis, Line Chart, Days-of-Month Effect

Introduction

Technical analysis (TA) is the name given to forecasting techniques that utilizes historical share price data. It is an alternative approach to fundamental analysis that is use to study the behaviour of stock prices. Achelis (2001), define technical analysis as the technique of analyzing security historical prices in an effort to expect possible future prices. From the above definition it is obvious that technical analysis emphases on the price movements of the market instead of the product. It center largely on graph and charts to be able to identify price trend, forecast future market trends by creating a buy or sell signals based on explicit information gained from past prices.

While proponents of Technical Analysis argues that market's price discloses all important information, thus using past trading pattern to predict the market, the efficient market hypothesis (EMH) point out that stakeholders, cannot create abnormal earnings by relying on historical prices if the market is at least weak form efficient (Fama & Eugene, 1970). The EMH have confidence that trends that offer substantial abnormal returns are immediately shattered by investors. When these trends are shattered, investors promptly reduce any predictability in the stock market. Adherent of EMH meticulously form portfolios that optimally diversify risk or mimic the market (Fama & Eugene 1970). On the contrary, technical analysts try to frequently outdo the market by means of revealing the inefficiencies in the market.

The combine impact of these factors is replicated in the prices of the stocks. According to technical analyst, by observing past share price movement, future share price can be perfectly predicted. Having study the movement of the prices of stock, analyst, observe that there is a rationale behind technical analysis, i.e. prices of shares overtime tends to repeat similar trends, this is why technicians, derived various ways in predicting the movement of the stock. Similarly, the fact that a stock performed badly in a period does not mean that they cannot bounce back in the next period. This could be attributed to "market over reaction" i.e. the stock that increases (decreases) the most within a short period of time are the ones where markets have over reacted to good (bad) news over the month.

Irwin and Park (2007) re-counted that 56 of 95 contemporary studies found that technical analysis generates positive results, but noted that most of these results were rendered suspicious as a result of data snooping, as such; the evidence in support of technical analysis was inconclusive. Researchers such as Fama (1970), establish that the proof for technical analysis is sparse and is inconsistent with the *weak form* of the EMH. Supporters of technical analysis opined that though it cannot forecast the future, it however aids in the recognition of trading opportunities, which is more than enough for them. Empirical studies point out various recurrent and time-based irregularities in stock prices. Among them are: the January, weekend and the Mid-day Swoon effect.

Initially the announcement of covid-19 in December 2019 was seen as a foreign pandemic and the effect was not really felt in Africa as a whole. The market continued their normal activities till March 11th 2020, when the WHO (World Health Organization) Director-General declared it as a pandemic, during which they started recording increase in the

death toll of some African countries of which Nigeria was not left out. According to Tashanova et al. (2020), and Kowalewski and Śpiewanowski (2020), COVID-19 crippled the global market adversely and globally. Although the effect may perhaps differ from one economy, corporations or subdivision to the other. Whereas some establishments experienced a boom, others are confronted with retardation and liquidation in their operations, which unsympathetically affected their level of performances. For instance, the US stock market lost about 30% of its market value between late February and middle of March 2020 to the coronavirus crisis (Alfaro et al. 2020). At the European stock markets, the scourge of the pandemic was also felt as it aroused a series of market dynamics (Ibikunle and Rzayev 2020). In Nigeria, the Nigerian stock market equity capitalization declined from about N13.5 trillion in March 1 to as low as approximately N10.8 trillion in April 6, 2020. This to a large extent cripple the economy worldwide as most international transaction was suspended due to the closure of most boarders and airport worldwide. This prevented many potential investors from investing their funds as most local market were close down so as to contain the disease and reduce the spread of the pandemic as there was no vaccine to help reduce the spread as at that time. Therefore, this study is to examine the effectiveness of charting ability in the stock market and to identify trends and pattern pre and post covid-19 announcement.

The main objective of the study is to identify the various trends, pattern and behavior of access bank prices during the period under review. The specific objectives are to:

(i) Identify the behavior of access bank stock prices, if there is a difference between the prices of access bank stock at the beginning and at the end of the month

(ii) Determine when to buy or sell the access bank stock,

(iii) Examine if January effect applies to the access bank stock.

2. Literature Review

Technical analysis came into existence in 1932, as a result of the works of Charles Dow. Subsequently, Elliott came up with what is known as wave theory, followed by Gann theory and other TA techniques to enhance the technical analysis system. Murphy (1999) defines technical analysis as using charts to study behavior of the market, and to predict imminent trends. Kirkpatrick and Dahlquist (2016) opined that technical analysis focuses on historical market data, mainly volume and price, which enable investor to make investing or trading decisions. While Technical analysis, examines price, volume and other market information, fundamental analysis looks at the financial statement, the economic policy and the industries as a whole to be able to predict the market. Technical analysts are of the opinion that the prices of stocks are influence by forces of demand and supply in the market, which in turn, are control by the numerous fundamental and psychological or emotional factors (Aswath, 2014).

Theoretical Review: the subsection consider some technical analysis theories like the Elliot theory, Dow Theory, Chaos theory and market effects from charting like the day-of-the-week effect and January effect.

The Elliot Wave: Elliot's theory is of the opinion that the market moves just like the sea waves. It comes in various forms and sizes (one, seven or nine waves) and can last longer than each other. By tagging these waves and adding the numerous classifications it is possible to determine the relative positions of the market at all times.

The Dow Theory*:* This theory emphasizes that the market has three major movements, all running concurrently. The first is the narrow movement (daily fluctuations) from day to day. The second is the short swing (secondary movements) running from two weeks to a month and the third is the main movement (primary trends) covering at least four years in its duration. The most important one is the primary trend which represents the long term direction of the market. It indicates the term bull and bear.

Chaos theory: This is one of the most significant theories used in TA. The theory is used in physics and it states that, random behaviour occurrences are relatively systematic or even deterministic. Pattern in the behaviour of stock market are sought out by the investment analyst since the origin of the exchanges. Some of the patterns are effectively explained by the chaos theory.

Day of the Week Effect*:* Aswath (2014) opined that the day-of-the-week effect is a substantial change in return amid Monday and the other days of the week while other days record positive return, Mondays are usually associated with significant negative return, Mehdian and Perry (2001). This occurrence is part of the irregularity of "efficient market theory" (1970) which emphasizes that, there is really no difference in return of daily stock trading. However the day-of-the-week effect phenomenon reiterated that there is a difference in returns for every trading day in a week where Mondays have a tendency to generate a negative return. The weak form of the market efficiency hypothesis emphasize that information in the past stock price is completely embedded in the current stock price as such; it cannot be used to obtain excess return. Elton and Gruber (1991). According to Maulaya (2016), Monday effect can be as a result of investor's psychology, and numerous conditions such as certain psychological conditions, emotions and the mood of each investor.

The January effect*:* The January-effect states that companies often record abnormally higher return in January than any other month. It shows an organized pattern in security prices. According to the January-effect, on the average, January earn significantly huge profits when compare to the average returns of the remaining months of the year. This occurrence is

termed the year-end or January effect, and it usually occurs in the first two weeks in January and it is prominent in smaller corporations than for bigger corporations (Rozeff & Kinney, 1976).

Empirical Review: Some empirical research resolved that technical analysis is unsound. In a study conducted by Fama and Blume (1966) they used daily closing price of 30 corporations in the Dow Jones Industrial Average from 1956 to 1962 to survey multiple filter rules. According to Fama and Blume (1966) due to fluctuations in past prices it will be difficult to forecast imminent movement of asset prices. By 1970, Fama concluded the random walk hypothesis and recommended an effective market hypothesis: he opined that the stock market can be effective only if the stock price can speedily and completely replicate the information available on the market. Neely et al. (1997) used genetic programming. They choose six various conversion rates from 1981 to 1995; the study concluded that TA can accomplish substantial profit only when system risk is not considered.

On the contrary, some intellectuals believe TA is effective, and can bring surplus returns. Efron (1979) suggested that bootstrap method should be employed instead of the traditional t-statistic test. LeBaron et al. (1992) used the bootstrap technique to experiment the consequence of surplus returns in trading strategies. In the experimental test, Brock et al (1992) used the Dow Jones Industrial Average by collecting daily return from 1897 to 1986, using the moving average. The experiential outcomes exhibited a significantly higher buy signal than the usual return. Consequently, they contended the refutation of TA as being too hasty. Dai jie and Wu Kang ping (2002) carried out a study to compare 17 market index earnings using the moving average trading strategy. They establish that, the moving average trading strategy has certain predictive power to some extent.

A study by Brock (1992) was tried for data snooping and further hitches, using a robust sample to data snooping. Afterwards, an all-inclusive study of the question by Amsterdam economist Gerwin (2004) concludes that most Western European stock market indices the recursive out-of-sample forecasting technique are not profitable, after applying little transaction costs. Likewise, for sufficiently high technical analysis transaction costs it is establish, by estimating CAPMs, that technical trading displays no statistically significant risk-corrected out-of-sample forecasting power for almost all of the stock market indices. Transaction costs are mostly related to momentum strategies; a broad 1996 review of the data and studies concluded that even small transaction costs would lead to an inability to capture any excess from such strategies

Balaban (1995) carried out a survey on month of the year effects in the Istanbul Securities Exchange Composite Index (ISECI), from 1988 to 1993; using percentage returns, the outcome revealed that the months of January, June and September offer substantial returns. Also, of the three months, January has the largest day-to-day returns of 1 percent. He concludes that asymmetric information amongst traders play a significant part in explaining these irregularities. According to Lo (2010) the main obstacle of technical analysis is the highly subjective nature and the presence of geometric shapes in historical price charts. In his paper, they propose a systematic and automatic approach to technical pattern recognition using nonparametric kernel regression, and apply the method to a large number of U.S. stocks from 1962 to 1996. They find that over the 31-year sample period, several technical indicators do provide incremental information and may have some practical value.

3. Methodology

Froot et al. (1992) argue that using chartist model can be enough reason to make positive return for traders who already knows how to trace. In line with this assertion, this study used line chart to identify historically relevant price, trends and patterns of Access bank stock to be able to predict the best time to buy or sell stock. It uses wide-ranging reliance on secondary data gotten from the daily report of quoted financial institutions in Nigeria for a period of twenty-four months (January 2020 – Dec 2021). The study used the daily stock price from Access bank in Nigeria based on the performance of the bank in the face of the dwindling economy and their recent acquisition as the sample of the study.

4. Presentation and Analysis of Results

An over view of the monthly performance of access bank stock shows that from January 2020 to December 2021, the market was volatile during the period under review and this could be attributed to the news of the pandemic which is consistent with the work of Day and Wang (2002), who opined that "overreaction is concerned by the amount of investors reaction resulting from the appearance of new information". The above line chart shows that from January 2020 to March 2020, the market experience a steady decline in the prices of the stock, between march 2020 to October 2020, the market was in a state of consolidation and the prices of stock was a bit stable with a bit of ups and down here and there, and this could be as a result of the emergency of corona virus as at that period, but by November, there was a sharp increase in the stock which also continued for a while, that is, November to January 2021.

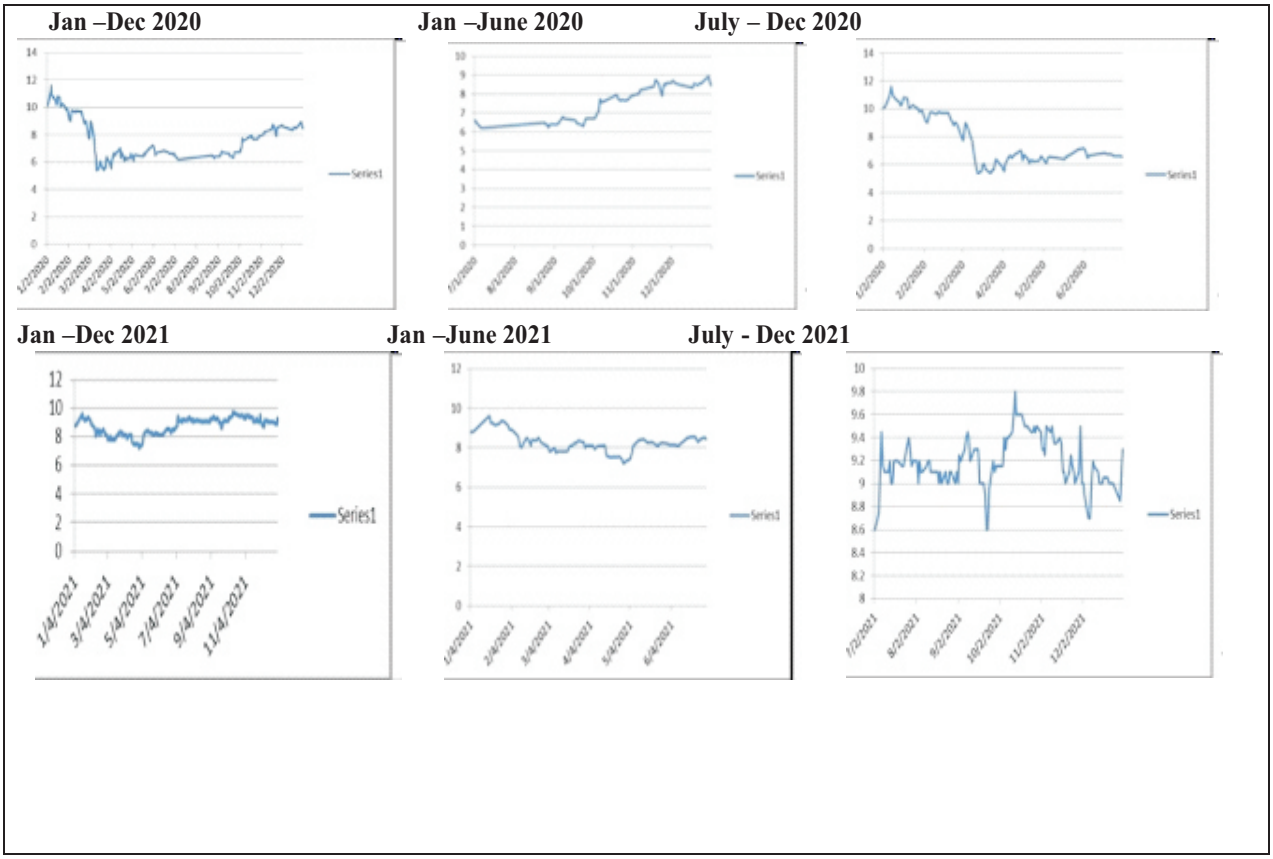

Figure 1 An overview of the monthly performance of Access bank stock in 2020 and 2021

Authors' compilation 2021

In January the market was at its peak with the price of stock reaching N9.60, this is consistent with the findings of Omar (2017) who opined that the January effect generates economically significant returns as it records higher returns when compare to other months. Then it suddenly starts dropping until it got to the lowest at N7.20 in April 2020. In May 2020, it picks up again and continued the trend till June 2020. The uptrend shows a sequence of higher highs and higher lows, similarly the down trend shows a sequence of lower lows and lower highs. Finally we observed that there was a reversal of trends when the uptrends sequence was broken.

Also in the first of half 2021, the January effect was observe as the price rose to N11.20 in January. From February - March, Access bank stock experience a down trend sequence of lower highs and lower lows. The consistent drop in the prices of access bank stock from N11.20 in January to N5.40 in March is attributed to the upshot of Covid-19 virus which nearly cripples the economy in the period under review, as the economy was shut down and there were no productive activities that period. Then from April to June 2020, the market experiences a consolidation (a situation where the market becomes stagnant and goes nowhere). The prices were hovering between N5.15 to N6.20 and back to N5.40 consistently. Though it was not the best of time for the business, it is the right time to make profit as stock bought these periods would later be sold at a much higher price.

In the second half of the year 2021 the news of covid-19 kept souring high and gaining momentum while the death toll at this period was really at its peak and it was the worst time for most stocks as some of the businesses were shown out of the market due to the total lock down in Nigeria. The above stocks of access bank were not left out as it also experience not too good profit at this time.

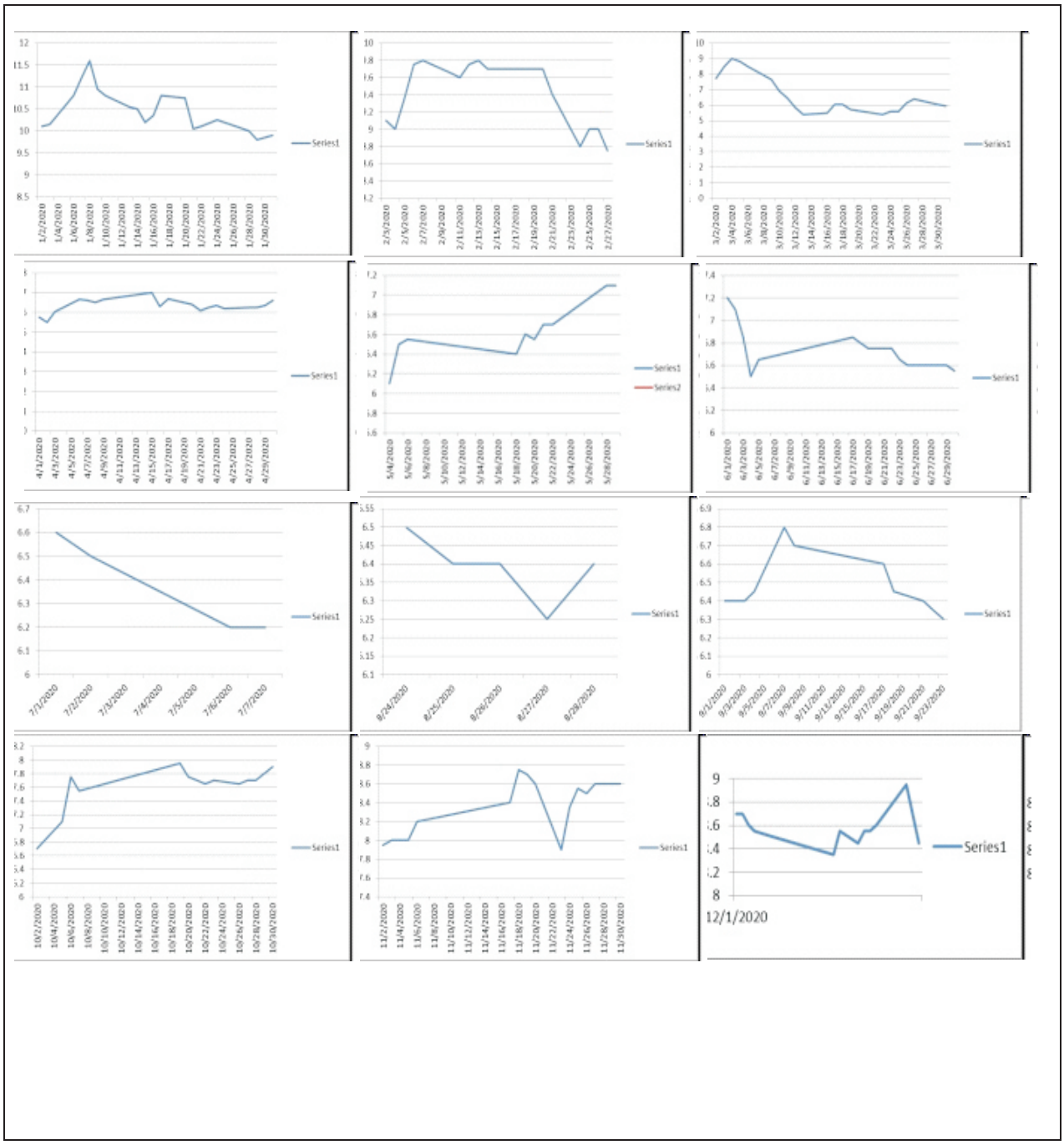

Figure 2: An overview of monthly stock prices for 2020

Authors' compilation 2021

The overall performance of the market at this time showed a classical example of the Elliot wave theory where the market moves in waves of various sizes as observed between. July 2021- Dec 2021. The market was very unstable, recording various peaks of higher high and lower lows. It exhibited various pattern like the head and shoulder pattern, reversal head and shoulder, double tops and double bottom formations etc.

A review of the market before the news of covid-19 shows that the stock was doing fairly well. As at January 8, the price of access bank stock was sold at N11.60. Then suddenly the price drop to N9.80 the very next day and ever since then the price continued to nose-dive. The market in February 2020 shows a classical example of a double top pattern. It is usually formed when the price movement tests a level of support two times and is unable to break through. It signals the reversal of a prior trend. From the above chart, the double tops occurred on the 7th and 13th. It shows that the prices of the stock were reverse on these dates, that is, the stock was sold at N9.80. also from the above chart, it can be seen that the prices of the stock rises between 4th to 7th, drops a little and went up again. Looking at the chart pattern the best time to buy the stock was (between 27th to 30th of the month) as it price went really low.

In March, the chart shows a pennant pattern. It is usually formed when there is a sharp price movement followed by generally sideways price movement. Usually these pattern last from one to three weeks and can appear both in uptrend and down trend. From the above chart, the sharp price occurred on the 4th of March when the stock price was sold at N9.00 and suddenly there was a sharp drop in the price to N5.20 after which the prices started moving in a pennant pattern (sideways price movement). It also shows that the prices of the stock drop at the end of the month, which signals a buy.

In April, the market is generally in a consolidation phase as it moves nowhere. The markets constantly experience a sideways movement because of the announcement effect of covid-19 which brought the economy to a standstill mode. In May the chart above shows that the market was a little bearish at the beginning of the month as the price was as low as N6.10 it gradually rose to N6.55 then drops a little to N6.4 showing a downward trend then suddenly it took a different dimension and started going higher.

The month of June 2020 took a different dimension as the price nosedive from N7.20 to N6.50 and kept fluctuating in a downward trend. Again the chart proves that the best time to buy stock at the lowest price was at the end of the month usually few days to the end of the month. As seen in the above chart, the price of the stock was at its lowest as at 30th of June, this is the best time to buy. The month of July was rather different from every other month as the effect of covid-19 was at its peak during this period and is reflected in the market as there were little or no trading activities in July. The market generally was bearish and in a downtrend mode. The month of August was just like the month of July. There were no much trading activities during this period as the economy was in a total lockdown and this affected the market as shown above. Trading activities only took place in a few days. The market continue to experience a fluctuations in the prices of stock as the stock prices kept going down and this makes the market difficult to predict because it is not reacting to the forces of demand and supply but to the effect of the news of covid-19 as such predicting the market at this time was difficult, however it was the best time to buy stock because people were afraid to commit their funds. The market in October was in a recovery state, because the primary movement at this time is the uptrend. Though there were a little higher highs and lower lows, but generally the market was in an uptrend mode. As prices rose from N6.7 to N7.9 and still continued to rise.

The market in November initially shows an uptrend from 2nd to 18th but the sequence was broken and it took a different dimension (downtrend from 19th to 23 th) of the month. However the uptrend sequence was restored. The market was quite different in December 2020, though it follows the normal price fluctuations, but there was a sharp turn of event on the 29th as the price of the stock was at its peak. It was sold for N8.95 which is the highest price recorded in December and suddenly the price drops to N8.45 the very next day. Which also follow our rule of buying stock the last day of the month as the stock price was at it cheapest.

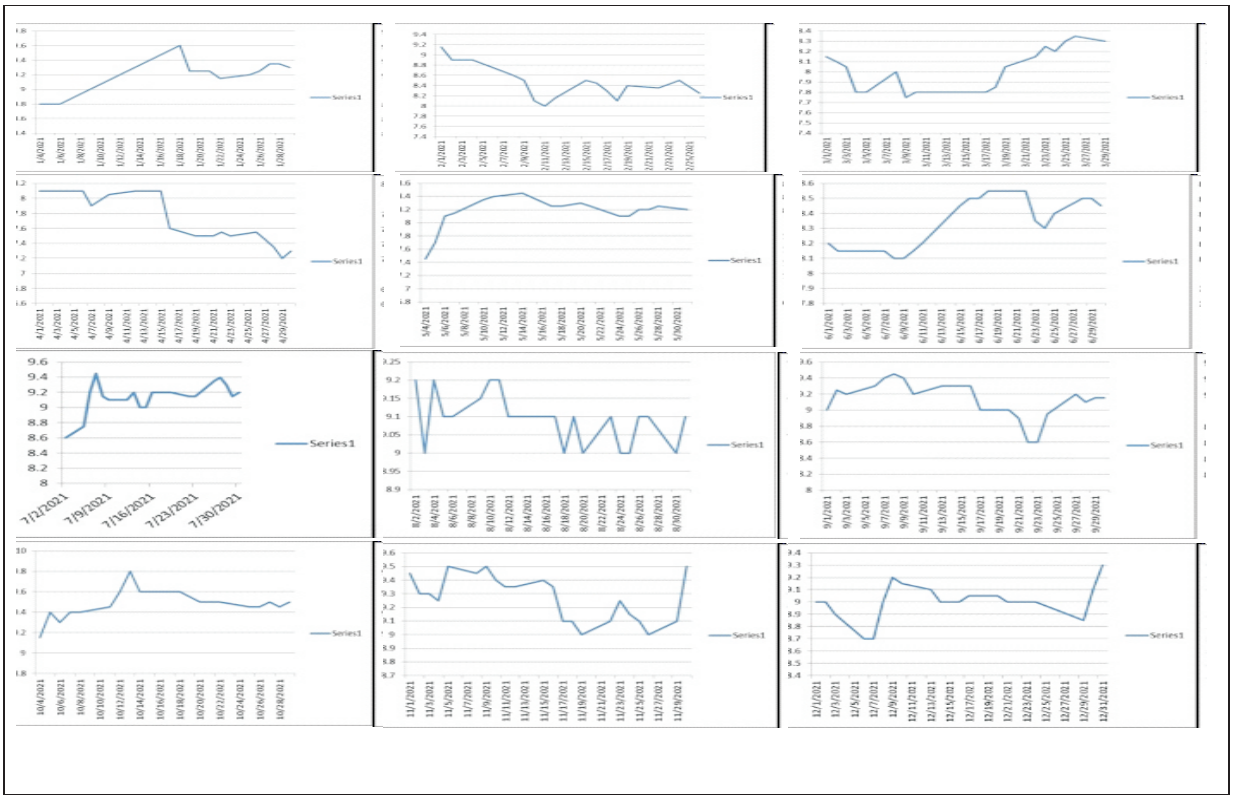

Figure 3: An overview of monthly stock prices for 2021
Authors' compilation, 2021

In January, the market was recovering from the effect of 2020, investors were hopeful and this is reflected in the price of the stock as the prices rose from N8.8 to N9.6 also confirming the January effect syndrome, which is consistent with Rogalski and Tinic (1986) who concludes that the market portfolio and portfolios of small-firm stocks have higher returns in January than in other months of the year. They show that small-firm stocks have considerably higher total systematic and residual risks in January than in the other months.

Then after two week suddenly the sequence was broken as the price drops from N9.6 - N9.25, and then the prices became more volatile from 19th – 25th. In February, the market was generally in a downtrend mode. This could be attributed to the fact that investors were skeptical about investing their fund as there was still the news of covid-19 recorded in some areas. Also in March, the market was very unstable and difficult to predict. However there are three identifiable trends here, first as a steady decline in the stock from 1st-5th, then market was in a consolidation phase from 6th-17th and after a while the uptrend kicks in from 18th-27th and start declining from 27th to 31st. which is our buy signal.

In April 2021, the market generally shows a downtrend as price continuously drops and was at the lowest on the 27th-31st, confirming that the prices of stock was usually very low at the last week of the month. After the first week in the month of May, the market was a little stable as it experiences a few higher highs and lower lows here and there but generally the market was unstable. The pattern shown here is the pennants pattern. It usually occurs when there is a sharp price movement, followed by a generally sideways price movement. The month of June and July also experience and unstable movement in the stock prices generally. August was quite different as it exhibited the Elliot wave theory (1935) from the beginning of the month to the end of the month. There were identified recurring, fractal wave pattern. From September to December, the market was also not stable but there was a slight difference at the end of the month because all the price rose at the end of the month, which is different from our other prediction.

5. Conclusion and Recommendations.

The analysis of the daily stock price in access bank shows the presence of end of the month effect. From the above analysis, the pattern shows that Access bank stock prices tends to rise towards the second week of the month (9th – 20th), and at the end of the month precisely (27th to 31th) the prices tends to drops, which means that for potential investors it will be advisable to sell their stock from on the 9th to 20th of the month so as to maximize their profit. While for those who want to buy cheap and sell high to make profit, it will be advisable to buy access bank stock from 27th to 31st, which is the last week of the month as the prices are usually low at this time and at best the last day of the month the stock is usually at the cheapest.

Most investors were afraid to invest at this point because people were more concerned about saving money to stock the house because of the total lock down impose by the government. So at this point it was difficult to predict the movement of the market because it was not guided by the forces of demand and supply which is one of the most important feature of technical analysis.

Also, the sudden emergence of extreme news which is one of the assumptions of technical analysis was seen playing in the market. The sudden announcement of covid-19 shook the economy as a whole so the market was seen reacting in an emotional state and so it was difficult to predict the direction of the market as shown in most of the charts above from July 2021-Dec 2021, thereby invoking the Elliot wave theory.

Technical analysis is assumed to be 80% psychological and 20% logical; this was also reflected in the market during the early announcement of covid-19 pandemic as most investor where not ready to risks their hard earned money during this period because of the psychological effect the pandemic poses on the economy as a whole. The market at this stage was chaotic (no one knows for sure what will happen next), as such it was difficult to commit funds to any form of investment, and since people were not investing, this really brought the prices of most stock to a very low price. Stocks from January to December were either down trending or in a consolidation mode.

The study recommends the following: First detailed Intra-day analyses that enable researchers to determine the exact point in time at which specific return pattern accrue should be put in place. And, second future investigation, researcher should examine the possible explanations of the Month-end effect, Monday effect and January effect.

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Implication of Fiscal Federalism and Resource Allocation on National Integration in Nigeria: A Strenuous Journey from Independence to Date.

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Abstract: *The issues of fiscal federalism and resource allocation have always drawn the attention of both politicians and members of the academic community. This is evident in the hullabaloo it has always created since independence that sometimes manifest in form of violent agitations. This paper intends to analyse the implications of fiscal federalism and by extension, resource allocation on national integration in Nigeria from independence to the present time. Data for the study were sourced mainly from secondary sources which include journal publications, textbooks, and materials from the internet. The generated data were analysed using qualitative content analysis. The theoretical framework adopted to explain the phenomenon was the game theory. The study discovered that there were a number of committees such as Hicks/Philipson Commission of 1951, Chicks Commission of 1953 etc. that were set up in the past to address allocation grievances but yet the main agitations which serve as threat to national integration still exist. The paper recommended for review of the current revenue allocation formula to ensure more allocations get to the states and local governments. It also recommended for the review of tax laws to give more tax jurisdictions to the states and local governments.*

Keywords: fiscal federalism, revenue allocation, national integration.

Introduction

Nigeria been a country that has been so much endowed with natural resources especially crude oil is surrounded by contentious issues relating to revenue sharing among the federating units. The constant clamour for total resource control by the oil-producing states and equitable distribution of resources by some segments has been a tough one. There are accusations of marginalization and greed and more recently, violent confrontations and acts of pipeline vandalism, hostage-taking, skirmishes, and a nosedive in the revenue of government (Ndan, 2007).

The history of Nigeria's intergovernmental fiscal relations can be dated back to the inauguration of the Richard Constitution in 1945 and the subsequent regionalization of the country. The Lyttleton Constitution later consolidated this effort and granted more fiscal powers to the regions. According to Ndan ibid, the sharing started between the central and regional governments, years later it changed to sharing among the three tiers of government, the federal, state, and local government.

According to Arowolo (2011), In Nigeria's polity, the question of fiscal federalism has remained dominant and contentious over the years. This is attributable to its multi-faceted perspectives. Even with its diversity in terms of ethnic composition and plurality in terms of socio-cultural characteristics, it has crystallized and stayed vibrant. As a result, stiff competition, never-ending conflict, and the survival of the fittest syndrome are likely to characterize relationships in terms of fiscal relations. In post-colonial Nigeria, the federal government had an advantage due to the centralised character of the military hierarchical structure and the colonial authority's exploitative inclinations.

He further noted that The Federal Government's financial supremacy over the Nigerian federation's thirty-six (36) states and seven hundred and seventy-four (774) local governments has generated discontent. It worsens the component units' structural vulnerability while also increasing pressures for improved federal economic patronage.

The central government has continued to exercise fiscal superiority over the components units with the return to civilian rule in 1999; the 1999 constitution reserved such powers in the exclusive legislative list. The constitution equally provides in section 153 sub-sections (1) for the establishment of Revenue Mobilization Allocation and Fiscal Commission (RMAFC). It was inaugurated by the then president Olusegun Obasanjo in September 1999.

Statement of the problem

Nigeria's fiscal relationship has been as controversial as its federal system. This is evident in the number of commissions and committees set up to determine a better revenue sharing formula. While the independence constitution confers much fiscal powers to the regions, the introduction of states by the General Gowon's administration had bestowed political and economic hegemony on the federal government over and above the component states. This has since been the case and has been the reason many segments of the country keep raising eyebrows in different fora. This is why the issue of fiscal

federalism as well as resource allocation, occupies a front burner in the Nigerian political discourse.

Fiscal federalism involves the intergovernmental fiscal relationship between the different tiers of government. In Nigeria, we have the federal, state, and local government levels. The National Wealth is expected to be shared between these three tiers of government. However, the method or formula to be used led to the establishment of many commissions and committees in the past which are yet to produce a satisfactory relief. A situation where the central government receives more than half of the total resources is unfair to the remaining 36 states and 774 local government areas. Our local government areas that are in dire need of government attention-their hospitals, schools; market stalls are in bad shape, villages disconnected by rivers and streams that could otherwise be bridged to facilitate movement of people and farm produce. The vast of the road are within the jurisdiction of state government; these roads in most cases are in deplorable conditions and are left to remain death traps.

The essence of any democracy in the world is for people to be involved in every aspect of their lives. It is also seen as the most transparent and accountable because of its periodic elections which enable the citizens to decide who stays in power and who leaves. This has made elected officials especially in the developed world to ensure they deliver the dividends of democracy to their people. Thus, an accepted revenue allocation formula is a key criterion that will consolidate the Nigerian nascent democracy.

It is against this backdrop, that the following research questions are posed: what are the major challenges confronting Nigerian intergovernmental fiscal relationship? To what extend does the Nigerian fiscal federalism affect national integration? What are the best alternatives to the current controversial revenue allocation formula?

Objectives of the study

The central objective of this work is to critically analyse the implications of fiscal federalism and by extension, resource allocation on national integration in Nigeria. Other specific objectives include:-

1. To find out the major challenges confronting Nigerian intergovernmental fiscal relationship.
2. To determine the extent to which Nigeria's fiscal federalism has affected national integration.
3. To proffer solutions to contentious issues of fiscal federalism.

Significance of the study

One of the fundamental problems facing Nigerian public institutions is the fiscal one. This problem has been provoked by factors such as over-dependence of states and local governments on statutory allocations from federal government, concentration of too much power on the federal government, to mention but a few.

The controversy over Nigeria's fiscal federalism and relationships revolves around the basic question of who gets what portion of the national cake, when, and how. Given that Nigeria's monolithic economy draws over 80% of its revenue from crude oil, the constitutional provision that this revenue be distributed among the three tiers of government is essential. It also explains why the income allocation formula has been at the center of public debate and why public figures are rarely called to account for the mismanagement of funds obtained from the nation's oil wealth. It suffices to say that the kind and conditions of financial ties in any federal government are extremely important.

Conceptual Review

Federalism

Federalism is a very popular concept that has received so many attentions in almost all the disciplines in social sciences, management sciences, humanities and even law. It is a structure of government whereby powers are shared between the central government (federal government) and its components units (states and/or local governments).

According to K.C. Wheare, "federalism is a system of an association of states, which has been formed for certain common purposes, but in which the member states retain a large measure of their original independence". Ajayi (1997), defines federalism as "a political system where there are at least two levels of government. In such cases, there is the juxtaposition of two levels of power of a central government otherwise called the federal government and other states labeled variously as states, regions, republics, cantons or unions."

In a more empirical perspective, Elaigwu (2000), posits that federalism "is a compromise solution in a multinational state between two types of self-determination - the determination to maintain a supranational framework of government which guarantees security for all in the nation-state on the one hand, and protects the self-determination of component groups which seek to retain their individual identities on the other hand." This kind of compromise is quite necessary in order to achieve a multiplicity of developmental goals that federalism promises.

Federalism is known to be a suitable system of government for a multi-cultural society like Nigeria. The "deliberate choice of federalism as the only viable and acceptable form of government for Nigeria was a product of the diversity of its people, politically, historically, culturally and linguistically and the experience gained from the attempts to create a viable polity out of the forced amalgamation of Northern and Southern Nigeria in 1914" (Sagay, 2008).

Sagay *ibid* went further to explain federalism as an arrangement in which powers within a multi-national country are

shared between a federal government and component units in such a way that each unit, including the central authority, operates as a government separate and apart from others, operating directly on people and properties with its own defined territory and will of its own apparatus for the conduct of affairs and with authority in some matters exclusive of others.

Fiscal Federalism

This refers to the financial relations and obligations that exist between the central government and the federating units. As Salami (2011) would put it, "it is the inter-government fiscal relation as enshrined in a federal constitution provided for the functional responsibilities to be performed by the multi-levels of government and the financial resources that can be raised for provision of collective goods and services." An intergovernmental relation is the network of relationship between all the tiers of government in a federation.

Along a similar line of reasoning, Arowolo (2011) pointed out that "it is the study of how competencies (expenditure side) and fiscal instruments (revenue side) are allocated across different (vertical) layers of the administration. An important part of its subject matter is the system of transfer payments or grants by which a central government shares its revenues with lower levels of government."

Objectives of Fiscal Federalism

According to Sewell and Wallich (1994) in Yaakoo et al (2021), the objectives of fiscal relations among units in a federation are:

1. To ensure that sub-national expenditure obligations and financial resources (including transfers from the central government) are in alignment, so that activities delegated to sub-national governments can be carried out successfully;
2. Increasing sub-national government authority by incorporating incentives for them to generate their own money;
3. To ensure that the central government's macroeconomic management strategies are not threatened or jeopardized;
4. To grant sub-national governments discretionary spending authority in relevant areas in order to improve the efficiency of public spending and the accountability of sub-national officials to their constituents in the provision of sub-national services;
5. To incorporate administratively simple intergovernmental transfers. Transparent and based on non-negotiable, objective, stable criteria;
6. To keep administrative costs to a minimum level.
7. To give 'equalisation' payments to compensate for inequalities in budgetary capability between states and local governments, so that poorer sub-national governments can provide adequate public services;
8. To include tools to assist the development of public infrastructure and its proper financing:
9. To encourage the formation of a government role that is compatible with market-oriented reform; and
10. To follow nationally agreed-upon income distribution goals.

National Integration

National integration is a concept that is used interchangeably with other concepts such as nation-building, national unity, national cohesion, etc. It was defined by Duverger, (1976) as "the process of unifying a society which tends to make it harmonious city, based upon an order its members regard as equitably harmonious." In a similar move, Weiner (1967) states that "national integration refers specifically to the problem of creating a sense of territorial nationality which overshadows - or eliminates - subordinate parochial loyalties." This view will represent the saying that Nigeria is first before my state/region. Hogan (2006 in **Onyeakazi & Ejike 2018**) postulates that "national integration involves the uniting of formerly separate groups into one group with the obliteration of any previous social and cultural group differences as well as the obliteration of separate group identifications". Hogan's view would trace Nigeria's journey of national integration to as far back as 1914 when the former Northern and Southern Protectorates were amalgamated and Nigeria was birthed.

In simple words, national integration is the feeling of oneness by keeping aside the socio-cultural, religion, political and economic differences and the strengthening of national unity and solidarity for what unites the nation.

Revenue Allocation

The issue of revenue allocation has remained as contentious as federalism itself. In all federal arrangement, there is always a practice of resource allocation among the components units that made up the federation. As Salami (2011) will put it, "revenue allocation is the re-distribution of fiscal capacity between the various levels of government, or the disposition of fiscal responsibilities between tiers of government." According to Akeem (2006), "revenue allocation is the distribution of nationally generated revenue among the various tiers of government in the federation to reflect the structure of fiscal federalism." The sharing method can be vertical or horizontal. A vertical sharing method is the sharing

of federally collected revenue among the three levels of government: the federal, the state and the local. While the horizontal sharing method views all states as equal and advocates for equality in the allocation of resources among the various tiers.

Empirical Review of Literatures

Onyeakazi and Ejike (2018) in a paper titled 'National Integration in Nigeria: A philosophical insigh' has as its objective to proffer "philosophical insights for promoting conscious and effective measures that can strengthen national integration in Nigeria". The paper concluded that "Nigerians should wholeheartedly inculcate and imbibe lifestyle that is based on truth and by so doing will be sincere to one another and tolerate each other in such a way and manner that will create more trust and cooperation between individuals, ethnic groups and institutions, etc, thereby promoting effective national integration for sustainable development in the country." Onyeakazi and Ejike focused on the philosophical perspective to national integration leaving a vital component as fiscal federalism out of their scope.

Omodero, Azubike and Ekwe (2018) with the purpose of examining the extent to which revenue allocation enhances economic development using time series data obtained from CBN Statistical Bulletin, which covered a period from 1981 to 2016 concluded that "the revenue allocation to federal and state reflected insignificant and significant negative impact on per capita income respectively." This study as well does not assess the implication of revenue allocation on national integration but to economic development. The study also used a statistical tool of regression to test its hypothesis while ours relies typically on secondary sources.

Ukachikara and Okoroafor (2019) in a study titled, 'Fiscal Federalism and National Integration in Nigeria' aimed to explain the nature of fiscal federalism in Nigeria and the relationship between fiscal federalism and national integration. The paper observed that "a united country and people are in a better position to ably confront its crises of development, nationhood and stability if there is truly fiscal federalism." It therefore concluded that the centralist system of fiscal relation in Nigeria which leads to over-dependence on oil revenue from the center is one of the major bottlenecks towards achieving a harmonious fiscal relation in Nigeria. While the study made emphases on fiscal federalism and national integration in Nigeria, it failed to capture critical aspects of fiscal federalism such as resource control and tax jurisdiction of the federating units as did our study.

Theoretical Framework

The Game Theory

The 1940s mathematician John von Neumann and economist Oskar Morgenstern were among the first to formulate game theory. Many consider John Forbes Nash, a famous American mathematician, to be the first major refinement of von Neumann and Morgenstern's work. The game is the core of game theory. It provides as a model for a reasonable player's interaction in a circumstance. The cornerstone to game theory is that one player's reward is determined by the other player's strategy. The game also sets the players' identities, preferences, and accessible strategies, as well as how these techniques affect the outcome.

This is a well-known truth that in all types of games, there are always two or perhaps more players or parties, and that each party has its own set of rules.

Application of the Theory

The theory will be applied using the following components:

i. Game: It is any set of circumstances that has a result that depends on the actions of two or more decision-makers (regarded as players). The struggle for either resource control or more resource allocation to a state, region or a zone is the game being played by the players. Just as the Game Theory explained, each of the players is aspiring to achieve victory for his team.

ii. Players: A strategic decision-maker or a participant within the context of the game. The players are seen as the rational agents in the game. The players in this context are the regionalists who always clamour for more resource allocation to their regions/zones.

iii. Strategy: Set of action(s) a player will take given the set of circumstances that might arise in the game. The strategies being used include calls for restructuring, increased allocation, and in extreme case secession.

iv. Payoff: The reward a player receives from arriving at a particular outcome (The payout can be in any quantifiable form). The 13% derivation fund which came to being about 20 years ago was a payoff for years of agitations by the oil producing states. Others payoffs include the establishment of Niger Delta Development Commission (NDDC), North East Development Commission (NEDC), Hydroelectric Power Producing Areas Development Commission (HYPPADEC), etc.

v. Information set: The information available at a given point in the game. Information is set to be complete when "each player in the game is aware of the sequence, strategies and payoffs throughout the gameplay." The information in this context can be obtained through print and electronic media as well as formal channels.

vi. Equilibrium: The point in a game where both players have made their decisions and an outcome is reached.

Discussions of findings: challenges

1. Revenue Allocation and Resource Control Issues

Revenue allocation among the various components units has been a long issue of agitation because it started during the peak of colonization. It was as a result of such agitation that the nation saw the emergence of the Philipson Commission in 1946 that recommended the use of derivation and even development. There were many other commissions that were set up when the Philipson commission could not solve the problem. The issue of revenue allocation has been a contending one even in this 21st century Nigeria. In fact, the issue is said to be at the front burner of national discourse as it is threatening the continuous existence of the country. Since 1946, over nine commissions were established to look into the issue of revenue allocation, aside from the decrees and acts of parliament. Among them were:

- Hicks/Philipson Commission (1951)
- Chicks Commission (1953)
- Raisman Commission (1957)
- Binn Commission (1964)
- Dina Commission ((1969)
- Aboyade Technical Committee (1977)
- Okigbo Presidential Committee (1980)
- Danjuma Committee (1988)

Most of the recommendations of the above committees were put aside by the then military government. This was because it was seen to "reflect the views of commissions, individuals or groups within the commissions, which have shown proclivity for embracing theories, beliefs, ideas and approaches which have not only proved unrealistic but have thereby contributed to the dislocations within the Nigerian State by the Military" (Orokpo & Stephen 2012). Another major "feature of the recommendations of various Revenue Allocation Commissions with respect to the revenue allocation formula adopted from the 1970s is what is called the "concentration process" in Nigeria's fiscal federalism" (Mbanefoh and Egwakihide 1998 in Orokpo & Stephen 2012). This refers to "situation whereby there is a gradual reduction of State Government's Accounts and this is further exacerbated with the establishment of Special Account by the Federal Government." (Mbanefoh, Egwakihide 1998 in Orokpo & Stephen 2012). Because it was frequently utilised to favour a few selected states/Local Councils, it sparked inter-state antagonism and rivalry, endangering the country's stability and corporate survival.

There were also complaints of Nigeria's "horizontal revenue sharing policies and reforms giving insufficient recognition to such non-political principles of allocation as the social development factor and internal revenue generation effort while blatantly ignoring such other technical principles as budgetary obligation, absorptive capacity, fiscal efficiency and fiscal equalizations." (Ojo, 2010).

The present formulae for sharing the federal revenue vertically are as follows:

Federal Government 52.7%
State Government 26.7%
Local Government 20.6%

Statutory Revenue Allocation Formula in Nigeria

The establishment of the various committees as explained in the foregoing has led to the emergence of different revenue allocation formula since independence. The table below shows the changes in revenue allocation from the time of independence in 1960 to date.

Table 1 Revenue Allocation Formula in Nigeria from Independence to Date

Tiers of Govt	1960	1963-67	1980	1982	1987	1990	1993	1995-Date
Federal	70.0%	65.0%	55.0%	55.0%	55.0%	50.0%	48.5%	48.5%
States	30.0%	35.0%	34.5%	34.5%	32.5%	30.0%	24.0%	24.0%
LGAs	0.0%	0.0%	8.0%	10.0%	10.0%	20.0%	20.0%	20.0%
Others	0.0%	0.0%	2.5%	0.5%	2.5%	0.0%	7.5%	7.5%

Source: Approved Budgets of the Government of the Federal Republic of Nigeria

From the table above, it is quite clear that revenue allocation in Nigeria has been vertically administered since independence with the federal government taking the lion share (more than half). This has remained a stumbling block in Nigeria's quest for unity in diversity. States, especially the oil-rich ones have been agitating for the control of their resources under the guise of true federalism, restructuring, etc. This has also fueled the birth of militant groups in the region that operates as kings in their domain. As Adebanjoko (2017) would put it, "…beginning from the pre-colonial period, the region has witnessed a series of conflicts, which had their roots, initially in the protest against injustice and in recent years the quest for resource control."

1. Tax jurisdiction

Taxation is one of the significant components of fiscal federalism. Taxation is so crucial because it is one of the major sources of revenue for any government. Though, Nigeria's heavy reliance on oil revenue has made its tax system to be very weak and inefficient. Nigeria operates three tiers of government- federal, state and local government. The assignments of fiscal instrument were guided by the provisions of the constitution of the Federal Republic of Nigeria. All revenues within the jurisdiction of the federal government (with the exception of education tax) are paid into the federation account for onward distribution among the three tiers of government in line with the constitutional provisions and other extant laws. The following table explains tax jurisdiction of the three tiers of government.

Tax administration as well as the revenue collection functions are performed by different institutions at the three main tiers of government. "At the federal level we have the Federal Ministry of Finance; the Federal Inland Revenue Service and the Nigeria Customs Service who are responsible for the administration of tax laws and revenue collection. The Joint Tax Board is responsible for harmonising the relationship between tax authorities at the federal and state levels. The National Revenue Mobilisation, Allocation and Fiscal Commission propose the remuneration of political and judicial office-holders, and also advise on the allocation of revenues among the three tiers of government. The state's Board of Internal Revenue and Ministry of Finance are responsible for tax administration at the state level. The revenue committee for local governments and Finance and Supply Department are responsible for tax matters at the local government level." (Salami, 2011).

Table 2. Tax Jurisdiction in Nigeria among the Federating Units

Tax	Legal Jurisdiction	Collection	Retention
Import duties	Federal	Federal	Federation Acct
Excise duties	Federal	Federal	Federation Acct
Export duties	Federal	Federal	Federation Acct
Mining, rents & Royalties	Federal	Federal	Federation Acct
Petroleum tax profit	Federal	Federal	Federation Acct
Petroleum Tax Profit	Federal	Federal	Federation Acct
Capital Gains Tax	Federal	State	State
Personal Income Tax	Federal	State	State
Personal Income Tax: armed forces, external affairs, officers. Non - residents, residents of the FCT and Nigeria Police force	Federal	Federal	Federation Acct
Value added Tax (Sales tax before 1994)	Federal	Federal/State	Federal/State
Company tax	Federal	Federal	Federation Acct
Stamp duties	Federal	State	State
Gift tax	Federal	State	State
Property tax and ratings	State	State/Local	State/Local
Licenses and fees	Local	Local	Local
Motor park dues	Local	Local	Local
Motor vehicle	State	Local	Local
Capital transfer tax (CTT)	Federal	State	State
Pools betting and other betting taxes	State	State	State
Entertainment tax	State	State	State
Land registration and survey fees	State	State	State
Market and Trading license and fees	State	Local	Local

Source: *Anyawu, 1995, Jimoh, 2003; (in Salami, 2011) Federal Republic of Nigeria Constitutions, 1963, 1979 and 1999*

The Nigerian tax jurisdiction in particular and its tax system in general Since independence, it has undergone tremendous changes. The tax rules are being reviewed on a regular basis with the goal of removing obsolete provisions and simplifying the most important ones. Taxation is enforced by the three tiers of government in Nigeria, namely the federal, state, and local governments, each with its own authority spelled forth in the Taxes and Levies (approved list for Collection) Decree, 1998. However, there are still disagreements between states and the federal government over who would collect the disputed VAT (Value Added Tax). The dispute over the tax jurisdiction of VAT in Rivers State between the state and the federal government is still a sensitive matter that has been taken to the courts. Other states, such as, Ogun, Lagos and states in the South-South have joined Rivers state, while most states in the North have gone against it.

Fiscal federalism and national integration in Nigeria: The implication.

In Nigeria, fiscal federalism is "aimed at ensuring a balanced federation, economic development and national unity. The challenges posed by fiscal federalism in contemporary federal states are particularly cumbersome, but it would not be out of tune to use fiscal federalism as a yardstick to measure the performance of a federation." (Ukachikara & Okoroafor 2019). In order words, federalism aims at ensuring both unity and balanced development. The Nigerian federation is characterised by so many contentious issues that characterised its fiscal relations among the three tiers of government. The implication of this can be seen under the following heading:

i. The preponderance of sub-national groups.

Due to the nature of complaints, agitations and outcry by virtually all the regions of this country on the injustices in resource allocation, the country continues to witness the emergence of different groups and associations claiming to fight for greater control of the nation's resources. The Independent People of Biafra (IPOB) continues to unleash untold hardship through the instrumentality of violent attack, sit-at-home order etc. on the region under the pretense of fighting for justice and freedom brought about by the marginalization of the south-east zone. The Yoruba nation struggle championed by the now exiled Sunday Igboho was basically orchestrated by the need for succession of the south-west region from the country. Just like the IPOBs, Igboho and his foot soldiers are agitating for self-government in order to control their regions resources.

ii. Insecurity

Since maintaining a safe and secured territory is an expensive venture, it means states with volatility in security need adequate funding to keep its boundaries safe. Though, the police, military, civil defense are federally owned, lack of proper equipment as well as the support of the local vigilante groups which has proved useful in many quarters require a huge amount of resources to be sustained. With the current revenue allocation formula that gives the federal government more than half of what the 36 states get, the states are left incapacitated to ensure they maintain law and order in their domains. The oil-rich states fare better with 13% of the total allocation given to it as derivation funds. This has left states that are currently battling insurgency and banditry who are majorly northern states to always purely rely on the federal government which has further added to the complexities of their weak security architecture.

iii. Uneven development

The current revenue sharing formula has led to some states receiving more than twice that of other states within the same federation. This has given advantage to such states endowed with more natural resources to host most of the industries and multi-national corporations thereby, creating more employment opportunities, internally generated revenue, and by extension more development viz-a-viz its counterparts without such advantages. This among other reasons has fueled resentment among states and has become a hindrance to national integration in Nigeria.

iv. Poverty

It is no surprise that according to the last poverty rating by states (percentage of people living below the poverty line), the top five states were Sokoto, Taraba, Jigawa, Ebonyi and Adamawa. This is because none of the state is either an oil producing state or a state with high IGR. Some well-to-do states governors and/or their officials in some occasions were reported to have called less rich ones parasites. The acrimony this has caused is obvious in the formation of different political unions such as Northern Governors Forum separate from Southern Governors Forum and a similar body in both the legislative houses.

Conclusion/Recommendation

It is no longer news that one of the major contentious issues bothering Nigeria's federalism/fiscal federalism which has become a cog in the wheel of the country's quest for national integration is the subject of resource allocation and revenue sharing. This has seen the emergence of various committees to see to its review. Although, this has led to a number of successes in integrating the various ethnic nationalities as the country still stands after over a century since its creation,

there are still some hornets ' nests that need to be addressed. It is against this backdrop that the following recommendations are proffered:

1. There should be a review of revenue allocation formula to ensure more allocations get to the states and local governments. A situation where the federal governments alone retains more than half of the total revenue generated whiles the 36 states and their 774 local governments take less than a half is unacceptable for any nation that intends to walk the path of national integration.
2. There should also be a review of tax laws to give more tax jurisdictions to the states and local governments. This will by so doing, strengthen the states capacities and lessen the clamour to control power at the federal level since it would be seen as less 'juicy' by politicians. This will go a long way in ensuring national integration as the call for more allocation has been avoided.
3. The principle of derivation, except in cases of national security should be a key determinant in drawing a formula for revenue allocation. This will not only encourage states to tap from their natural endowment as all states in Nigeria are blessed with one or two God-given resources (both human and natural), but will also ensure competitiveness among states. This will at a long-run create a paradigm shift from heavy reliance on federal allocation (which is often the cause of resentments among the federating units), to a point of creativity, innovation and eventual industrialization.

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Credit Financing and Output of Small and Medium Scale Enterprises in Nigeria: A Focus on Bank and Non-Bank Financial Institution

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Abstract: *This study examined the nexus between credit by non-bank financial institutions small and medium scale enterprises and non-oil export in Nigeria from 1990-2020. Annual time series data were obtained from the Central Bank of Nigeria (CBN) (2020) and National Bureau of Statistics (2020). The econometric methods used in this study are Johansen Cointegration test and Error Correction Modeling (ECM). The empirical results revealed that total credit by non-bank institutions, loan and advances from finance houses to small and medium scale enterprises and number of developmental bank institutions had direct and significant relationship with non-oil export. Based on the findings, the study recommended that The Central Bank of Nigeria should formulate policies that would encourage non-bank financial institutions to give credit facilities to small and medium scale enterprises (SMEs) at a concessionary interest rate for improved non-oil export in the country.*

Keywords: Non-oil Export, SMEs Output, Non-bank financial institution, Philip-Peron

Introduction

The role of small and medium enterprises (SMEs) in the economic and social development of a nation cannot be overemphasized. Small and medium enterprises are considered as the starting point of entrepreneurship, which is often driven by its efficiency, ability, individual creativity and in general its innovative entrepreneurial spirit. It is a key indicator of the overall performance of an economy as it creates most of the employment opportunities created in the economy (Otugo, Edoko & Ezeanolue, 2018). In overall economic development, a significant role is played by the small and medium enterprises where it promotes its resistance level in competition, productivity growth and as well has external benefits on the economy at large Adebiyi et al (2017). To sustain and exploit these benefits government usually channel support towards small and medium scale enterprises.

Governments all over the world are increasingly taking step towards supporting the globalization or internationalization of SMEs in order to increase international competitiveness and improve performance. For instance, a report in 2001 on small business exporters in the USA suggests that they account for 31% of the total merchandize export sales and their number has tripled between 1987 and 2010 (Yon & Evans, 2011). It is expected that the number of small firms pursuing strategy of internationalization will continue to increase (Pingle, 2014).In Nigeria, internationalization of business was exclusively the domain of large business; many SMEs in Nigeria are less actively involved in internationalization probably due to inadequate policy framework for SME development and lack of awareness. To promote the involvement of Nigeria SMEs in international business, Abubakar & Yahya (2013) submitted that SMEs have a crucial role to play in export promotion.

Statement of the Problem

The impact of SMEs on the industrialization and development witnessed in the South East Asia has gone a long way in making most emerging economies to pay more attention to its development as an engine of growth and development. Hence, at present, financing of SMEs is increasingly seen and used as a development strategy.

However, in Nigeria, SMEs have not been able to play these roles. Given the importance of SMEs in economic development worldwide, an increasing supply gap in credit to the SMEs in Nigeria, as well as the quantum of challenges posed severe threats to the industrialization process of the country as it stalled the growth of enterprises in many countries. Bank lending to SMEs is important in modern economies as funds provided enhance capacity to raise investment and thereby, increase productivity. Indeed, inadequate capital worsened by difficulty in accessing financing among other factors continued to limit the capacity of SMEs to drive development.

Numerous studies highlight access to finance as one of the driving factors of an enabling economic environment for growth and development. The World Bank and International Finance Corporation (IFC) rank economies according to their ease of doing business; in this framework, the ability of business to get credit in an important criterion (World Bank, 2017). The Global Entrepreneurship Monitor (GEM) framework condition also highlights entrepreneurial finance, defined as "the availability of financial resources for SMEs in the form of debt and equity as one of the key factors for stimulating and

supporting entrepreneurial activity". Access to finance facilitates market entry, the growth of companies and risk reduction, as well as promotes innovation and entrepreneurial activity. Additionally, firms with greater access to capital are more able to exploit growth and investment opportunity. Put differently, aggregate economic performance will be improved by increasing the access to capital. The World Bank Enterprise Surveys reveal that, for example, in low-income countries, on average 43 percent of businesses with 20 to 99 employees' rate considered access to finance or cost of finance as a major restraint to current operations. In high-income countries, only 11 percent of businesses of same size rate listed access to finance as a constraint (World Bank, 2014).

From the foregoing, many of the recent studies on small and medium scale enterprises (SMs) and credit financing often emphasizes contributions of money deposit banks to SMEs ignoring the activities of non-bank financial institutions (NBFIs) to SMEs in Nigeria. To the best of the researcher's knowledge, the roles of non-bank financial institutions in providing credit to small and medium scale enterprises has not been adequately investigated. Hence, this study has become necessary to ascertain how non- bank financial institution's credit to the small and medium scale enterprises has imparted on their output growth in Nigeria.

Research Hypotheses

The following null hypotheses were tested in this study:

Ho_1: Total credit by development banks/institutions to SMEs has no significant effect on non-oil export in Nigeria

Ho_2: Total credit from finance houses to SMEs has no significant impact on non-oil export in Nigeria

Literature Review

Conceptual Framework

There have been several attempts by scholars in defining what constitutes a small and medium scale business. Some experts and institutions looking for an objective definition of small and medium scale business have used variety of qualitative and quantitative indicators including legal status, ownership structure, level of technology, number of employees, investment, sales volumes, net worth profitability and so on, generally categorized as input and output means (Navickas, Skackauskiene & Navikaite, 2014). Hence, the definitions of SMEs vary from country to country and agency to agency. However, due to its ease of collection, the most common definition of SME is based on number of employees in the organization.

Small scale enterprises as defined by the European Union (2015) represents a firms or an organization with a staff head count of not more than 50 employees and a turnover less or equal to 10million euros while a medium scale enterprise is one with a staff head count of 250 employees and a turnover less or equal to 50million euros. This therefore shows that common dominator for classifying a small and medium scale enterprise are staff strength and annual turnover. Based on this classification, Small and Medium Enterprises (SMEs) in Nigeria are heterogeneous. They cover a wide variety of industries, ranging from the single artisan producing leather, weaving traditional dress *"AsoOke"* in the rural areas, the retail shop owners, the cyber cafe shops to small sophisticated engineering software firms exporting its product overseas and a medium chemicals firm selling its product abroad (Oyelaran- Oyeyinka, Adelaja & Abiolo, 2017).

Small and Medium Scale Enterprises (SMEs) are veritable tool of economic development to a developing economy. Unfortunately, this development is limited by some constraints which include: inadequate funds, poor infrastructural facilities (Zacheus & Omoseni, 2017), operational environment: Financial recklessness/indiscipline (Otugo, Edoko, & Ezeanolue, 2018) and restricted market: deficiency in policy implementation (Umeh, 2015).

Credit Financing

Credit, according to an online source, bancosantander.es, is the ability to borrow money or access goods or services with the understanding that you'll pay later. Loans and credits are different finance mechanisms. Both are banking products that provide capital to the borrower but differ in terms of definition and objectives. While a loan provides all the money requested in one go at the time it is issued, in the case of a credit, the bank provides the customer with an amount of money, which can be used as required, using the entire amount borrowed, part of it or none at all. A loan is a financial product that allows a user to access a fixed amount of money at the outset of the transaction, with the condition that this amount, plus the agreed interest, be returned within a specified period. The loan is repaid in regular installments. While, a credit is more flexible form of finance that allows you to access the amount of money loaned, according to your needs at any given time. The credit sets a maximum limit of money, which the customer can use in part or in full. The customer may use all the money provided, part of it or none at all.

The usual ways to obtain finance through a credit are credit cards and credit facilities or lines of credit, which are generally arranged through a current account in which deposits and withdrawals can be made up to the agreed limit. Credits are usually used to cover delays between receipts and payments for companies, to deal with specific periods of lack of liquidity or for specific purchases. Loans, on the other hand, are often used to finance the purchase of goods or services

Theoretical Review

The Agency Theory: According to Jensen and Meckling (1976), agency theory centres on the conflict between management and shareholders of the firm and debt holders. Financing and borrowing are agreements that facilitate financial obligations on the two parties. Hence, the funds' supply to businesses is usually impacted by contracts that build suitable incentive for both the supplier and funds user. The perfect contract in the view of the researcher is one that is fully based on trust. Such contract will induce the borrower to act in the best interest of the funds' supplier. The banker-customer contracts surface through the supply of and demand for funds since there is a mutually beneficial relationship between the user of funds and the supplier (Mensah, 2004). The agency paradox is hence applicable in financing circumstances, mostly where default risk poses a significant challenge.

Myers & Majluf (1984), their Pecking Order: Theory, state that firms designate their sources of financing (from financing within to equity) going by the proposition of least effort (that is least resistance) tending to increase equity as a means of financing of last resort. Hence, funds within are deployed, and when that is exhausted, debt surfaces as a last resort, and when it is not wise issuing debt, there is a need for equity. The theory clarifies that businesses stick to a ranking source of financing and prefer the availability of financing within; hence credit is preferred to equity if there are requirements for external sources of financing.

Empirical Literature

Several studies have been carried out on the effect of SME on economic activities in Nigeria. A review of some of the empirical literature is provided below. **Otugo, Edoko & Ezeanolue (2018)** examined the effect of small and medium enterprises on economic growth in Nigeria by modeling the effect of SMEs, government expenditure in promoting SMEs, Employment generation growth rate and level of Corruption, commercial bank credits and lending rate to SMEs on economic growth in Nigeria using an econometric regression model of the Ordinary Least Square (OLS). From analysis of the study, it is observed that small and medium enterprise, government expenditure to small and medium enterprise, employment generations, commercial bank credit to small and medium enterprise and lending rate to small and medium enterprises have a positive impact on economic growth in Nigeria. Corruption has a negative impact on economic growth in Nigeria. However, all the explanatory variables have significant impacts on economic growth in Nigeria.

Adebiyi et al (2017) investigated the impact of finance on the performance of small and medium enterprises in Lagos State. The research design adopted for this study is survey research design. Data analysis and hypotheses test from 250 SME owners and operators using Pearson correlation and regression analysis indicate that, there is a relationship between SME finance and business performance. Limited information on loan qualification criteria and high interest rate mostly pose challenge to SMEs in their quest to access finance. Results also show there is significant relationship between small and medium scale enterprises and job creation Nigeria.

Akinola & Iordoo (2013) analyzed the financial incentives available to MSMEs in the Nigerian capital market. It provides solution to the financial gap existing between large scale enterprises and micro, small and medium scale enterprises in terms of availability of financial resources referred to as the missing middle. The methodology adopted in conducting the research was a survey design. The independent variable of the study was the Nigerian capital market while the dependent variable was the MSMEs. A disproportionate stratified random sampling technique was adopted to select a representative sample of one hundred MSMEs in Lagos state being the centre of commerce in Nigeria. Questionnaire was used as instrument for data collection. The questionnaire was developed on a five-likert scale ranging from one to five (i.e. from strongly disagree to strongly agree) while, the hypothesis developed was tested using Chi-square (X2). The result showed that there is a significant influence between small and medium enterprises and job creation in Nigeria.

Gbemi, Bimbo & Ekpenyong (2021), Assess the role of small and medium-scale enterprises (SMEs) as a catalyst to all things good in great economies; however, sadly, Nigeria has been unable to unlock SME development and the many benefits. The paper's examination revolves around SMEs and entrepreneurial development, employment generation, government policies and financial aid and its availability. With the intention of establishing the relevance of government role in creating vibrant economies via thriving SMEs and its ripple effect on employment generation. The study adopts a survey design, using a questionnaire for data gathering and percentile, confirmatory factor analysis (CFA) and structural equation modeling (SEM) for data analysis. Findings – The study established a significant direct relationship between entrepreneurship development and infrastructure development and employment generation. Also, there was a significant direct relationship between government policies and infrastructure development. However, surprisingly, there was an insignificant relationship between government policy and financial aid and accessibility.

Gap in Literature

In appraisal of the foregoing, many of the recent studies on credit financing and output of small and medium scale enterprises (SMEs) and non-oil export often considered the contributions of deposit money banks such as credit facilities and advances to SMEs in studies; ignoring the impact of credit facilities of non-bank financial institutions (NBFIs) such as finance houses, specialized industrial/development banks to SMEs in Nigeria. *T*o the best of the researcher's knowledge, the role of credit to small and medium scale enterprises (SMEs) output on non-oil export with respect to credit facilities of finance houses and special development banks/institutions such as Bank of Industry (BOI), Bank of Agriculture, and Bank of Import/Export has not been investigated. This is the gap in literature this study sought to fill.

Methodology

The real business cycle theory has been evolved out of the American new classical school of 1980s. It is the outcome of research mainly by several scholars (Kydland & Prescott; 1982, Barro & King, 1982; Long Plosser, 1983; Prescott, 1986). Later, Plosser (1989) and many other economists gave their views of the real business cycles. The theory of real business cycles explained short-run economic punctuations based on the assumptions of the classical theory. According to Plosser (1989), "it is a purely real model, driven by technology disturbances, and hence, it has been labeled a real business cycle

$$Y=Zf\ (K,N) \qquad [1]$$

Where: Y is total trade output, Z is the state of technology, K is predetermined capital stock and N is labour input.

Model Specification

The study by Usman (2015) was conducted to investigate competitiveness by assessing her exp ort performance and determinants of non-soil export from Nigeria. Their empirical model is given as follows:

$$NOE = \beta_0 + \beta_1 EPP_t + \beta_2 MCU_t + \beta_3 SMEO_t + \beta_4 INTR_t + \beta_5 EXCR_t + \varepsilon_t \qquad [2]$$

Where:

NOE is non-oil export, EPP is export promotion policy proxied bytrade openness, MCU is the manufacturing capacity utilization, SMEO is the small and medium scale enterprise output growth, INTR is interest rate while EXCR is exchange rate. β_0 is the constant while $\beta_1$to $\beta_5$are the estimated coefficients, **ε** is the error term while ***t*** represents time. The equation of Usman's (2015) was adapted and modified for this study. The modification on the model was done by replacing export promotion policy (EPP), and manufacturing capacity utilization (MCU) with credit financing indicators: total credit by development banks/institutions to SMEs (CDBI) and total credit of finance houses to SMEs (CFIH). Hence, with the removal of the variables, the functional form of the new equation is given in equation [3]:

$$NOEX = f\ (SMEO, CDBI, CFIH, CDMB, INTR, EXCR) \qquad [3]$$

The econometric form of equation [3], is stated below as:

$$NOEX = \alpha_0 + \alpha_1 SMEO + \alpha_2 CDBI + \alpha_3 CFIH + \alpha 4 INTR + \alpha 5 EXCR + \mu_i \qquad [4]$$

Aproiri expectations of the parameters are; $\alpha_1 > 0$, $\alpha_2 > 0$, $\alpha_3 > 0$ $\alpha_4 < 0$ & $\alpha_5 < 0$

Where:

NOEX = Non-oil export (N'billions)
SMEO = Small and medium scale enterprise output (N'billions)
CDBI= Total credit by development banks/institutions to SMEs (N'billions)
CFIH= Total credit of finance houses to SMEs (N'billions)
INTR = Interest rate (%)
EXCR = Exchange rate (%)
α_0 = Constant
$\alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5$ and α_6= slope of parameter estimates
μ_i = Error term

Method of Analysis

The econometric methods used in this study include: the Philip Perron (PP) for testing the unit-root test, a version of analyzing multivariate cointegrated systems developed by Johansen and Juselius (1991) for determining the cointegration of long run relationship among the series and the Error Correction Modeling (ECM) for determining the speed of adjustment and estimate the short run coefficients of the model. The econometric view package (E-view version 7) was used to analyze data.

Source of Data

This study relied on documented quantitative data, which are available in secondary form. The study employed annual time series data covering the period 1990 – 2020. Secondary data needed for the study were obtained from various issues of the Central Bank of Nigeria (CBN) Statistical Bulletin and the National Bureau of Statistics of 2020.

Results and Discussion of Findings

Descriptive Statistics

The descriptive statistics of the variables is presented in the table 1 below.

Table 1 Summary of Descriptive

	NOEX	SMEO	CDBI	CFIH	INTR	EXCR
Mean	361.4000	3496.103	486.4203	23077.01	4.387097	24.68903
Median	113.3000	2003.600	468.0300	14836.40	5.000000	22.88000
Maximum	1130.200	9350.800	942.0600	90176.50	6.000000	36.09000
Minimum	3.300000	39.60000	40.82000	3069.300	1.000000	18.36000
Std. Dev.	388.3151	3221.510	272.3272	21377.89	1.256382	4.686608
Skewness	0.533186	0.406236	0.112000	1.947011	-1.072829	0.593536
Kurtosis	1.616122	1.497458	2.016215	5.863632	3.621239	2.387513
Jarque-Bera	3.942513	3.768751	1.314927	30.17824	6.445143	2.304695
Probability	0.139282	0.151924	0.518164	0.000000	0.039852	0.315894
Sum	11203.40	108379.2	15079.03	715387.3	136.0000	765.3600
Sum Sq. Dev.	4523658.	3.11E+08	2224863.	1.37E+10	47.35484	658.9289
Observations	31	31	31	31	31	31

Source: Eviews Computation by researcher

The descriptive statistics gave the characteristics of the variables. As observed from the Table 1, the mean score shows the average of each series across the period of 30 years (from 1990 to 2021. With a maximum and minimum value of N1130.200billion and N 3.3000billion for NOEX respectively, the average NOEX was N361.4000billion for the year trend.

Total Credit by development banks/institutions (CDBI) had an average and median value of N486.4203billion and N468.0300billion respectively. This value shows that the series are closely clustered around a central value of 147%. Credit disbursed by finance houses to small and medium scale (CFIH) had an average mean, median, maximum and minimum value of N2.8291billion, N3.2385billion, N4.0459billion and N1.0216billion respectively.

Unit root test

Table 2 showed the result of the Unit root test.

Table 2: Unit root test results on the Variables

Variables	Philip-Perron (PP) Statistics	Critical values		Order of Integration
		1%	5%	
NOEX	-5.8728	-3.6891	-2.972	*I(1)*
SMEO	-3.9450	-3.6891	-2.972	*I(1)*
CDBI	-3.9353	-3.6891	-2.972	*I*(1)
CFIH	-4.4627	-3.6891	-2.972	*I*(1)
INTR	-3.9238	-3.6891	-2.972	*I(1)*
EXCR	-3.8526	-3.6891	-2.972	*I(1)*

Source: Regression result from (E-views version 7)

The result from Table 2 on the Philip Perron coefficients indicate that the entire series of NOEX, SMEO, CDBI, CFIH, INTR and EXCR were stationary at first difference i.e. integrated at order one *I*(1). Hence, the null hypothesis of no unit root exist was rejected. This implies that the entire series are integrated at same order of one. Hence, the series are adjudged satisfactory for estimation and the Johansen Cointegration technique can be employed. However, before estimating the short-run coefficients, it is expedient to determine whether cointegration exist among the series.

Lag Order Selection Test

The result of the lag order selection criteria is presented in Table 3

Table 3

Analysis on Lag Order Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	9.463365	NA*	0.044349	-0.288614	0.005900*	-0.210479
1	10.90530	2042738	0.043029*	-0.325441*	0.018158	-0.234285*
2	11.69153	1.048308	0.044200	-0.307627	0.085057	-0.203448
3	11.74967	0.072673	0.048385	-0.229139	0.212631	-0.111937
4	11.98857	0.278717	0.052360	-0.165714	0.325142	-0.035490
5	13.57046	1.713712	0.050877	-0.214205	0.325737	-0.070958
6	14.58133	1.010875	0.052111	-0.215111	0.373916	-0.058842

* 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

The result in Table 3 showed the coefficient of LR, FPE, AIC, SC, and HQ indicated. Since Final prediction error (FPE), Akaike information criterion (AIC) and Hannan-Quinn information criterion (HIQ) indicated that an optimum lag length of one is satisfactory for equation estimation. Therefore, one lag order was thereby selected as the optimum lag length for the parsimonious error correction model.

Cointegration test

The result of the cointegration is summarized in the Tables 4 below

Table 4: Cointegration Rank Test (Trace) on the Series

Trend assumption: Linear deterministic trend
Series: NOEX SMEO CDBI CFIH INTR EXCR
Lags interval (in first differences): 1 to 1
Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.954053	296.6635	159.5297	0.0000
At most 1 *	0.888179	207.3360	125.6154	0.0000
At most 2 *	0.862331	143.8012	95.75366	0.0000
At most 3	0.650404	46.29706	69.81889	0.3014
At most 4	0.555764	45.81872	47.85613	0.4375
At most 5	0.447347	32.28812	29.79707	0.3253
At most 6	0.373025	15.09038	15.49471	0.2574
At most 7	0.052103	1.551788	3.841466	0.2129

Trace test indicates 3 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.954053	89.32748	52.36261	0.0000
At most 1 *	0.888179	63.53480	46.23142	0.0003
At most 2 *	0.862331	57.50415	40.07757	0.0002
At most 3	0.650404	30.47835	33.87687	0.1207
At most 4	0.555764	23.53060	27.58434	0.1520
At most 5	0.447347	17.19774	21.13162	0.1629
At most 6	0.373025	13.53859	14.26460	0.0649
At most 7	0.052103	1.551788	3.841466	0.2129

Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

From the trace statistics and maximum eigen value statistics (Table 4), the trace and maximum eigen value statistics revealed that there are at least three cointegrating equations or vectors among the variables respectively. Therefore, there is a long run relationship among the variables in the model.

Error Correction Model results

Table 5
Parsimonious Error Correction Mechanism (ECM)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.1054	0.0386	2.7333	0.0128
D(SMEO(-1))	0.2843	0.0634	4.4842	0.0008
D(CDBI)	0.1981	0.0552	3.5901	0.0102
D(CFIH(-1))	0.1972	0.0655	3.0118	0.0192
D(INTR(-1))	-0.0147	0.0071	-2.0842	0.0126
D(EXCR)	-0.0028	0.0013	-2.1896	0.0406
ECM(-1)	-0.8013	0.2314	-3.4627	0.0136

Diagnostic Statistics

R-squared	0.6148	**Breusch-Godfrey Serial Correlation LM Test**	
Adjusted R-squared	0.5807	F-statistic = 2.2916	Prob. F(1,19) = 0.1465
S.E. of regression	0.1636	Obs*R-squared= 3.1213	Prob. Chi-Square(1) = 0.0773
Sum squared resid	0.5357		
Log likelihood	16.725	**Heteroskedasticity Test: Breusch -Pagan-Godfrey**	
F-statistic	17.720	F-statistic = 1.0464	Prob. F(8,20) = 0.4361
Prob(F-statistic)	0.0000	Obs*R-squared = 8.5567	Prob. Chi-Square(8) = 0.3811
Durbin-Watson stat	2.4478	Scaled explained SS = 5.7130	Prob. Chi-Square(8) = 0.6793
Mean dependent var	0.0787	**Normality test**	
S.D. dependent var	0.1808	Jarquebera = 2.8548	Prob. 0.2399

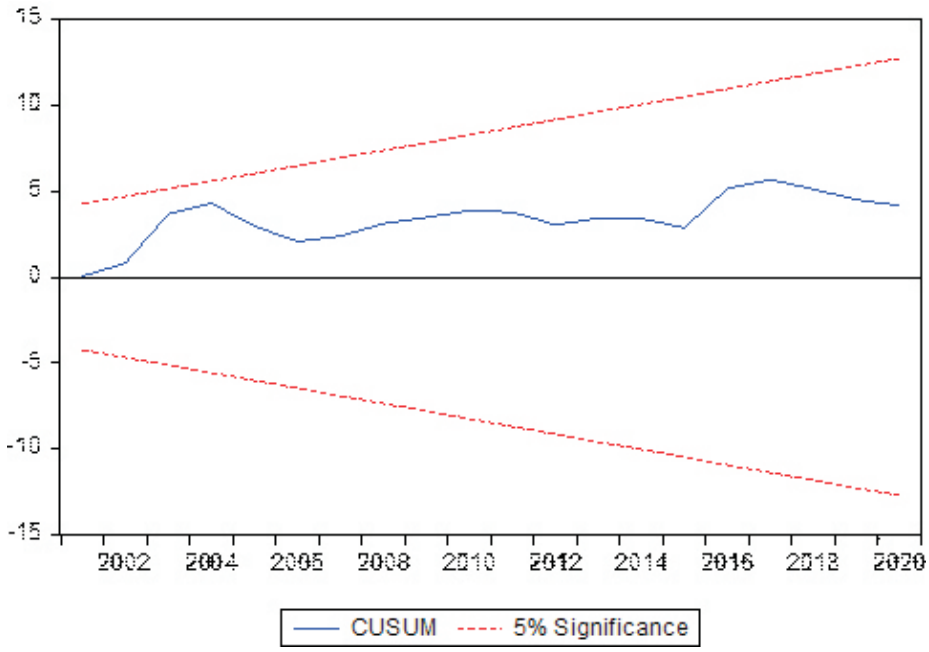
Ramsey (RESET) test of model specification fitness

F-statistic = 1.9578	Prob. F(7, 13) = 0.1402
Likelihood ratio = 20.8768	Prob. Likelihood ratio(7) = 0.0040

Dependent variable: D(NOEX)
Note: **Coefficient is significant at 0.05 level (i.e P<0.05)*
(The overparameterised equation is shown in the Appendix)

The results in Table 5 indicates that the Error Correction Term (ECM) of -0.8013 is correctly signed and statistically significant ($p<0.05$). This shows that if there is disequilibrium, the system will restore itself back to equilibrium with a speed of adjustment of approximately 80.1percent. That is if there is disequilibrium in non-oil export and its associated variables, there will be a fast adjustment speed of 80.1percent.

Lastly, the result from the Cumulative Sum (CUSUM) chart in Figure 1 indicated that the estimated short-run model is structurally and dynamically stable and would thereby provide reliable estimates for policy simulation.



Source: Researchers analysis from Eviews 7

Figure 1: CUSUM chart for model within the year period

Implications of the Results

The above result has implication for policy discussions in the following ways. Firstly, the outcome of the study has shown that small and medium scale enterprises output had direct significant impact on non-oil export in both the long and short run period. This shows that productive activities of SMEs bring about an expansionary effect non-oil export revenue receipt to the country.

In addition, the direct impact of the credit facilities from finance houses and specialized bank institutions such as bank of industries and bank of exports shows that loan and credit facilities serve as leverage for SMEs to operate a little closer to their export production possibility curve. This shows that non-oil export increases with through the multiplier effect of loan and credit facilities disbursed to SMEs and number of specialized bank institutions.

This result agrees with the findings of Otugo, Edoko and Ezeanolue (2018) and Usman (2015) who found that total credit to SMEs promotes market capitalization and real sector growth in Nigeria. This could be due to the employment of more financial and labour capital for improved export output and aggregate demand. In addition, the result corroborates the findings of Adebiyi, et al (2017) who concluded that the impact of finance on the performance of small and medium enterprises has a higher multiplier effect on other sectors including trade and maritime in Lagos State. Furthermore, the result is in line with that of Akinola & Iordoo (2013) who analyzed the financial incentives available to MSMEs in the Nigerian capital market and found that financial incentives from the Nigerian capital market has significant impact on SMEs productivity.

Conclusion and Recommendations

This research examines the impact of credit financing by non-bank financial institutions on small and medium scale enterprises output on non-oil export in Nigeria. From the empirical findings, it can be reasonably concluded that SMEs contribute significantly to Non-oil Export in Nigeria. Furthermore, total credit by development banks/institutions, loan and advances from finance houses to small and medium scale enterprises, total credits to SMEs from deposit money banks promotes non-oil export. This implies that growth in SMEs output is a driver of non-oil export in Nigeria.

On the basis of this conclusion, the following recommendations are made: first, the Central bank of Nigeria

should formulate policies that will encourage non-bank financial institutions such as development bank institutions and finance houses to give credit facilities to small and medium scale enterprises (SMEs) at a concessionary interest rate for improved non-oil export in the country. Also, the Federal government should make deliberate efforts to expand the number of non-bank financial institutions in the country in other to promote financial inclusion and increase access of the private sector to credit towards expanding export of made in Nigerian goods. Finally, the Monetary Policy Committee (MPC) of the Central Bank of Nigeria should use their moral suasions and discretionary policy to encourage deposit money banks to give credit at low interest rate to SMEs involved in the production of goods and services for increased non-oil export.

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Intergovernmental Relations and the Quest for the Management of Fiscal Federalism in Nigeria (2010-2015)

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Abstract: *Fiscal federalism, which reflects the amount of budgetary autonomy and responsibility accorded to subnational governments, has been an important topic in many developing, transitional, and developed countries' policy equations. As a result, this research investigated the evolution, structure, and practices of fiscal federalism and intergovernmental interactions in Nigeria from 2010 to 2015. The paper adopted qualitative methods for data gathering and content analysis. The paper* adopts *the Kenneth Arrows' fiscal federalism theory, which is based on the assumption that each region of the federation must ensure the welfare of society and the nation as a whole, and for this to be achieved, the proper and appropriate distribution of resources among the tiers to be able to carry out the constitutional duties must be ensured. According to the publication, Nigeria has not functioned as a true federation since adopting a federal constitution. Fiscal responsibility and taxing authority continue to be heavily centralised. Several variables have influenced Nigeria's fiscal federalism practice: the federal government's dominance in revenue sharing, the protracted period of interregnum rule of the military, and over-reliance on revenue from the Federation Account. Therefore, the paper concluded that the federal government ought to devolve some of its tax powers to state governments to stimulate healthy fiscal independence and competition among states.*

Keywords: *Federalism, Fiscal Federalism, Intergovernmental Relations, Revenue Allocation, Resource Control*

Introduction

Fiscal decentralisation has become fashionable regardless of the levels of development and civilisation of societies. Nations are using devolution to improve the performance of their public sectors. Fiscal federalism is allocating government resources and spending to different levels of government. In general, the increased clamour for greater decentralisation is influenced by people's desire to be more active in government and the central government's incapacity to offer excellent services. Aigbokhan, (1999). However, decentralised government systems give rise to fiscal difficulties referred to as budgetary federalism, also known as fiscal decentralisation. It relates to the scope and structure of the tiers of governmental responsibilities and functions and the allocation of resources among the levels of government to cope with their respective roles.

In Nigeria, the poor performance of the public sector since the first half of the 1980s has pushed the subject of fiscal federalism to the forefront, where it has remained dominant and contentious in the country's polity (Arowolo 2011). Over the previous three decades, Nigerians have faced declining actual earnings, unsustainable levels of unemployment and inflation, deterioration of social amenities, and a failure to maintain, much less improve, the nation's infrastructure. This poor public sector performance has precluded the creation of chances for the Nigerian economy's resilient and sustained growth and development, which should be the goal of rational and functioning fiscal federalism. Moreover, long years of military rule and the centralised nature of the hierarchical military structure created the financial hegemony enjoyed by the federal government over the thirty-six (36) states and seven hundred and seventy-four (774) local governments. This has created disaffection in the Nigerian federation. Thus, the worry over developing a national and functional fiscal federalism for Nigeria is well-founded.

Review of Related Empirical Studies on Issues Surrounding Federalism

Federalism

The concept of federalism refers to a universally accepted definition. For example, wheare (1963), an exponent of contemporary federalism discussed, saw federalism as:

"a constitutional arrangement that divides the lawmaking powers and functions between two levels of government so that each, within its respective spheres of jurisdiction and competence, is independent and coordinated." This constitutional form results from conditions in which people are willing to give up only certain limited powers while retaining other limited powers to be exercised by coordinating authority. He observed that the coordinated supremacy of all the levels of

government concerning their respective functions remains a cardinal principle of federalism.
This means that federalism has emerged as a functional arrangement between states for living and working together nationally while presenting a measure of separate identity. Wheare (1963). Babawale (1998) further defined the federal state as:
"one in which there is an: explicit and constitutional demarcation of powers and functions among national and sub-national units. Furthermore, the powers and responsibilities are distributed in such a way as to ensure the continued existence of authority at both levels of government, each of which is independent within its sphere. Federalism is defined as "the doctrine that advocates and promotes the form of state organisation in which power is distributed or decentralised by contract to safeguard local identities and individual liberties."
He says that federalism describes a state's structure and its political culture and political process. The non-centralisation of authority is a key feature that distinguishes the federal system from non-federal regimes. Power is divided between the central and component units in a national polity. It is worth noting that the reasoning advanced by Wheare (1963) and Babawale (1958) does not hold up in practice in Nigeria. The Federal Government has usurped virtually all the state governments' powers formerly exercised. Corroborating this line of thought, Akindele and Bassey (2002) define a federal state as a political entity or country where powers and crucial decisions are exercised and made at two, or multilateral, levels of government, following the strict mutually agreed constitutional provisions of the country concerned. According to Egbebulem (2011), these stances serve as the foundation for the claim that federalism is based on significant tolerance of variety and a readiness to conduct political action through conciliation even when the authority to act unilaterally is present. Wheare (1963) uses the United States of America as an example of a federal state. Following his preferences for American-style federalism, he advocated for other constitutions that do not grant the constituent entities autonomy as quasi-federal states. For example, the concept of federalism concerning the pre-1966 Nigerian constitution as quasi-federal since Section 66 permitted the Federal Government to declare a state of emergency in any area and take over the operation of that region's government for a certain period. Nwabueze (1982) proposes some basic principles of federalism, which include: the separateness and independence of each government; mutual non-interference of inter-governmental immunities; equality between regional or state governments; determining the number of regional or state governments with which a federal government can meaningfully co-exist; a mode for the division of powers; and the supremacy of the constitution, all of which are conspicuously absent in Nigerian federalism. According to Ndu (2003) in Ebegbulem (2011), there are two critical reasons for the erosion of true federalism that characterised the Nigerian state in the first republic before the military intervened in 1966. One of the reasons he gave was the military intervention in January 1966, which led to the collapse of the First Republic. The military intervention marked the end of true federalism in Nigeria. He asserts that, unfortunately, the creative development of federalism, specifically from 1954 to 1965, abruptly ended with the mutiny of January 15, 1966, which eliminated some of the founders of federalism in Nigeria and killed the essence of federalism itself. The federal form, which survived that military onslaught and was based on which the country precariously persisted as an entity, has never regained its identity. Ndu (2003).

Fiscal Federalism

Fiscal federalism implies the allocation of tax powers and expenditure responsibilities among various tiers of government. In contrast, budgetary decentralisation occurs when sub-national governments are given statutory powers to raise some taxes and carry out spending activities within some specified legal criteria. This also involves allocating centrally-generated revenue to lower tiers of government through some revenue sharing formula. Ekpo, (1999). This involves three levels of government: federal, state, and local. Here, fiscal federalism exists mainly as a revenue allocation directed by the award of special grants from federation accounts. Revenue commissions are often established to work out the best acceptable formula for revenue allocation from the federation accounts to avoid conflict.

Intergovernmental Relations

The terms "intergovernmental relations" and "federalism" are sometimes used interchangeably, but they do not mean the same thing. Federalism refers to the formal, legal structure of the political system, whereas intergovernmental relations refers to all governmental units' interactions within the political system. CoChlran, et al. (1986:121).
In other words, intergovernmental relations refers to the relationships among governmental jurisdictions. For our purpose, the term "intergovernmental relations" means the relationships between the national government, on the one hand, and the states and local governments, on the other hand. Interactions between and among states and local governments are also part of the concept.

Revenue Allocation

in a peaceful way that guarantees development and progress and enhances unity. Onu (1994) defined *income distribution* as a mechanism for sharing national financial resources among different levels of government in the federal government,

with the overall goal of promoting economic growth and development, minimising intergovernmental friction, and promoting national unity. According to Ikeji (2011), revenue allocation is one or more methods of sharing revenue generated at the central level among different levels of government and how the amount allocated to a particular level is distributed among its components. Therefore, according to the various definitions, revenue allocation is the distribution of a country's revenue among the multiple levels of government in such a way as to ensure economic development.
Onu's (1994) definitions more effectively explain the goal of this study, which is to examine the influence of federation account allocation and internally generated revenue on Nigerian economic development.
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Revenue allocation to the three tiers of government is critical for economic development. According to economic growth theories, revenue allocation boosts economic development. According to economic growth theories, revenue allocation is intended to improve economic development. Romar (1994). The revenue allocated to Nigerian federating units carries out their constitutional expenditure responsibilities that promote economic growth. Dagwom (2013).

Resource Control

Scholars disagree as to the exact meaning of "resource control." According to Roberts and Oladeji (2005), while one group interprets it as the total takeover of resources located in the resource-producing country by the people of the resource-producing country, other groups interpret it as implying a stake in the resource-bearing region. Therefore, operators should manage a more significant proportion of the resources utilised in these areas. This means that scholars and even agitators define the concept primarily from different and individualistic perspectives. However, Ifedayo (2010) in Dickson and Asua (2016) argue that resource control involves the access of communities and state governments to natural resources within their borders and the freedom to develop and use those resources without reference from the federal government.
Afoyemi (2013), quoted in Dickson and Asua (2016), argues that resource control is how government revenues are shared between different levels of government (federal, state, and local government) and how available resources are used and determined. Resource control can mean the substantial power for the community to collect monetary and other benefits arising from the exploration, exploitation, and use of resources in their domain and to deploy them for development purposes. Therefore, it is evident that resource-producing regions should have control over the resources in their areas, with minimal intervention from the federal government, as is the case in the United States of America, Canada, and Switzerland.

THEORETICAL FRAMEWORK

This study adopts Kenneth Arrows' fiscal federalism theory. The theory was later renamed "decentralisation" after a couple of days of deliberation and analysis. Ozo-Eson (2005). It explains three government functions.
a. It is the responsibility of the government to correct every failing market.
b. The government must ensure that all income is distributed equally.
c. They must maintain a stable economy (macro) and ensure employment and commodity prices.
The government of every cadre must ensure the welfare of their society and the nation as a whole. The macro-level of the economy must be controlled to avoid market failure. Therefore, it is pertinent to appropriately distribute resources among the tiers to carry out the constitutional duties. Ozo-Eson, (2005). The employment of citizens to reduce the poverty level is a combined effort of the tiers of government of every nation.
This theory also explains that each level of government has the right to ensure the social welfare of its jurisdiction. To avoid crises, the decentralisation of responsibility must also align with the kind of allocation ascribed to each level of government. However, the theory has been criticised as idealised and challenging to apply to systems in developing societies. This theory may lead to cross-jurisdictional spillovers, and local authorities may undersupply such goods. Arovoro (2011)
The essential element of this theory is the need for fiscal equalisation. This is in the form of lump-sum transfers from the central government to decentralised governments. The arguments for equalisation are mainly two. On efficiency grounds, the first sees equalisation as correcting distorted migration patterns. The second is to assist poorer regions or jurisdictions. Equalisation is essential in several federations. For example, Canada has an elaborate equalisation scheme built into its intergovernmental fiscal arrangements. Boadway and Hobson (2009)

METHODOLOGY

This paper uses qualitative data collection and analysis sources where literature like books, journals, magazines, newspapers, and websites are used because the website contains scholars' publications about the topic under investigation. Moreover, this was the rationale for choosing to use the qualitative method in the first place. These publications were critically examined, and the data analyses were done qualitatively under the content analysis procedure.

EVOLUTION OF FEDERALISM AND INTERGOVERNMENTAL RELATION IN NIGERIA

A brief tour of Nigerian federalism's history reveals sharp turning points in federal and regional fiscal relations based on derivation principles, national interest, and the centripetal forces of military governments. Nigeria's three regions obtained economic autonomy over expenditure decisions and a local income base by establishing a federal constitution in 1954. (comprised mostly of mining rents, personal income tax, and licencing receipts). According to the derivation principle, centrally collected revenues, primarily from export, import, and excise duties, were distributed to the regions. However, following independence in 1960, the derivation principle was modified to national unity. As a result, the federal government began to be employed to accommodate a multiethnic state's different social and political interests.

Since 1966, successive military administrations have centralised tax management and collection, and regional allocations have been created at the discretion of the military leadership. As a result, expenditure obligations and government activities were centralised simultaneously, with the federal government taking on the role of the social and economic growth engine. Furthermore, it is widely believed. Bach (1989) noted that the federal system began to be used perversely to unnecessarily allocate national resources by creating new state and local governments along ethnic and political lines, without regard to economic viability. Nigeria's federal units grew from three to four regions from 1960–1966 and then to 12 states by 1967. Local governments were recognised as the third tier of government in 1976, with the right to statutory allocations from both the federal and state governments. As a result, seven new states were formed, bringing nineteen (19). During the 1990s, that number nearly doubled to 36 states and 774 local governments established under military rule.

Thus, the current federal arrangement appears to be a direct legacy of military rule, with the attendant risk that state and local government agencies are established to serve as proxies for the centre, possibly with the primary goal of political allocation of national resources rather than efficient delivery of public services. The task of reconciling differences and beginning the process of setting-up institutions so that the federal system inherited from the military regime might become effective and accountable in a democratic environment fell to the framers of the 1999 Constitution.

Challenges facing Nigerian fiscal federalism

The challenges confronting Nigeria's fiscal federalism include the following:

Since independence, the lopsidedness of Nigeria's fiscal system has continued to undermine the efficacy of fiscal and monetary policies. Hence, the challenge is how to make the budgetary system conform to international best practices to enable it to contribute to growth and development. In addition, there is a need for a critical review of the divisions of functions among the various tiers of government and the revenue-sharing arrangements to improve the delivery of public goods and services substantially. Besides increasing the desperation of the different levels of government for more funds, this lopsidedness has also resulted in non-performance, high levels of corruption, and bloated government apparatus at each level of government, leading to waste and unnecessary expenditure. Despite the significant expansion in administrative entities, fiscal federalism in Nigeria has not been able to contribute optimally to social and economic development. As a result, Nigeria's real economic growth and development have been dwindling since the suspension of regionalism in 1966. Furthermore, per capita income levels have continued to fall, demonstrating that the establishment of more states and local governments has not resulted in significant improvements in the supply of public goods and services or the promotion of real economic growth. Mr. Soyode (2004).

Given the reliance of all levels of government on centrally collected revenue, primarily from oil and gas production, the competing demand for a larger share of income remains a significant challenge. Historically, the federal government has had the lion's share of revenues collected by the federal government under successive military regimes. However, with the return of civilian democratic rule in 1999, there was a vigorous push by states, particularly those in the resource-rich Niger Delta region, for a larger share of national income.

One example is the struggle for state control of resources in the Niger Delta region. The 1999 Constitution calls for a review of the sharing arrangements regularly to reflect changing economic and social conditions. However, since there has been no such revision since the 1999 Constitution came into force, the agitations for a bigger slice of the so-called "national pie" have continued unabated. Thus, while the constitutional provision provides that diversion must weigh at least 13% in the sharing formula, proponents of "resource control" in the Niger Delta have continued to insist on a higher percentage, say between 25 and 50%.

Another challenge, perhaps, is the controversy surrounding the way and manner in which the federal government operates the Federation Account. In an April 2002 ruling, the Supreme Court resolved the issue of illegal and unconstitutional deductions from this account. However, the federal government continues to operate this account in complete disregard of the constitution and the Supreme Court ruling. For example, the Federal Government continues to divert funds from the Federation Account to so-called dedicated accounts such as the NNPC Expenditure Account and the Surplus Crude Oil Revenue Account.

The Federation Account Keeper Challenge is another option. The federal government was the account's custodian and owner. However, the Supreme Court did not uphold this assertion in the Lagos State vs Federal Government decision. Instead, it held that the Federal Government or the President had not been given powers as custodian and trustee of the account. Therefore, it can not continue to operate on it in any way it sees fit.

A Constitutional Framework for Managing Intergovernmental Fiscal Relations

The concept of intergovernmental relations is associated with the federal state. In a federal state like Nigeria, the interrelations of the component units are brought to bear on the degree of the interaction and duties within the confinement of the enabling constitution. Hence, Aiyede (2004) notes that intergovernmental relations are a federal project. The preamble of the 1999 Constitution of the Federal Republic of Nigeria recognises the existence of the people, particular materials and the institutions within the Nigerian state. It affirmed the provision of a constitution that would promote good government.

The last words, "good government," mean that there must be a cordial relationship that includes interaction, exchange, cooperation, tolerance, interrelations, duty, and project implementation either within or outside the stipulated territory called Nigeria amongst the component units. In this respect, the units include the Central Government, the State Government, and the Local Government. This, in the literary context, named all the states and local governments in Nigeria as part of this intergovernmental relationship, with the centre spearheading the role. Thus, the same constitution did not mince words when it went further in CAP 1, General Provisions Part 1 Section 3 (1), to name all the inclusive states as part of intergovernmental relations (Oni, 2013).

The above observation is the first step towards unearthing the legal basis of intergovernmental relations. It is only in democratic federalism that the act can be coherently practised, obeyed, and adhered to compared to all other forms of government. This does not mean that the subject does not exist in other systems. It does exist, but federalism garners a higher pass mark in intergovernmental relations vis-a-vis the component units' relationships and devolution of functions.

In Part 2 of the 1999 Constitution of the Federal Republic of Nigeria, under Section 7, (a) to (c) and as mentioned in Part 1, Second Schedule and Part 2, Second Schedule of the same constitution, the three levels of government duties and powers are found in the concurrent legislative list of the state government and the residual legislative list of the local government as the exclusive legislative lists of the central government. These three concepts of exclusive, concurrent, and residential lists are the basis of their interrelationship. This is premised that the above explanations occur only in federal states (Ojo, 2010).

ISSUES AND CHALLENGES OF FISCAL FEDERALISM IN NIGERIA

Authority was overtaxing and collecting revenue between the federal government and state governments; issues in resource control, horizontal allocation of income, particularly between states, conflicts over principles of revenue allocation, resources control by oil-producing states, local state government joint account conflicts, onshore/ offshore conflict. Ahmadu et al. (2007).

Because of the disagreements over fiscal federalism in Nigeria, a former Civilian Vice President, Dr Alex Ekwueme, observes that the massive increase in revenue accruing to the Federal Government and the unilateral decreeing as to how it will be shared between it and the states eroded the financial autonomy of states and enabled the Federal Government to move into exclusive areas or share concurrently with the states. Omotosho (2010)

No revenue formula in Nigeria has been acceptable to all levels of government at any point in time. Regarding revenue sharing in Nigeria, Pauline Baker observes these problems: a lack of consensus on the distribution criteria, the absence of reliable socio-economic data, the rapid rate of constitutional change, and the extent to which revenue distribution is tied to perceptions of regional ethnic dominance.

The major problem of intergovernmental revenue sharing in Nigeria has always been the formula for sharing revenue among regions and states, the so-called "horizontal revenue sharing scheme." Corruption is also a factor; it has become an obstacle to achieving cooperative federalism in Nigeria. Omotosho (2010)

Nigeria's economic and political landscape is permeated by corruption and abuse of office. The National Planning Commission has noted that systematic corruption and low-level transparency and accountability have been significant sources of development failure. In addition, illegal activities such as advance fee fraud (known as 419) and money laundering have distorted the fabric of Nigerian society.

Concerning the prioritisation of derivation principles, particularly after discovering oil, Peter OzoEston maintained that Niger-Delta people are affected natively. He notes Minority nationalities, particularly those whose territory oil has been found, have interpreted the gradual erosion of the derivation principle in revenue allocation as one manner of denying them a meaningful level of control and benefits from their resources. Daily Trust (2012)

Local government joint account though it is a constitutional provision, some states used their instruments to deny the local governments in their states the total share of their statutory allocation from the federation account. As a result, the financial autonomy of local governments in Nigeria is deficient. Some northerners also believe that oil found in the sea 200 nautical miles away from the littoral states' land belongs to the federal government of Nigeria, not the Niger-Delta littoral states.

IMPLICATIONS OF REVENUE SHARING FORMULA ON INTER-GOVERNMENTAL RELATIONS

Despite all efforts to achieve genuine federalism, the sharing formula continues to cause severe disruptions in the lower levels of government in Nigeria, harming their relationship. These critical issues are a defective constitution, a defective federalism structure, over-concentration on a single resource, the revenue-sharing formula discrepancy, inequality among citizens, etc. Richard & Innocent, (2015).

In terms of federalism, what is practised in Nigeria is defective and deceitful federalism. Many federal judicial systems in various industrialised countries can teach us something. According to Oni (2013), the essence of federalism, which Nigeria adopted, has been neglected, giving room for self-centred interests. Furthermore, the purpose of developing the local communities, which is part of the reasons for adopting the system, has also been forgotten (Oni, 2013). As a result, there is a power play among the levels of government. The implication of this is that the country continually suffers setbacks economically.

This lopsided federal structure favourably disposes of the national implied financial distribution. The centre takes 52% of revenue and takes over all the juicy and lucrative responsibilities of exclusive and concurrent legislative lists with huge economic attractions. In a concurrent legislative list where both the federal and state exercise joint responsibilities, the centre enjoys overwhelming control in the event of any conflict between the federal and state. As identified by Adamolekun (2005), the theory of intergovernmental relations has given more financial attraction to the central government, thereby reducing sub-national units' financial capacity (Ojo, (2010).

Furthermore, before independence, the existing regions enjoyed absolute control of their regional resources (Agriculture and other Natural resources), which served as significant revenue generators for the regions. However, the development of oil in Nigeria at Oloibiri, Bayelsa state, by the then Shell-BP in May 1956 and the commencement of operations two years later by the oil multinational companies marked a watershed in the political economy of the Nigerian federation.

Therefore, the development of oil exploration made oil the mainstay of the Nigerian economy and placed her as the world's seventh-largest oil exporter. This development made oil the central issue in fiscal federalism (Sagay, 2008). However, the exploration of oil in Nigeria and its high yielding revenue has impacted the Nigerian economy. Thus, the situation qualifies to be referred to as the resource curse. It harmed the development of the previously thriving agricultural sector and other viable sectors such as industry, mining, and human capital development.

From the various arguments discussed above, it has been established that the present revenue sharing formula has resulted in multiple controversies, tensions, and agitations, which have widened the level of intergovernmental relations among the three tiers of government in Nigeria. Thus, the present revenue sharing formula has resulted in duplication of functions, waste of public funds, uneven development, a defective federalism structure, dependent on single mineral resources, a defective revenue sharing formula, corruption, and too much power at the centre.

Revenue Allocation Principles

It is necessary to go over the fundamental principles of revenue allocation in Nigeria. On the other hand, Nnamocha (2002) asks: at what stage in the revenue allocation system is the principle used or requested, and why? These are questions and issues that need to be addressed. On the other hand, Nnamocha (2002)
identified the following principles:

1. Taxation is a time-consuming process. Therefore, this approach pushes states to maximise their tax potential and capacity by allocating more resources to governments with more significant efforts to collect taxes.
2. Population. This principle allows the allocation of more resources to states or LGAs that are more heavily populated than others. The argument here is that states with a high population will also be enriched with human and natural resources and deserve less allocation.
3. Even development. To ensure development and uniform advancement, poorer nations are allocated more revenue. This aids in the distribution of economic growth and development. In addition, the idea aids in the reduction of inequities and imbalances.
4. Derivation. This principle states that regions/states that generate more revenue for the federal government should receive a proportional allocation. That is, they should be given more resources. It was first recommended by previous revenue allocation commissions, which suggested that revenue sharing should be primarily based on derivation. This foundation will compel all states to return to their origins. That is, agricultural and cash crops grown for export. Thus, the country's reliance on oil revenue will be reduced.
5. National interest. The allocation should be based on high social importance, such as education and security, which unite the country.
6. Equality of states. Despite the economic assets of each federation state, the idea encourages sharing revenue equally among states. This is because each state must carry out a certain number of responsibilities.
7. The principle of need: The level of lack in every state should determine the revenue allocation to the state. The Raisman Commission (1951) and the Hicks Phillipson Commission (1951) both made recommendations in support of this (1957). Some newly constituted states, for example, demand more funding than existing states. Odigwe and Aibieyi have advocated for this (2015). They argue that because no single state has the greatest need,

the need principle is ineffective unless based on population census data.

8. Equality of access to opportunities for development. According to this principle, revenue allocation should favour those below certain development levels in terms of development. This will provide them with equal opportunities for development and growth.
9. Independent revenue effort: This principle stresses more allocation to states that can collect revenues due to them.
10. Continuity of government action: The next revenue allocation is not likely to be lower than before. This is why revenue should be shared so that the federal government does not have to give more small allowances than before.
11. **Land Area:** The state's proportion of land also determines the revenue allocation. This principle has no economic implications, particularly in areas like the Sahara desert, where no one lives. The majority of the states, like Lagos and Rivers State, are densely inhabited. They should not be assessed by this principle but rather by the population due to the areas' migration of people from the rural areas to the urban areas in search of jobs.
12. Principle of school enrolment: The principle suggests that the number of pupils in schools in the state/LGA should be considered in resource allocation. This principle also has some issues, and although education is a vital part of economic development, this principle also has some problems. However, there are areas where people refuse to enrol in schools, preferring instead to engage in commercial trading, animal rearing, and other craft forms. In that case, the school enrollment criterion will be unjust to them.
13. National minimum standard. Revenue allocation should be done to maintain the national minimum standards in all states in the federation of Nigeria. This is in keeping with the Dina Commission's suggestion (1969). Accordingly, states that do not have certain levels of education and health services are to be allocated more revenue to meet the national minimum standard.

Revenue Allocation Commissions/Committees in Nigeria.

Various income allocation commission committees established in Nigeria in the past and present have made suggestions and efforts to harmonise allocation concerns. However, the struggle for control of resources is far from over.

1. Phillipson Commission (1946). This commission recommended using derivation and even development as criteria for revenue distribution. By derivation, the commission means each government unit would receive from the central budget the same portion it has.
2. The Hicks-Phillips Commission (1951). The revenue-sharing criteria proposed by this commission were need, derivation, independent revenue or fiscal autonomy, and national interests.
3. Chicks' commission (1953). The commission recommended derivation.
4. The Raisman Commission is a group of people that came together in 1957. It advocates for need-based development, balanced growth, and little accountability. 40% of the country is in the north, 31% in the east, 24% in the west, and 5% in southern Cameroon.
5. The Binns Commission is a group of people who have been appointed to investigate (1964). This commission rejected the notions of need and derivation. Instead, it proposed regional financial parity with a 42% allocation to the north, 30% to the east, 20% to the west, and 80% to the midwest.
6. Dina Commission is a non-profit organisation that works to (1969). It advocated for national minimum standards, balanced development, and basic needs in allocating the state's common account.
7. Aboyade Technical Committee (1977). The committee recommended that revenue be divided among the three levels of government in the following order: federal (53%), states (30%), local governments (10%), and special funds (3%). (7 percent). The committee also suggested that state sharing be based on the following principles: a national minimum standard for national integration (22%), equality of access to development opportunities (25%), absorption capacity (20%), fiscal efficiency (15%), and independent revenue effort (15%). (18 percent).
8. Okigbo Committee (1980). This committee suggested that the revenue sharing percentages for the three tiers of government should be as follows: Federal (53%), States (30%), Local Governments (10%), and Special Fund (7%). Percentages to the state are based on the following principles: population (4%), equality (4%), social development (15%), and internal revenue effort (5%).
9. Danjuma Commission (1988). The commission's recommended percentages are as follows: Federal (50%), States (30%), Local Government (15%), and Special Fund (5%).
10. RMAFC (1989). The federal government attempted to resolve all revenue allocation issues by establishing the Revenue Mobilization Allocation and Fiscal Commission. The constitution empowers the RMAFC to disburse revenue from the federation account, review the allocation formula as needed, advise federal, state, and local governments on generating and efficiently using revenue, determine appropriate remuneration for political office holders and perform other functions that may be required by law. Arowolo (2011)

CONCLUSION

This paper examined the issues and challenges confronting Nigeria's fiscal federalism and the need for intergovernmental

relations. Fiscal federalism in Nigeria has given rise to several contentious issues, particularly those relating to ensuring equitable and stable revenue allocation among the three levels of government. These factors include:
Implementing a uniform derivation principle
Giving sufficient weight to state equality
focusing on the development of natural resource-producing areas.
Revenue sharing is based on the responsibilities of each tier of government.

Recommendations

The paper suggests the following recommendations for achieving reliable fiscal federalism: a new revenue sharing formula and the development of good relationships among the tiers of government in Nigeria.
I. There should be a review of the Nigerian constitution. Then, the new sharing formula will be jointly agreed upon by the parties and inserted into the new constitution, which will be people-oriented, especially regarding federalism and revenue sharing procedures.
ii. Application of the principles of "true federalism" in line with K.C., where subordinate units maintain a certain level of autonomy and co-exist, especially in fiscal federalism.
iii. The states and local governments should have a certain level of control over their resources and improve their internally generated revenue. Centralised fiscal federalism should be modified while fiscal decentralisation and financial autonomy should be encouraged where levels of government will have sovereignty over their resources without interference.
Based on the preceding, one can conclude that the clamour for fiscal decentralisation, or true federalism, is based on the thinking that it will engender a harmonious intergovernmental fiscal relationship in Nigeria. However, it is instructive to note that key sensitive factors in Nigeria's traditional form of revenue sharing, such as derivation, population, and even development, equality, and landmass, should be seriously considered because they are fundamentally duplicative.

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Oil Price Volatility And Gross Domestic Product In Nigeria (1986 – 2019)

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Abstract: *This study examines the relationship between oil price volatility and Nigeria's gross domestic product (GDP) with a view to establishing the influence of oil price volatility on GDP and other macroeconomic variables such as inflation rate, interest rate and per capita income. In order to establish that, secondary data were sourced from the Bureau of Statistics for the period between 1986 –2019. The study adopted multiple regression equation using e-view as the analytical tool. The result of the study shows that oil price volatility has significant impact on Nigeria's GDP. The study therefore recommends the diversification of Nigeria's economy in order to reduce over reliance on oil as a major source of income to the country.*

Keywords: Oil price volatility, per capital income, interest rate, inflation rate and gross domestic product.

Introduction

The interplay of oil price in Nigeria has enormous implications for Nigerian economy. As the mainstay of the Nigeria's economy, oil sub-sector dominates the volume of the country's exports and foreign exchange earnings. Consequently, oil price has been a much debated issue in Nigeria considering its volatility and subsequent influence on other sectors of the economy.

In the past, the international oil prices have risen significantly resulting to a boom in many oil rich (producing) nations, particularly Nigeria while the recent crash in oil price has been argued to be responsible for the stagnation of Nigeria's economy which subsequently metamorphosed into recession. An increase or decrease in petroleum prices tends to have a contractionary or expansionary impact on world demand and growth in the short term.

Therefore, as the price of oil goes up, Naira tends to appreciate against other major currencies in sub-Sahara Africa and the world at large. This is due to the fact that Nigeria is a net oil exporter; when oil prices are high, Nigeria tends to reap greater revenues from its oil exports, strengthening the domestic currency (e.g., Naira) in the foreign exchange market.

Over time, the impact of rising or decreasing oil prices on economic activities depends also on policy responses and supply side effects (IMF, 2000). Thus, it has been argued that periods of increase in price of crude oil result to huge inflow of oil revenue in Nigeria which led to expansion in the level of government spending while the periods of decrease in oil price deplete oil revenue with its attendant consequence on budget deficits. However, Nigeria relies heavily on revenue from crude export with special interest in massive importation of refined petroleum and other related products (Aliyu, 2009).

Generally, a rise in the price of crude oil increases real national income through higher export earnings. Although part of this earnings may be offset by losses from lower demand for exports. Moreover, in net oil-importing countries, higher oil prices lead to increase in costs and inflation together with increase in input costs, causing a fall in non-oil demand with a corresponding fall in level of investment (Wakeford, 2006). Consequently, this results to a fall in tax revenues and increase in budget deficit due to rigidities in government expenditure, which in turn drives interest rates up because of resistance to real declines in wages. In addition, increase in oil price could also lead to upward pressure on nominal wage levels and wage pressures in conjunction with reduced demand, resulting to increase unemployment in the short term.

Therefore, as this effect becomes more severe, the more sudden and pronounced the prices increase with a magnified impact on consumer and business confidence (Majidi, 2006). Nonetheless, the Nigeria crude oil output has been severely affected by increasing theft, persistent insurgent attack such as the Niger-Delta militants worsened by a continuous decline in crude oil price at the world market. This continuous decline may cause a fall in foreign exchange earnings of the country especially in the case of mono-product economy and consequently resulting to a fall in the capacity of the Central Bank of Nigeria (CBN) to fund foreign exchange market.

Consequently, increased foreign exchange demand in the face of unstable foreign exchange supply causes exchange rate volatility. Be that as it may, the oscillation in oil price can benefit or hurt an economy (Oriakhi & Osaze, 2013). The higher the oscillation, the more volatile the output of oil rich countries and government revenue becomes. Inversely, the current fall in oil price has affected the index and continuous depreciation of the local currency (Oluwatomisin,Ogundipe, Ojeaga & Ogundipe, 2014).

To this point, many analysts tag the current macroeconomic instability in Nigeria to fall in crude oil revenue owing to the fall in oil prices. Also, Nigeria's reliance on oil production for income generation has serious implications for managing its economic policies. Consequently, the short fall on oil revenue occasioned by oscillation in international oil prices often led

to deficit in the country's budget. These deficits normally have been managed by external or internal borrowings as well as through downward adjustment in budgetary allocation.

The short fall in oil receipt owing to oscillation of international oil price has negative effect on the performance of the economy which is best explained by dutch disease. This syndrome explains the possibility of decline in the productivity of manufacturing sector regardless of any increase in the exploitation of natural resources. This affects the development of many emerging economies due to over dependence on oil revenue. Thus, making fiscal planning uneasy while the quality of public spending will be lessen, which in most cases causes financial disaster.

Considering the green alternative policy adopted by federal government of Nigeria to diversify the economy with emphasis on agriculture, mining and manufacturing and as well, the world preached inclusive growth, there is need to protect the economy from exchange rate dynamics and oil price oscillation since it is now a well- established fact that dependency on oil revenue alone, makes the Nigerian economy vulnerable to macroeconomic variables such as inflation rate, interest rate, per capita income among others which necessitates this study.

The rest of the study is organized in the following ways: Section two dwells on the review of related literature, section three presents the research methodology and data source, while section four contains empirical results and discussion and finally, section five consists of summary and recommendations.

Literature Review

Oil price volatility has received significant attention in the past and the present time due to the distinguished role it plays in economic performance (Ogundipe et al., 2014). The relation between cause and effect of the enormous increase in oil price and its impact on economic development through its influence on some macroeconomic variables have been of great concern to many researchers, economists, analysts and as well, the general public since the ugly experience from two major international oil price shocks in the 70s (Sill, 2009).

Many studies have argued that oil price has a significant influence on exchange rate, maintaining that oil price may be sufficient to explain all the long-run movements in exchange rate (Al-Ezzee, 2011). Like other low income and emerging economies, Nigeria adopted two major exchange rate regimes for the sole aim of attaining internal and external balance; and to maintain stable exchange rate in the economy (Umar & Soliu, 2009). Moreso, it has been stipulated that unstable REXR arising from volatile oil prices are detrimental to capital formation, non-oil sector performance and per-capita income of the households and their saving (Serven & Solimano, 1993 & Bagella et al., 2006). In addition, in a study by Trung and Vinh (2011) on the impact of oil shock, they pointed out two reasons why macroeconomic performance indicators may be affected by oil shocks.

First, oil increase could deplete aggregate demand given that income is reallocated between net oil import and export countries. Also, increase in oil price alters economic performance because, in low income countries like Nigeria, energy consumption takes the largest chunk of household income, and the amount of crude oil purchased by firms are reduced, resulting in underutilization of some factors of production like labor and capital (Ogundipe et al., 2014).

Second, since crude oil is considered to be the basic input into production process, a rise in oil price causes a decline in the supply of oil owing to a rise in the cost of crude oil production (i.e., supply side effect) which in turn leads to degeneration of possible output and slowdown economic performance.. The elimination of oil price volatility could enhance the efficiency of international arbitrage, productivity and welfare.

Mundell (1961) opines that monetary and exchange rate policies are the chief source of uncertainty and volatility in small open economies and economic growth is enhanced when oil price fluctuations are smoothed. Schnabl (2007) argues that even large and comparatively closed economies are responsive to greater oil price swings particularly in the case of oil price appreciation.

The transmission mechanisms, according to Jin (2008) through which oil prices affect real economic activity include both supply and demand channels. The supply side effect is related to the fact that crude oil is a basic input into production, and an increase in oil price leads to a rise in production costs which induces firms' lower output. The demand side effect is derived from the fact that oil price changes affect both consumption and investment decisions.

Consumption is adversely affected because increase in oil price affects disposable income and the domestic price of tradable goods. Investment is adversely affected because increase in oil price also affects the prices of firms' inputs and thereby increasing their costs. In the view of Aliyu (2009), academics, analysts and policy makers around the globe have raised concerns over the effect of asymmetric shocks on economic performance owing to oil price variability.

According to Amano and Norden (1998), oil fluctuations has been a major issue in most of the third world nations whose sources of revenue is largely dependent on crude oil, and this has had a significant impact on the economic activities of these countries. However, they argued that the severity and the effects of oil price shocks may differ from one country to the other. They also reiterate that the effect on oil exporting countries may be different from the effect on oil importing countries, pointing out that high volatility of oil prices tend to benefit oil exporting countries more but poses problems for oil importing countries – that is, when the international oil prices have a consistent upward swing.

This idea was supported by the postulate of Plante (2008), who believes that the immediate effect of positive oil price shocks is the increase in the cost of products for oil importing countries, which is likely to reduce output and the

magnitude of this depends on the demand curve for oil. Higher oil prices lower disposable income which leads to a decrease in consumption. Once the increase in oil price is believed to be permanent, private investments will decrease, but perceiving the shocks as transitory could lead to less use of oil in production, resulting to a decline in the productivity of labor and capital as well as potential output. This is likely to have a greater influence on the economy than a decrease in oil price (Patti & Ratti, 2007).

In a study of 33 oil exporting countries carried out by Mordi and Adebiyi, (2010). Their findings show that countries with high bureaucratic quality with strong and impartial legal system are affected less by oil price volatility. Further inquiry also shows that the asymmetric effect of oil price changes on economic activities is different for both oil price increase and oil price decrease. However, argument that oil price serves as a major determinant of economic growth mystifies the results for oil exporting countries (Rickne, 2009). In addition, there have been counter arguments on oil price and economic growth relationship across the globe, however, there is no consensus on the link

Theoretical Review

This study adopts the resource curse theory which is discussed below

Resource Curse Theory

Mbendi (2000) points at the resource curse theory as presupposing that countries with abundant natural resources may fail to grow in other sectors and ultimately resulting to

financial problems. Pigou (1920) mentioned that the theory also assumes that such a country will also fail to grow critical infrastructures and other industries; rather they emphasize on a handful of industries which cripples the economy by encouraging very isolated investments and development; while ignoring the need to develop a more diversified economy. Auty (1993) adds that the result of such attitude is that the country is also forced to a large degree to depend on other nations for a wide variety of goods and services; and may in fact end up with a net loss at the end of the year. Auty (1998) was the first author to use the term resource curse to describe how countries rich in natural resources were unable to use their wealth to boost their economies; these countries had lower economic growth than countries without abundant natural resources.

Some studies including the ones conducted by Nwadighoha (2007), Nwezeaku (2005) and Oremade (2006) have investigated the relationship between abundant natural resources and poor economic growth. He stresses that traditionally, free access to a finite resource eventually dooms the resource through over exploitation. Natural resources can and often do provoke conflicts within the society as diverse factions fight for their share. This tends to erode government's ability to function effectively (Gylfason, 2001; Clemente et al., 2002; Appah and Oyandonghan, 2011; Ola, 2001).

Empirical Review

Olomola (2006) studies the impact of oil price shocks on aggregate economic activity in Nigeria using quarterly data for the period between 1970 to 2003. The empirical study shows that oil price shocks do not affect output and inflation in Nigeria but have a significant influence on exchange rate.

Aliyu (2009) empirically examines the effects of oil price shocks on the real macro-economic activity in Nigeria using Granger causality tests and multivariate VAR analysis to carry out both linear and non-linear specifications. The study finds evidence of both linear and non-linear impact of oil price shocks on real GDP. In particular, asymmetric oil price increases in the non-linear model was found to have positive impact on real GDP growth in a larger magnitude than the asymmetric oil price decrease and adversely affects real GDP.

The author opines that linear price change and all the other oil price transformations were significant for the system as a whole. However, the results of the study show that the interaction between oil prices and macroeconomic variables in Nigeria is generally significant with the causality going in at least one direction across all the oil price specifications.

Englama, Duke, Ogunleye and Isma (2010) examined the relationship between oil prices and exchange rate volatility in Nigeria using monthly data from 1999 to 2009. Co integration technique and vector error correlation model (VECM) for long run and short run analyses respectively were adopted. The results showed that 1.0% permanent increase in oil price at international level increases exchange rate volatility by 0.54% in long run and by 0.25% in the short run. Therefore, they concluded that since Nigeria is an oil dependent country the demand for foreign exchange should be closely monitored and exchange rate should move in tandem with volatility in oil prices.

Oriakhi and Osaze (2010) examined the relation between cause and effect of oil price volatility and economic growth in Nigeria using VAR estimation techniques. They infer that changes in oil price determine the level of government expenditure. This result seems to reflect the situation in Nigeria, considering the current and the destabilizing fall in oil prices and the resultant effects of government spending.

Olanipekuo (2010) examines the impact of oil price volatility on the economic activities of firms in Nigeria focusing on the effect of oil price volatility on output, export and investment. The study employs more disaggregated firm-level quarterly data from 1990 to 2012 employing the IMPesaran-Shin panel unit root test to measure the volatility of oil price,

and the generalized conditional heteroskedasticity (GARCH) reveals that oil price volatility significantly influences output, export and investment of firms in Nigeria. The outcome of this study suggests that emphasis should be placed on certain mechanism to reduce oil price volatility such as expenditure switching and export diversification policies.

Mordi and Adabiyi (2010) examine the asymmetric impact of oil shocks on output and price using monthly data for the period between 1999–2008.With the help of structural VAR model, the empirical results show that the impact of oil price shocks on output and prices is asymmetric in nature. Comparing, the weight of the influence, they observed that the impact of oil price decrease is significant but greater than the impact of oil price increase. From this their findings, it can be argued that policies aimed at enhancing the economy must focus on price stability because changes in oil prices play a significant role.

Trung and Vinh (2011) study the impact of oil prices, real exchange rate and inflation on economic activities in Vietnam using VAR model and co integration techniques. Monthly data for the period between1995–2009 were used. The result suggests that both oil prices and real effective exchange rate have a strong significant impact on economic activity. The study concludes that Vietnamese economic activity is influenced more by changes in the value of Vietnamese currency than the fluctuations of oil prices.

Suleman (2012), examines oil price-exchange rate nexus for Nigeria's economy using periodic data from 2007–2011. GARCH and exponential (GARCH) models were utilized to examine the impact of price changes on the nominal exchange rate. The outcome of the study indicates that a rise in oil price leads to deprecation of Nigeria naira vis- à-vis the US dollar over the study period.

Oluwatoyin and Adegboye (2014) study on the effect of oil price shock and exchange rate instability on economic growth shows that real economic growth is sensitive to changes in oil prices and exchange rate volatility in long run. The result of granger causality tests provides evidence of unidirectional causality from oil prices to real GDP. The finding shows that oil price shock appreciation in level exerts positive impact on real economic growth in Nigeria.

Obi et al. (2016) examine the effects of Oil price shock and macroeconomic variables performance in Nigeria and interest rate differential is shown to be statistically and economically significant in explaining the exchange rate volatility.

Methodology

Model Specification

In examining the impact of oil price volatility on economic growth in Nigeria, the choice of variables was informed by the literature reviewed in the previous chapter. This study modifies the model used by Kiani(2000). Kiani examines the relationship between oil price shocks and economic growth using the following model:

$y = (z_1, z_2, z_3, z_4)$

To achieve the objective of this study, we use linear regression model equation.The output of the economy is proxied by RGDP as the dependent variable and OPV, EXCR, INFL, INTR, as independent variables. We express the linear model as below.

$Y= f(Z_1, Z_2, Z_3, ,Z_n)$……(3.1)

RGDP=f(OPV, EXCR, INFL, INTR, PCI)----------(3.2)

The mathematical model is expressed as

$GDP=Z_o + Z_1OPV+ Z_2EXC+ Z_3INFL+ Z_4INTR + Z_5PCI$---------(3.3)

$n = Z_1$—Z_5 are the variables chosen from 1986—2019

So the econometric model is written as below

GDP=

$GDP = f(Z_o + Z_1OPV + Z_2EXC + Z_3INFL + Z_4INTR + Z_5PCI + U_i)$

Where

INFL = Inflation rate

INTR = Interest rate

OPV = Oil price volatility

PCI =Per capita income

Ui =Stochastic disturbance (error term)

$Z_{1...}Z_5$=Regression coefficients

Zo =Intercept of the function (constant term)

The study employed e-view to run the regression equation.

Result and Discussion of findings

The result of the analysis are presented in this section as well as its' interpretation. Both tables and graphs are used to present the data analyzed in this study.

Descriptive Statistics

The descriptive result for the study is as presented in table I:

The descriptive result for the study is as presented in table I:

Table 1:

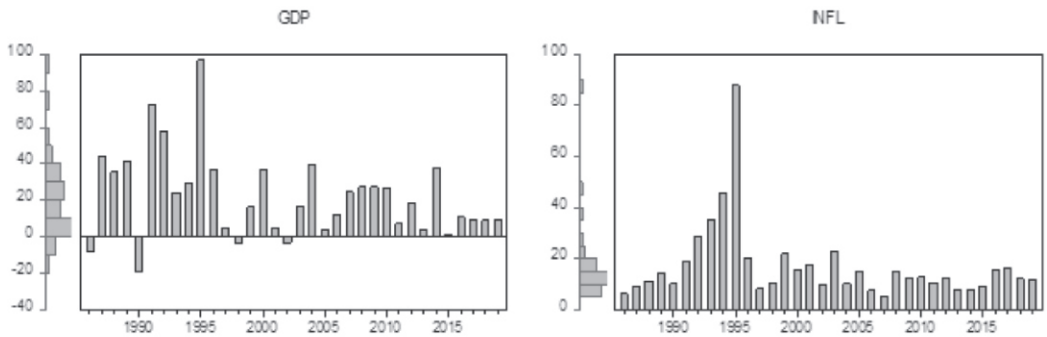
Descriptive Statistics

	GDP	*INFL*	*INTR*	*OPV*	*PCI*
Mean	22.11203	16.92860	12.28403	42.44750	2.628598
Median	17.45577	12.35927	10.59837	26.87691	2.514169
Maximum	96.95960	87.78993	28.02000	113.9000	4.474947
Minimum	-18.96898	5.426757	5.460000	15.51344	1.691342
Std. Dev.	23.52864	15.03945	5.253944	30.58091	0.571763
Skewness	1.076378	3.419446	1.178044	1.255726	1.171090
Kurtosis	4.634906	15.91849	3.975425	3.238662	4.823084
Jarque-Bera	10.35198	302.6818	9.212027	9.016166	12.48004
Probability	0.005651	0.000000	0.009992	0.011020	0.001950
Sum	751.8092	575.5724	417.6571	1443.215	89.37233
Sum Sq. Dev.	18268.70	7464.111	910.9297	30861.35	10.78812
Observations	34	34	34	34	34

Source: e-view output, 2021

Data in table 1 indicates that GDP has a mean of 22.11203 and standard deviation of 23.62864, as against 16.92860 15.03945 for INFL, 12.28403 and 5.263944 for INTR. Also, the mean and standard deviation for OPV are 42.44750 and 30.58091 as against 2.268598 and 0.571763 for PCI for the period under study. The Jarque - Bera statistic ranges between 302.6818 and 9.016166. This indicates the reason for the application of double log mode in the estimation of the model. All the results indicate that the mean is greater than the standard deviation in each of the variables. This suggests that the variables meet the basic requirement of normal distribution.

Figure 1:Bar charts of fluctuations variables between 1990-2018



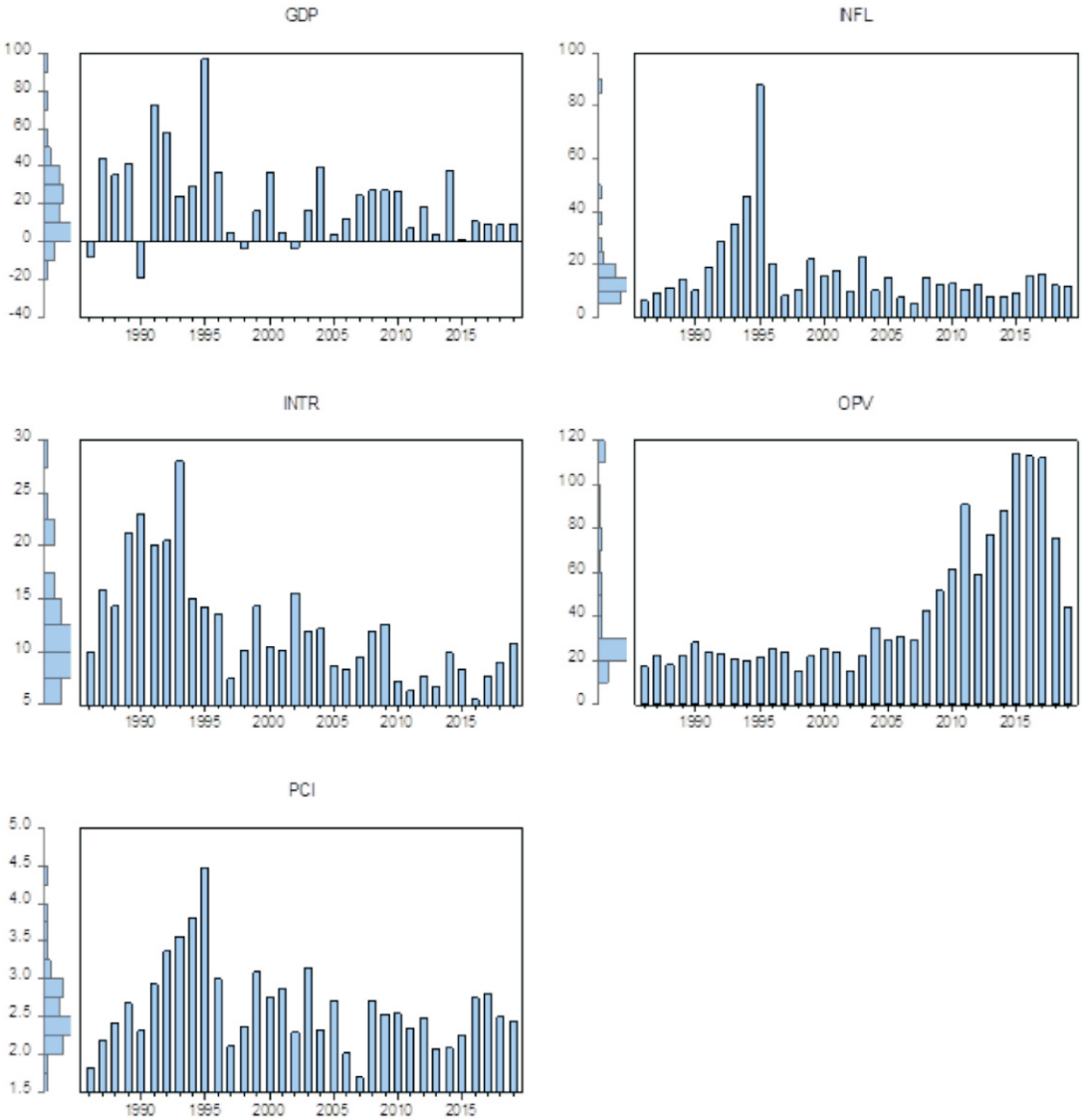
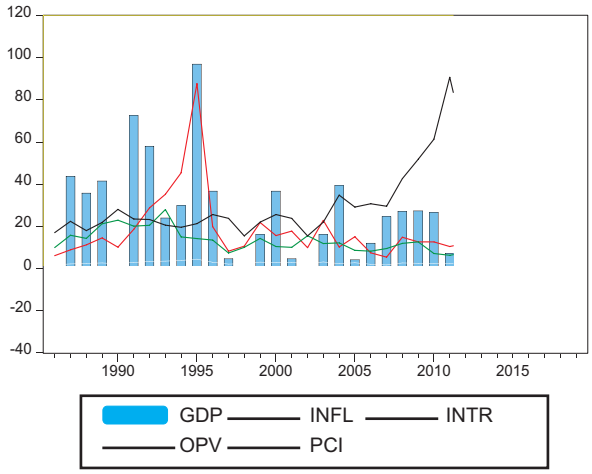


Figure 2:Trend of fluctuations in variables between 1990-2018



Source: e-view output, 2021

Figure 1 and 2 indicates that gross domestic product, oil price, exchange rate and interest rate for the period between1990 to 2018 were fluctuating. Oil price volatility for the period under review has been increasing in reverse proportion to GDP.

Table 2 :
Regression Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP	0.022359	0.405631	0.055122	0.9564
INFL	-0.553997	1.270678	-0.435986	0.6662
INTR	-3.630457	1.874668	-1.936587	0.0629
OPV	1.177764	0.292685	4.023999	0.0004
PCI	8.208816	32.90556	0.249466	0.8048
C	60.99051	65.32086	0.933707	0.3584

R-squared	0.622878	Mean dependent var	79.08069
Adjusted R-squared	0.555535	S.D. dependent var	63.45492
S.E. of regression	42.30427	Akaike info criterion	10.48644
Sum squared resid	50110.25	Schwarz criterion	10.75580
Log likelihood	-172.2695	Hannan-Quinn criter.	10.57830
F-statistic	9.249303	Durbin-Watson stat	0.812402
Prob(F-statistic)	0.000028		

Source: e-view output, 2021

The result in Table 2 shows that R^2 value is 0.622878, which means that 62.29% of the variation in GDP is explained in the model leaving only less than 37.71% to the error term.The implication of this result is that the line of best fit shows a strong correlation between GDP and the variables. This shows that this model aptly explains the relationship between the variables under consideration. The Durbin- Watson statistics of 0.812402 indicates the presence of autocorrelation in our specification The result of F-stat is 9.249303 and the probability of F-stat is 0.000028 implying that the overall regression is statistically significant. This also means that all the independent variables taken together will explain significantly the variations in crude oil price.

The result of the regression shown in table 2 further shows that the coefficient of oil price volatility is (1.177764) with probability value of 0.0004, which is lower than 0.05. The t statistic value of 4.023999 is greater than 2. This means that OPV has a positive and significant effect on GDP. The p-value < 0.05 (i.e. 0.0004 < 0.05) thereby confirming the significant effect of oil price volatility on gross domestic product. This result however, is not in consonance with the outcome of the study carried out by Apere and Ijeoma(2013) who found no significant relationship between oil price fluctuations and GDP in Nigeria which tends to confirm that Nigeria's economy has a case of "Dutch disease".

5. Conclusion and Recommendations

This study evaluates the impact of oil price volatility on gross domestic product in Nigeria. The findings from the study suggests that oil price volatility has significant impact on the gross domestic product (GDP) because of the country's over reliance on oil as the major source of national income, whose major budgetary allocations are dependent on it.Hence, anything that cause volatility in prices will spiral to affect other sectors and affect the verall inclusive growth that the nation desires.

Therefore, the study suggests that to achieve a robust increase in its GDP, there is need for the country to diversify her sources of economic income to other non-oil sectors like agriculture, mining, tourism and others to create more jobs for the growing population which will increase the per capita income and curb inflation. These will in addition to value added tax(VAT), company income tax, etc, reduce the severe impact of oil price volatility on its GDP and to further increase the GDP of the country that the economy will witness more inclusive economic growth.

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Adoption of Digital Solutions in Managing Security Challenges of the 21st Century in Nigeria: Options for Effective Responses

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Abstract: *Security challenges permeate various segments of the Nigerian societal space which manifest in the form of kidnapping, human trafficking, broad day robbery, the proliferation of arms, smuggling of harmful substances across borderline, and car theft among many others. Despite the fact that Governments at all levels in their relentless effort have been striving to curb the menace of insecurity using several manual methods, the rate of insecurity keeps increasing at a geometric rate. Hence, the need for the adoption of electronic governance apparatus such as Automated Fingerprint Information System (AFIS), Closed Circuit Television (CCTV) etc., as new paradigm shifts to nib the preponderance of security challenges in the bud. In spite of the adoption of digital technologies to respond to the country's ever-changing and unpredictable security situations in the country, the conditions of the Nigerian security worsen on a daily basis. Consequently, the study examines the existing digital solutions in use in Nigeria with the goal of identifying challenges impeding their effectiveness and then proposes options for effective responses to the country's frightening security challenges. Based on documentary evidence, the paper found that existing digital solutions in use are beclouded with several challenges such as inadequate ICT gadgets, epileptic power supply, sabotage, corruption, lack of political will on the part of the government and a host of others. As a result, the study concludes that, in the digital age, the use of e-governance must be embraced in order to combat insecurity, because manual methods no longer hold sway. In view of the conclusion, the paper recommends that, Nigerians should improve on the existing technologies in use to tackle insecurity, while also making significant strides to introduce cutting-edge digital technologies to address the country's raging security issues.*

Keywords: *Security, e-governance, Information, Communication, Technology*

Introduction

The rate of insecurity in Nigeria is spinning out of control (Agbakwuru,2021, United Nations [UN], 2019). The preceding statement is a truism as negative reports are published in Nigeria about citizens being kidnapped or abducted for ransom, terrorism, armed banditry, militancy, and resource conflicts. Nigeria's security challenges since the beginning of this decade, apart from the aforementioned, manifest in different dangerous other ways like armed robbery, ritual killings, one million boys, cultism and a host of others (Aliyu, 2021). With each form of insecurity, human lives are lost or irreparably scarred to the extent that trust in democracy and the country's ethical values have been eroded.

The quest for the creation of a peaceful atmosphere for social-economic growth and a hitch-free environment has been on the front burner of the Nigerian government. Attaining such a peaceful atmosphere will no doubt create room for political stability and solidarity among the diverse ethnic groups that made up Nigeria. This is beneficial if achieved because it will attract foreign investors, guarantee equitable distribution of national wealth, and a host of others for rapid development. However, realizing these major feats requires the reduction of security threats (actual and potential) which are instrumentals for heating the polity and capable of generating tension and fear in the country.

Achieving the aforementioned national objectives demands that security practice should be predicated on the global best principles. This could come in the form of the application of information communication technology (CCTV, online vehicle registration, GPS tracking, and drones to extend surveillance in rural and forest areas) in fighting security challenges, which has been realized as the best option in taming the security reality of the 21st century (Dahiru, 2020). The renaissance and long-addicted tradition of physically and blindly attempting to tackle insecurity has passed. This implies that government efforts to combat the problem through various menial methods and approaches, such as the use of police, military, vigilantes, and local hunters, appear to be futile (Oludare, et al, 2015). Without a doubt, the digital revolution is the world's fastest-growing knowledge base for long-term development and national survival. One of the most important characteristics of the digital age, according to Elaigwu (2005), is the use of innovative communications technologies to promote digital citizenship. Software infrastructure capacity that determines national security, peace, economic expansion, wealth generation, and business continuity at all levels should be adopted (Adams, 2016). Nigeria's security architecture, which includes the Army forces, Customs, police Police and Paramilitary outfits, needed to be immersed in ICT gadgets as part of a new paradigm shift in addressing the country's security challenges. Nigeria has been curious to apply information and communication technology (ICT) to security issues. The curiosity has been informed by the need to overcome the weakness of the traditional approaches to managing insecurity in the country. Thus, the clarion call to adopt

ICT. Despite her efforts in applying e-governance (application of ICT) to tackle insecurity issues, there are still many outstanding problems bordering on the security situations in Nigeria. This means that Bandits, Boko Haram, kidnappers, and armed robbers are technically advancing daily by conducting lethal raids. They are constantly expanding into new areas and recruiting innocent youth into their groups by taking advantage of Nigeria's poverty situation. Impliedly, much of Nigeria's deteriorating security targets remain unrealized, despite the government's tireless efforts to counter the threat through e-governance. Nigeria's crime and security institutions are more or less too bureaucratic and paper-based, which has stifled information sharing. in other words, security institutions are too conventional in their approach to security management. As a result, it is critical to acknowledge that traditional problem-solving approaches must be expanded to include new and more sophiscated non-traditional measures (Collins, 2018). Furthermore, as evident by its low ICT penetration, the country is not leveraging the latest technologies for productivity improvements in the security sector (The Nigeria-South Africa Chamber of Commerce webinar [NSACC], 2021). *Consequently, the study examines the existing digital solutions in use in Nigeria with the goal of identifying challenges impeding their effectiveness and then proposes options for effective responses to the country's frightening security challenges.* Towards achieving the objective of this paper, concepts of security and e-governance were reviewed. A situational analysis of security challenges in Nigeria was provided in the second section. Section three unravels the applicability of e-governance in managing security challenges in Nigeria, and the fourth section d identifies and discusses factors impeding e-governance in Nigeria and finally, the paper draws a conclusion and proffers plausible options for effective responses.\

Conceptual Review

Security

Security is a crucial concept in public administration because it is linked to the safety and survival of states and their citizens. However, defining security is a difficult task because the term has had many different meanings to different people in different places and times throughout human history. From their perspective, Lawrence, and Nye, (1975), define it as the absence of acute threats to the minimum acceptable levels of fundamental values that a people regard as necessary for survival. Buzan (2009) defines security as the ability of a state or society to maintain its independent identity and functional integrity in the face of hostile change. From the foregoing, it can be deduced that security encompasses the feeling of being safe from harm, fear, anxiety, oppression, danger, and poverty, as well as the defence, protection, and preservation of core values and threats to those values. Consequently, it was posited that security is:

> *The value associated with individuals, groups, or nation-states' physical safety, as well as the physical safety of their most prized values." It refers to the absence of threats, anxiety, or danger. The absence of threat, anxiety or danger can be used to measure security objectively. However, and perhaps more importantly, security has a subjective sense, which can be measured by the absence of fear that threats, anxiety, or danger will manifest. In other words, it is a value associated with physical safety and other highly valued values (Nnoli, 2006).*

Similarly, Ogaba (2010) from the perspective of national security, defines security as a country's ability to defend and develop itself, promote its cherished values and legitimate interests, and improve the well-being of its citizens in the face of danger or threats. For a nation like Nigeria, security can be viewed as the absence of or freedom from tendencies that threaten internal cohesion, a country's corporate existence, and the country's ability to maintain vital institutions for the promotion of the country's core values, socio-political and economic goals, as well as legitimate citizen aspirations. Impliedly, A nation's security refers to its state of peace, stability, order, and progress.

Security, according to Paleri (2008), can take many forms. According to him, these include economic security, energy security, physical security, environmental security, food security, border security, cyber security, military security, resource security, household security, demographic security, health security, ethnic security and border security. Other areas so important according to Paleri (2008) for consideration include information security, geostrategic security, personal security, and national security. The point here is that security is a delicate issue that means different things to different scholars, analysts, policymakers, and organizations all over the world. Thus, Al-Marshat cited in Igbogo (2015), suggested that national security is more than territorial defence and should focus on the physical, social, and psychological equality of life of a society and its members both in the domestic setting and within the large regional and global system. This is a truism because the issue of national security raises a slew of concerns as it practically touches on every aspect of human life. Notwithstanding the diverse opinions about the concept of security, this paper views security (National security) as a multifaceted process aimed at safeguarding national values which include national survival, self-preservation and self-perpetuation (Igbogo, 2015).

Electronic-Governance

The application of information and communication technology (ICT) to the performance of government functions to ensure "Simple, Moral, Accountable, Responsive, and Transparent (SMART) governance" is known as "electronic governance" (United Nations [UN], 2005). According to Mohammed and Drew (2013), it is the process by which governments use cutting-edge information and communication technologies, particularly web-based internet applications, to provide citizens and businesses with more convenient access to government information and services,

improve service quality, and provide citizens and businesses with more opportunities to participate in democratic institutions and processes. Similarly, Chima and Folorunsho (2020) define electronic governance as the use of electronic media in governance to facilitate data storage, accessibility, transparency and interaction between and among levels, organs of governments and the public which include business organizations and the citizens. Echoing the vitality of e-governance, Duru & Anigbata (2015) identify the delivery of public service to its citizenry efficiently and effectively, enabling stakeholders to share information and ideas, ensuring accountability and transparency, cost-effectiveness, better tools in managing security challenges, etc as the importance of e-governance. Despite its importance, Duru & Anigbata (2015) identify e-governance challenges such as software hacking, hyper surveillance, a false sense of transparency and accountability, accessibility, and a lack of databases with which to plan. Notwithstanding the challenges, it is crystal clear that e-governance is anchored on modern technology for transmitting information electronically from one point to another for timely delivery of service. In a similar vein, Babalola (2013) stated that the goal of e-governance is to improve access to quality education, eradicate poverty, create jobs and investment opportunities, and strengthen the nation's ability to compete globally through the use of ICT such as VSAT and fibre optic networks. Realizing the importance of e-governance to national development, the central government of Nigeria approved the National Policy for Information Technologies in 2001, having realized the importance of e-governance as a vehicle for national development (Ugwueze, Onuoha & Ejikeme, 2016). Given the attached importance to e-governance across the globe as the most dynamic strategy to combat insecurity, it becomes pertinent to conduct this research to determine the extent to which it has been applied to tackle the menace of insecurity in Nigeria.

Research Method

Journal articles, government publications, official documents and books, which constitute secondary sources were utilized. The researcher's judgment to use this method is based on the possibility to gain access to information that would be hard to retrieve via direct personal contact. Furthermore, because raw data is frequently non-reactive, using data from archival sources is critical. Security research is also frequently shrouded in secrecy. As a result, getting firsthand information from security personnel or other relevant organizations within the security administration can be challenging, as they are often skeptical and economical with facts that could ensure objective scientific findings if one relies on their information. Meanwhile, the documentary method offers a variety of options not found in other approaches.

Security challenges in Nigeria: A Situational Analysis

Terrorism, wanton criminal acts of kidnapping and hostage-taking, bomb blasts, and various crises in various parts of Nigeria have recently been viewed as signs of insecurity that, if not addressed and arrested, can lead to anarchy. The most concerning criminal acts and the government's current security challenges are terrorism, banditry, kidnapping, and headsmen. Over 50 attacks on the police, military, and individuals were carried out between January and August 2011, including several assassinations by Boko Haram (Walker, 2012). In a similar vein, Maj. Bashir Jajira, the Spokesperson for the Nigeria Defence Academy, was quoted in Shiklam (2021) reporting that Nigeria's security architecture has been compromised. He made this statement at the background of the incidence that took place in the Nigerian Defence Academy (NDA), Kaduna. He lamented that the apparatus was compromised making it possible for unknown gunmen to gain access to the residential area within the Academy in Afaka, Kaduna state. During the unfortunate incidence, two personnel lost their lives and one was abducted (Shiklam, 2021). This attack on one of the major security sectors of the country exposes the weakness in the Nigerian security architecture. People are also abducted from their villages and others are picked up while travelling across state. This shows that in their current state, Nigerian security forces do not appear to be capable of defeating terrorists and bandits. Between 2016 and 2020, schools in northwestern Nigeria reopened after a months-long closure by state governments due to an increase in kidnappings (Tayo and Obisesan, 2021). The number of victims increased tenfold, with a total of 3,500 reported in 2020 across the country (Tayo and Obisesan, 2021). In Kaduna state to be precise, students were asked to resume school in mufti given the preponderance of kidnappers' operational frequency in the state (Vanguard Newspaper, 2021). According to a report by a Nigerian consulting firm, SB Morgen, Nigerians paid kidnappers $18.34 million in ransom between June 2011 and March 2020 (Akinwale, 2020). Between January 2016 and March 2020, approximately 60% of this was paid out, indicating a recent increase.

In recent years, nomadic herders from northern Nigeria have been fighting sedentary agrarian communities in the central and southern zones, putting the country's security and stability in jeopardy. These clashes are becoming as destructive as the Boko Haram insurgency in Nigeria's northeast, which claimed approximately 2,500 lives in 2016 (International Crisis Group, 2017). Farmers could no longer go to farm because of the fear of being maimed by headsmen and this has a multiplier effect on food hikes in the market as a result of low production. Nonetheless, the response to the crisis has been inadequate at both the federal and state levels. According to a small arms survey conducted in 2009, Nigeria has between one and three million illegal small arms and light weapons (GIABA, 2013). Furthermore, the United Nations Regional Center for Peace and Disarmament in Africa (UNREC) and the Presidential Committee on Small Arms and Light Weapons (PRESCOM) revealed at the National Consultation on Physical Security and Stockpile Management (PSSM) in Abuja that Nigeria houses 350 million, or 70%, of West Africa's 500 million illegal arms (Vanguard, 2016). Similarly, it was

reported that in 2013, Nigeria was considered a hotspot for all types of trans-border crimes, including women and child trafficking, internet fraud (419), smuggling and private car theft (1.2%), and robbery (1.1%) (Vanguard, 2016). The evidence overwhelmingly suggests that cross-border crime is on the rise in Nigeria, and the various traditional security apparatuses put in place to combat various types of crime have not yielded the desired effect. The uninviting situations described above piqued the researchers' interest in exploring the challenges associated with the existing digital governance currently being used in addressing the country's security challenges and proffers options for effectives responses.

Application of E-governance in Managing Security Challenges in Nigeria

Nigeria has taken a giant stride in implementing e-governance in the management of insecurity by registering SIM cards, installing in the space satellite, proposed to install CCTV cameras on all the highways in the country, Global Positioning System (GPS) mapping and advancing teledensity (Ikechuchu, Jonah and Nwangwu, 2016, Suleiman, Umar & Bari, 2018). But to no avail, the security challenges persist. In the quest to replace the analogue with digital tools or traditional ways of fighting insecurity, the following are the e-governance apparatus applied to manage security challenges in Nigeria, though not without challenges.

Closed Circuit Television (CCTV): Mohammed-Nasiru and Kasimu (2012) observed that, in the light of recent technological developments, CCTV camera has become a vital tool for gathering information in the management of insecurity in Nigeria. For example; CCTV was used to uncover the identities of criminal elements behind the Offa bank robbery in 2018 after footage review (Azeez, 2021). The identification and arrest of the suspects were aided by photographs obtained from CCTV and given to police authorities. Unfortunately, the installation of CCTV CAMERAS awarded by the Umaru Yar'Adua administration in 2008 to ZTE Corporation, a Chinese company, under the National Public Security Communications System proved to be a huge waste of national resources, with no one held accountable or brought to book to date. The goal of the project was to install 2,000 CCTV cameras in Lagos and Abuja. Sadly, only 40 cameras out of the 1,000 installed in Abuja are working (The Punch Newspaper, 2021). This act reduced drastically the coverage of CCTV.

Global Positioning System (GPS): Considering contemporary developments in e-governance, Mohammed-Nasiru and Kasimu (2012) noted that, surveillance serves as a valuable and essential tool for information gathering in combating criminal activities and security management in Nigeria and other parts of the world. GPS is also used as part of e-governance in Nigeria to mitigate and recover stolen vehicles. Reports by the National Bureau of Statistics (NBS) cited in Sule (2016), show that between 2013 and 2015, 2,544 vehicles were stolen, with 1,377 recovered using GPS. This indicates a national recovery rate of 54% when data were inputted into the tracking unit or sent to a chosen databank for evaluation.

c. Pre-Arrival Assessment Report (PAAR): PAAR is an ICT tool developed by the Nigeria Customs Service (NCS) in collaboration with technical associates (Oyedeji, 2018). The appraisal report includes the highest-rated all-inclusive national risk management framework, which includes pre-arrival and cargo management and is implemented in stages. Computers, e-mail, the Internet, World Wide Web and an online database and the Automated System for Customs Data (ASYCUDA), are among the ICT devices used by NCS staff as well as other networking technologies for making money for the federal government, spotting counterfeit products and other stakeholders participating in the proper recording of goods imported, exports and excisable commodities for gathering anticipated income for the government (Oyedeji, 2018). The use of information and communication technology (ICT) is crucial in enriching the operations of NCS workers in their primary duties.

d. Detecting Devices (DD): This detects explosive material on an individual or in cars. Nigeria utilizes portable detecting devices in public places such as markets, schools, and places of worship, but there is a need for enhanced detecting gadgets that can be placed indoors, namely, in banks and at entrances to public buildings, as well as other important and high-security areas. A typical example of this was purchased by the National Agency for Food, Drug Administration, and Control (NAFDAC) called TRUSCAN (Nmodu, 2021). According to Adesanya (2021), Nigeria was the first country in the world to purchase the device, at $57,000 each. The device is capable of detecting fake drugs that are being circulated in the country. Nmodu (2021) reports that a large quantity of [fake] drugs already in circulation in Nigerian markets have been exposed. This is a huge step forward for Nigeria's food and health security. In addition to the above success story, it was reported that:

The use of this device has also resulted in job opportunities for Nigerians, with youths trained in marine surveillance supplementing field surveillance and operating at ports 24 hours a day. The invention of the Truscan Device highlights the fact that the majority of drugs are imported into Nigeria via seaports. Waterway surveillance units with the deployment of the Truscan Device for on-the-spot detection of counterfeit pharmaceuticals and interception of imported anti-malarials was established (PM NEWS, 2011).

h. Biometric Identification Technology: In Nigeria, biometric technology has been deployed by both government agencies and private organizations. The aim is to manage security by controlling access to services and utilities such as financial transactions, telecommunication, information management, examination body, etc. Efficient deployment of biometric technology can be used to check fraud, deter and track criminals. Biometric technology used in Nigeria for crime prevention includes, but is not limited to Subscriber Identification Module (SIM), Centralized Biometric Identification System for the Banking Industry and Integrated Payroll and Personnel Information System (IPPIS).

i. Subscriber Identification Module (SIM): A SIM card is the card given by mobile network operators like MTN, Globacom, Airtel, Etisalat, Visafone, etc, which enables the subscriber to receive a unique number and be able to gain access to the mobile network. However, attempts to trace SIM card users in crime events eventually led to the registration of all phone subscribers in the federation, which started on the 28th of March, 2011 and ended on the 30th of June, 2013 (Michael, et al (2014). In most cases, hidden crimes are committed using mobile phones, as a result of Subscribers' Identification Module (SIM) cards that were given to mobile network subscribers without the proper requirement for registration, to help the identification of subscribers. As these problems persist, there was an attempt by the Nigerian Communications Commission (NCC) to enforce subscribers' registration (Valentina and Richard, 2014). The effort turned out unsuccessful as desired because emphases were not on the documentation of telephone lines that are in use against the name and full identity of those who purchase them for use.

ii. Centralized Biometric Identification System for the Banking Industry: The Central Bank of Nigeria initiated the Bank Verification Number (BVN) initiative in response to increasing events of compromise on traditional security systems (password and PIN). This is coupled with the strong desire for improved banking system security with regard to access to sensitive or personal data (Esoimeme,2015). In recent times, biometric technologies have been used to dissect human personalities as a more reliable form of confirming true security practices. The Central Bank of Nigeria on February 14, 2014, in collaboration with all Nigerian banks and through the Banker Committee, introduced a centralized biometric identification system, called Bank Verification Number (BVN) for the banking system. The primary goal is to identify and verify all individuals with accounts in any Nigerian bank.

iii. Integrated Payroll and Personnel Information System (IPPIS): IPPIS is a software that stores information about government employees in an electronic format in order to ensure accurate and timely salary payment (Chima and Folorunsho, 2020). Through the sturdy implementation of the biometric-based IPPIS, the government was able to save over 119 billion naira from ghost workers (Office of Accountant General of the Federation [OAGF] cited in Nneka, 2020). This partial application of biometrics to the Federal Finance system led to the discovery that about 1 in every 3 Federal Government workers is a Ghost worker. It is anticipated that the system will eventually capture the 321 MDAs yet to be covered. This biometric system can checkmate fraud or corruption in salary payment and thereby free up resources for further growth and development (Johnson, 2013). Some of the peculiar challenges noted with the implementation of IPPIS are:

incompetence on the part of the IPPIS staff, manifested as inaccurate data computation when filling out IPPIS forms. Dates of appointment and birth are frequently entered into the database incorrectly. Another critical issue is interconnectivity issues with some MDAs. As a result, salaries in the public sector are being paid late (Chima and Folorunsho,2020:566).

Factors Inhibiting Application of E-governance in the Nigerian Security Sector

In the nutshell, Nigeria's public sector is yet to catch up with the developed world with the current trend of the application of electronic governance in managing security challenges. This is because various Analogue technologies are still used for a variety of government information, communication, business, and other activities. The development has impeded the efficacy, potency, and promptness of governance activities (Ndubuisi, 2000). Vital information that would have been made available to citizens through E-governance devices are hindered, culminating in what Obi (2008) refers to as a "total blackout in government activities."

Other hurdles to effective e-governance implementation in Nigeria, according to Obi (2008), include inadequate infrastructure, digital divide, dearth of political will on the part of the government, lack of qualified staff and training, lack of collaboration and partnership, and epileptic power supply and corruption. In Nigeria, for example, a lack of ICT skills among security personnel has been identified as a major impediment to using ICT to combat crime. In 2011, Nigeria ranked 122nd out of 155 countries in the International Telecommunication Union's (ITU) development index for ICT use and skills, with a 0.18 per cent growth rate (Ekwutosi, Effiong & Inyang, 2021). A separate study found that only 89 of 255 Nigerian Army Signal Corps personnel could use ICT tools without assistance (Ekwutosi, Effiong & Inyang, 2021).

Adeyemo (2011) reacted to the area of lack of ICT infrastructure when he asserted that the lack of most IT equipment has forced most public entities to use both manual and digital approaches in providing services. Similarly, with regards to power supply, Okwueze (2010) submits that most government agencies in Nigeria and other nations that are striving to implement effective e-governance rely on generators, which can often be insufficient to power the Information

Communication Technology facilities. The power supply in Nigeria today is insufficient to meet the demands of the GSM sector. To keep their operations running, the various GSM companies or operators must use generators to power their base stations, substations, and transmission stations (Anioke, 2011). The cost of fuel and maintenance is so high that it necessitates exorbitant fees for services rendered to individuals. SIM registration centres are also generator-powered substations. According to Business World cited in Oladipo, Abdu, & Obansa (2018), MTN, GLO, and AIRTEL spend at least 24.2 billion Naira on generator fueling and maintenance. Apart from the aforementioned, corrupt elements in government will oppose the use of e-governance, and do everything they can to prevent it from succeeding. To summarize, e-governance implementation in Nigeria's security sector is fraught with the aforementioned challenges, casting doubt on e-governance's ability to have a significant impact on the country's security. The next section concludes and proffers plausible recommendations.

Conclusion

The paper was able to demonstrate the extent to which e-governance aids in the fight against insecurity in Nigeria. Daily and regular security challenges that Nigeria faces according to this paper include, Boko Haram, terrorism, banditry, kidnapping, herdsmen, cattle rustlers, armed robbery, ritual killings, and the proliferation of illegal small arms and light weapons. The study discovered that Closed Circuit Television (CCTV), Global Positioning System (GPS), Pre-Arrival Assessment Report (PAAR), the Automated System for Customs Data (ASYCUDA), Automated Personal Data Bank (APDB), Internet/Social Networking Platform, Detecting Devices (DD), Biometric Identification Technology, Subscriber Identification Module (SIM), Centralized Biometric Identification System for the Banking Industry, and Integrated Payroll and Personnel Information System (IPPIS) have been used. Despite all efforts, however, little progress has been made. The study thus went further to investigate the challenges facing e-governance in curbing the preponderance of security challenges in Nigeria and found a lack of ICT infrastructure, digital divide, lack of political will on the part of the government, lack of qualified personnel and training, lack of partnership, collaboration, epileptic power supply and corruption as the factors that inhibit the use of e-governance in eradicating the security threats in Nigerian society. The study, therefore, concludes that the use of e-governance is a journey, and not a destination as far as managing security challenges is concerned in Nigeria, but should be embraced in this 21st century to fight against insecurity because of its success stories in other climes. Drawing from the above discussions, the paper presents the following options for effective responses.

Options for Effective Responses

a. Improved detective devices that can be placed indoors, such as in banks and at public building entrances and other critical and high-security areas, are needed. NAFDAC has belled the cat in Nigeria, hence, other organizations should follow suit.
b. Adequate ICT infrastructure, including hardware, software, networking components, operating systems (OS), and data storage, are required to deliver IT services and solutions to citizens. Internetworking is also required to enable appropriate information sharing and open new communication channels on security-related matters.
c. Inclusion of ICT courses in all Nigerian educational systems to ensure that the course is taught practically at all levels to reduce the digital divide among the citizen.
d. The government should demonstrate the political will to integrate our public service into the global web page. The government should muster the courage to store important and top-secret documents in a retrieval system that uses computers and other electronic devices with strong cyber security.
e. Personnel in the security architecture should be trained and re-trained on information and communication technology (ICT) for efficient and effective service delivery. Training is the most effective tool for ensuring the long-term viability of e-government in the Nigerian public sector.
f. Regional partnerships and international collaborations are required to guarantee global best practices in e-governance implementation. The government must form alliances and partnerships with developed countries that have reached a critical milestone stone in their security matters.
g. The application of advanced technologies, particularly remote sensing technology (RST) as suggested by (Akinyede, 2022) is very critical to tackling insecurity in Nigeria. The use of images/data from satellites, the Global Navigation Satellite System (GPS), unmanned aerial vehicles (UAVs) or drones, communication infrastructures, and Geographic Information System (GIS) will provide security agencies with huge advantages in countering bandits and other forms of insecurity.

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Corporate Governance Mechanisms and Financial Reporting Quality of Listed Non-financial Institutions in Nigeria: Moderating Effect of Institutional Ownership

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Abstract: *This study examines the moderating effect of institutional ownership on corporate governance mechanism and financial reporting quality of listed Non-financial firms in Nigeria for a period of eleven years (2010-2020). Published annual reports were used as secondary data from the sampled firms. The population consists of 113 non-financial firms listed on the Nigerian Stock Exchange as at 31st December 2020 and the sample size was made up of 61Non-financial firms having the required data. This study adopted multiple regression technique in analysing the data extracted. The study concluded that the moderating effect of institutional ownership was significant on the relationship between board independence and FRQ but insignificant on the relationship between board size and FRQ. The study recommends that the presence of independent directors on the board should be encouraged as they will enhance monitoring mechanism and reduce the principal–agent conflicts in the organization.*

Key words: Earnings Persistence, Corporate Governance, Institutional Ownership, FRQ, Firm's Value

Introduction

Corporate governance is one of those mechanisms introduced by regulators to ensure reliable and high quality financial reporting (Uwuigbe et al., 2017). This initiative is a global phenomenon. The collapse of many institutions in Nigeria was also a result of poor quality financial reporting, non-adherence to corporate governance code of conduct, corruption, inadequate internal control mechanism and lack of transparency in their dealings (Eriabie & Izedonmi, 2016). Shareholders lost confidence totally in public companies due to the poor quality financial reporting practice in the country.

The Code of Corporate Governance for Public Companies in Nigeria (2011) that was issued by the Nigerian Securities and Exchange Commission (SEC) now replaced by The Nigerian Code of Corporate Governance (2018), is an attempt by SEC to restore this lost confidence in the quality of financial reporting in Nigeria. This Code of Best Practice provided guidelines on the principles of corporate governance and financial reporting that aimed at protecting the best interest of the shareholders and the general public. It assists in enhancing the performance of the board in business operations. Before now, investors and other users have begun to question the reliability, relevance and accuracy of the financial statement for investment decision as a result of corporate failures.

The responsibility of ensuring proper and timely financial reporting rests on the shoulder of the apex governing body of a firm "the board of directors". Furthermore, the foremost aim of financial reporting activity is to make available high-quality information; while corporate governance as part of it objective, provides a platform to ensure the quality of financial reports published. The link between corporate governance and quality of financial reports has been intensely discussed in developed countries with scarce evidence from emerging economies like Nigeria (Uwuigbe et al., 2017). Consequently; there is no conclusive evidence on the effect of corporate governance on the quality of financial reports as proxy by board size and board independence.

Logically, the institutional ownership directors can potentially moderate the relationship between corporate governance mechanism and financial reporting quality since they will ordinarily want to protect their huge investment in the firm. Therefore, this justifies the use of institutional ownership as a moderating variable between corporate governance mechanism and financial reporting quality in this current study.

There are many studies that have examined the effect of corporate governance on the quality of financial reporting globally but only few of them have Nigeria settings such as Akeju and Babatunde *(2017);* Onuorah, and Imene (2016); Uwalomwa, et al. (2018) and none to the best of the researcher's knowledge have used the non-financial firm sector of the Nigerian exchange as a domain, therefore making this study different and unique. Furthermore, most empirical researches conducted in Nigeria on corporate governance and financial reporting qualities that includes Akeju and Babatunde *(2017);* Aramide and Mustapha (2015); Ejoh and Ejom (2014); Ogundana, et al. (2017); Onah (2018); Onuorah, and Imene (2016) and Uwalomwa, et al. (2018) are all on individual sector of the Nigeria economy such as banking, insurance and manufacturing firms.

This study will categorize all the non-financial firms in Nigeria in one study because it is very vital and of

strategic importance to the Nigerian economy as it occupies a whopping portion of about 64% of the total number of listed firms on the Nigeria exchange market and therefore will give a better representation of the effect of corporate governance mechanism on financial reporting quality of the entire Nigeria firms.

In addition, the works of Akeju and Babatunde *(2017);* Aramide and Mustapha (2015); Ejoh and Ejom (2014); Ogundana, et al. (2017); Onah (2018); Onuorah, and Imene (2016) and Uwalomwa, et al. (2018) did not extend their data period coverage beyond 2017, following the spite of poor FRQ there is need to extend the period of these studies to year 2020. This creates a period gap which this study intends to fill by investigating the work to 2020. The period is also extended to eleven years (11) for a more robust data analysis. Furthermore, previous studies do not consider a moderating variable like institutional ownership despite it monitoring role in moderation of the relationship between corporate governance and financial reporting quality, this creates a gap for further study.

Therefore, the study seeks to examine the moderating effect of institutional ownership on the relationship between corporate governance and FRQ of listed Nigerian non-financial firms for the period 2010 to 2020. The objective of this study is to examine the effect of corporate governance mechanism on financial reporting quality of listed Nigerian non-financial firms as well as to determine the moderating effect of institutional ownership on the relationship between corporate governance mechanisms and financial reporting quality of listed non-financial firms in Nigeria. The study's specific objectives are to identify the effect of board size, board independence and the moderating effect of institutional ownership on the relationship between corporate governance mechanism and financial reporting quality of listed non-financial firms in Nigeria.

The following hypotheses were formulated in null form based on the above specific objectives;

Ho_1: Board size has no significant effect on financial reporting quality of listed Nigerian non-financial firms;

Ho_2: Board independence has no significant effect on financial reporting quality of listed Nigerian non-financial firms;

Ho_3: Institutional ownership has no significant moderating effect on the relationship between the board size and financial reporting quality of listed Nigerian non-financial firms;

Ho_4: Institutional ownership has no significant moderating effect on the relationship between the board independence and financial reporting quality of listed Nigerian non-financial firms;

This research will be of eminent assistance to Nigerian makers of policy such as Securities and Exchange Commission (SEC), Central Bank of Nigeria (CBN) and other stakeholders in charge of regulating various industries.

The study will also assist investors and financial analyst to make an informed decision regarding corporate governance mechanism in quoted non-financial companies in Nigeria and ensure investment opportunities are entered into with certainty. In addition, this study will enable finance managers, management accountants, academia, and students who will be interested in this study to meet their different need. It will also add value to the existing literature on corporate governance and earnings quality.

The study covers eleven years' period (2010-2020). This period is considered reasonable due to the speedy economic recovery and growth witnessed in the Nigerian stock market from 2000 to 2009 and a declined and fluctuations from mid-2009 up to 2017. The choice of listed Nigerian non-financial firms as a domain is informed by the fact that it would facilitate easy access to financial statements of the companies to be studied. Using data from such sources could enhance the reliability and validity of data used. The remaining section of the study is separated into four segments dealing with the discussion on the review of literature and theoretical issues, the research method, the results and discussions as well as the conclusion and recommendation.

Literature Review

This section reviewed the literature on the moderating effect of Institutional ownership on Corporate governance mechanisms and financial reporting quality under three major headings namely: Conceptual review, Empirical studies and Theoretical issues.

Concept of Financial Reporting Quality

Financial reporting quality is defined as the degree to which financial statements provide us with information that is fair and authentic about the financial position and performance of an enterprise (Hope et al., 2012).

However, a commonly accepted definition is provided by Jonas and Blaurchet (2000) who asserted that quality of financial reporting is complete and unambiguous information that is not designed to misinform users. IASB (2006, 2008) opined that "the objective of financial reporting is to provide financial information about the reporting entity that is useful to present to potential equity investors, lenders and other creditors in making decisions in their capacity as capital providers".

Compliance with the objectives and qualitative attributes of financial reporting information as stated by the International Accounting Standard Board (IASB, 2006), will no doubt enhance financial reporting quality. The basic qualitative attributes of financial information are relevance and faithful representation (IASB, 2008). This study measured financial reporting quality using Accounting-based earnings attribute (accruals quality, earnings persistence, earnings predictability). These attributes are measured using only accounting information and at the same time assume the function of earnings is to allocate cash flows to periods correctly by using accruals (Andersen et al., 2012). This

model is shown in Section three, Methodology. In a situation where managers use judgment in financial reporting to alter financial reports to mislead stakeholders, thereby negatively affecting the quality of financial reporting then earnings persistence model as a measurement tool for financial reporting quality becomes desirable (Srinidhi et al., 2011). This study measured financial reporting quality using accounting-based earnings quality properties of earnings persistence.

Concept of Corporate Governance Mechanism

Corporate governance is the entire set of rules, regulations and principles of management, set of relationships of interest between the company's management, the company's board of directors, shareholders and other stakeholders (Akdoğan & Akdoğan, 2011).

Although corporate governance has been exhaustively defined by Buallay, et al. (2017) as a mechanism for managing, directing and supervising the activities of the company with the aim of creating value for shareholders. However, for the purpose of this study, we would consider a definition that embraces a wider view (i.e. including the shareholders' perspective) of corporate governance. Hence, corporate governance is defined as the set of structures, processes, customs, policies, laws, and procedures that define the way owners' resources are administered or controlled in a corporation, in order to protect the interests of the owners.

The relationship between board size and financial reporting quality is guided by the agency theory. Some studies like Monks and Minow (2004) establish the relationship between board size and financial reporting quality. They disclosed that larger board committed more time and resources to monitor management activities in the corporations. Yu (2008) submitted that small size of the board cannot detect earnings management. Rahman and Ali (2006) revealed that board size increases earnings manipulation and hence poor reporting quality. This study will adopt the definition of Akeju and Babatunde (2017) which enumerates the numbers of board members in the firm.

Board independence means majority of the board of directors are non-executive. SEC Code (2011) states that board must comprise executive and non-executive directors. For any board to be independent, majority of the directors must be non-executive or independent directors. One of the most important factors influencing the integrity of the financial accounting process involves board of directors whose responsibility is to provide independent oversight of management performance and to hold management accountable to shareholders for their actions (Marra, et al., 2011). This study will follow the definition of Ilaboya and Lodikero (2017) for board independence as the ratio of non-executive directors to the company's board size.

Al-srahen (2014) describes institutional ownership as the total ownership shares of companies, pension funds, enterprise funds and investment funds, organizations, institutions and government-owned companies and generally major corporate shareholders. Institutional ownership represents the percentage of the firms which are held by main investing institutions (own more than 5%) of firm stock (Ramalingegowda & Yu, 2012). Institutional ownership in the company is one of the factors that may affect financial performance of the company. Institutional investors as sophisticated investors will be able to control decisions made by the management through effective monitoring process. SEC Code (2011) required institutional investors to participate in the public listed firms in order to contribute in controlling irregularities performs by managers.

This study introduced institutional ownership as a moderator between corporate governance mechanisms and financial reporting quality. Moderator variable can be introduced where there is inconsistency or weak relationship among the dependent variable and the independent variables (Sherman & Fazio, 1983; Snyder, 1983; Zahra & Pearce, 1989). Institutional ownership is measured as total number of shares held by institutional investors/total number of shares in the firm (Leventis et al., 2013).

Review of Empirical Studies

Uwalomwa, et al. (2018) investigated the influence of corporate governance on the timeliness of financial reports of listed banks in Nigeria. In order to provide answers to the research questions raised in this study, data were generated from the annual report of the listed banks on the Nigerian Exchange considering the period 2008– 2015. It was observed that board size had a non-significant negative relationship with the timeliness of financial reports.

Also, the study observed that board independence also had a non-significant negative relationship with the timeliness of financial reports. Finally, it was observed that foreign executives on the board had a significant positive relationship with the timeliness of financial reports. Akeju and Babatunde (2017) investigated corporate governance mechanism and financial reporting quality in Nigeria. The relationship between corporate governance mechanisms (board characteristics, audit committees, board independence, board size and growth) and financial reporting quality was observed. The findings of the study revealed that corporate governance improves the financial reporting quality in Nigeria.

Onuorah, and Imene (2016) evaluated the level of performance of some selected companies ranging from commodities, brewery, banking, oil and gas and beverages in terms of corporate governance measure indicators on the firm quality of financial reporting in Nigeria. The data were collected from 2006 to 2015. Board structure (size-BRDSZ), board experience (experience-BRDEX) and the quality of external audit (EADTQ) have positive impact on the financial reporting quality measured by the discretionary accruals of firm (FRQDA). While independent directors on the board of firm (independence-BRDID) and audit quality (audit committee size (ADCMZ) negatively affect financial reporting

quality measured by the discretionary accruals of firm (FRQDA). Lode and Bajrei (2018) Using agency theory, they investigated the relationship between corporate governance mechanisms and level of information asymmetry in UAE based on 64 annual reports for the year ended 2010. The findings indicated that board size and information asymmetry were positively related among UAE listed companies, while board ownership and company size were negatively related with information asymmetry. The results suggested that large size of the board of directors may lead to information asymmetry because they seem to be unable to monitor the management and protect the interest of shareholders.

Abdulmalik and Ahmad (2016) examine whether good corporate governance improves financial reporting quality. The study found that the presence of independent non-executive foreign directors on a board improve financial reporting quality and an increase in the percentage of share ownership of foreign institutional shareholders also improve financial reporting quality. Kantudu and Samaila (2015) investigated board characteristics, independent audit committee and financial reporting quality of oil marketing firms in Nigeria using multiple regression analysis. The evidence of the study revealed that power separation, independent directors, managerial shareholdings and independent audit committee influence the financial reporting qualities of oil marketing firms.

Uwuigbe et al. (2014) examine the effect of corporate governance mechanism on earnings management in Nigeria from 2007 to 2011. Earnings management was measured using discretionary accruals in the study. They found that Board size and Board independence have a significant negative impact on earnings management. Hassan and Bello (2013) investigated firm characteristics and financial reporting quality of quoted manufacturing companies in Nigeria using correlation analysis with pooled balanced panel data. The research evidence reveals that there is a significant positive relationship between firm characteristics and financial reporting quality in Nigeria. The result also shows that profitability and independent directors are positively related to earnings quality while an inverse relationship exists between liquidity and quality of financial reporting in Nigeria.

Chalaki, et al. (2012) investigated corporate governance attributes and financial reporting quality in Iran using multiple regression analysis. The evidence of the findings shows that there is no relationship between corporate governance attributes (board size, board independence, ownership concentration, institutional ownership) and financial reporting quality.

Johari, et al. (2008) analyse the influence of board independence, competency and ownership on Earnings Management in Malaysia. By using dichotomous variable of 1 if a firm has at least one director that has professional qualification in accounting and finance, and 0 otherwise as a measure of Board Competency, while discretionary accruals as a measure of Earnings Management for a sample of 234 firms listed on the Bursa stock exchange over the period 2002-2003. The result reveals a non-significant relationship between knowledge as well as experience of the board members and Earnings Management activities.

Theoretical Issues

The theory underpinning this study is Agency Theory.

Agency Theory

The theory underpinning this study based on the literature reviewed and theoretical considerations through the core variables that formed the research questions and hypotheses is agency theory. Management (agent) in playing their role of disclosing financial information to the shareholders (owners) and other stakeholders may give misleading information mainly due to their selfish gains. The issue of corporate governance arose from the activities of managers or agents in sharp practices, which usually are not in the principals (owners of the business) interest. This problem arises because of the disassociation of the control of a firm from ownership of such firm; hence the directors control the firm while the shareholders are the owners. This arrangement invariably gives birth to a conflict of interest amongst ownership and control. This conflict of interest is the foremost problem that the principle of corporate governance intends to address. Companies should, therefore, seek to limit this principal-agent problem through a solid and effective corporate governance policy.

Corporate governance through the corporate governance mechanisms can be used to check and monitor the activities and operations of the agent, thereby ensuring that they are in line with the principals' interests. This enables the owners to overcome the issues of lack of credible information. This study focused on corporate governance mechanisms like board size and board independence as well as their various effects on the financial reporting quality.

Methodology

Longitudinal research design was adopted in measuring the effect of corporate governance mechanism and financial reporting quality and the moderating effect of institutional ownership of listed Nigeria non-financial firms for the period 2010 to 2020. Population size of this research consists all the 113 Non-financial firms listed on the Nigerian Exchange group as at 31st December 2020. To arrive at sample size, the non-financial firms with difficulties in accessing their data were filtered out. Hence, the population was reduced to 61 firms as sample size of the study. Secondary data were extracted from annual financial statements of the sixty-one firms listed on the Nigerian exchange within the period of the study. Generalized least square (Robust Fixed effect) regression was adopted for the panel data analysis in an effort

to establish the effect of the variables of this study.

Regression was considered appropriate in view of the fact that it helps in not only establishing correlation between endogenous and exogenous variables, but causes-effect of their relationship. The analysis was done using Statistics/Data Analysis Software (STATA 13). A variable can be termed moderator when it impacts the strength of a relationship between independent and dependent variables in a test (Matthew & Ann, 2017). The moderating variable was introduced to determine the strengths or weaknesses of a relationship that can be qualitatively and quantitatively measured (Fairchild & MacKinnon, 2009).

In this present investigation, the institutional ownership is used as a moderating variable between the corporate governance mechanism (i.e. board size and board independence) and financial reporting quality.

Variables Measurement and Model Specification

The definitions and measurements of the variables used in this study are presented in Table 1

Table 1*:*

Variables Measurements

Variables	Abbreviation	Definition	Source
Dependent Variable			
Earnings persistence	EPERS	$NIBE_{i,t} = \gamma_{0,i} + \gamma_{1,i} NIBE_{i,t-1} + U_{i,t}$ Where; $NIBE_{i,t}$ = net income before extraordinary items of firm i in year t $NIBE_{i,t-1}$ = net income before extraordinary items of firm i in year $t-1$	Francis et al (2005)
Independent Variable			
Board Size	BDSZ	This captures the numbers of board members in the firm	Akeju&Babatunde (2017)
Board Independence	BDIN	The ratio of non -executive directors to the company's board size	Ilaboya&Lodikero (2017)
Moderating Variable			
Institutional Ownership	INSO	Measured as total number of shares held by institutional investors/total number of shares in the firm.	Leventis et al., (2013)

Source: Researcher's Compilation (2021).

Model Specification

To measure the moderating effect of institutional owner ship on corporate governance and financial reporting quality of listed Nigerian non-financial firms, the pooled estimation models is given as:

$$\mathbf{FRQ}_{it} = \beta_0 + \beta_1\mathbf{BDSZ}_{it} + \beta_2\mathbf{BDIN}_{it} + \beta_3\mathbf{BDSZ*INSO}_{it} + \beta_4\mathbf{BDIN*INSO}_{it} + \mu_{it} \quad \text{.....(1)}$$

Whereas;
FRQ = Financial Reporting Quality;
BDSZ = Board Size;
BDIN = Board Independence;
INSO = Institutional Ownership;
β_0 = the intercept/constant;
$\beta_1 - \beta_6$ = are the parameters;
μ_{it} = the residual/error term of firm *i* in year *t*

Results and Discussions

The descriptive statistics of the data collected for the study were presented in Table 2 ;

Table 2 :

Descriptive Statistics

Variables	Obs	Minimum	Maximum	Mean	Std.Dev	Skewness	Kurtosis
EPERS	671	0.00	0.24	0.02	0.03	3.25	14.9
BDSZ	671	5	17	8.68	2.26	0.81	3.39
BDIN	671	0.41	0.89	0.70	0.69	-0.05	3.64
INSO	671	0.01	0.70	0.19	0.15	0.83	2.87

Note: Computed using STATA 13

From Table 2, Earnings Persistence (EPERS) has a mean value of 0.02 and standard deviation of 0.03, suggesting that 15.8% of the listed non-financial firms in Nigeria's financial reporting were of good quality and a standard deviation of 0.03 indicates that the deviation of the EPERS throughout the period of study was relatively low. The minimum and maximum values were 0.000 and 0.23 respectively. The peak of the EPERS data was indicated by the kurtosis value of 14.9, suggesting that most of the values were higher than mean, and the data did not meet a normal distribution assumption. The coefficient of Skewness of 3.25 implies that the data was positively skewed. The result also implies that the mean of the board size (BDSZ) is 8.68 which is high, denoting a relatively large board sizes for most of the firms sampled. The minimum figure was 5, the maximum value was 17 and the standard deviation was 2.25 implying a wild deviation.

The result further shows average board independence (BIND) of 0.71 with a standard deviation of 0.69, the minimum and maximum values were 0.41 and 0.89 respectively. This implies that on the average only 40% of the sampled listed non-financial firms in Nigeria have board independence and the data deviated from both sides of the mean by 0.69. This suggests a wide dispersion of the data from the mean because the standard deviation was close to the mean value. The skewness value of -0.05 implies that the data was skewed negatively and within the zero region of distribution, and thus said to be symmetric, while the kurtosis of 3.64 suggests that the data did not meet the normal distribution requirement.

Lastly, the institutional ownership (INSO) has a mean of 0.19, while minimum and maximum value were 0.01 and 0.70 respectively. This implies that the deviation from the mean was 0.15, suggesting a mild dispersion among the sampled firms. The peak of the data was indicated by the kurtosis value of 2.85, suggesting that most of the values were within mean range, and the data met a normal distribution assumption.

The coefficient of Skewness of 0.83 implies that the data was positively skewed (that is, most of the data are on the right hand side of the normal curve), thus, the data also met the symmetrical distribution assumption as they are within the zero region. The descriptive statistics analysis of the variables of the study shows the nature and extent of dispersion of the data, which suggests that majority of the data did not conform with the normal curve. But we are going to rely on the arguments put forward by Guas (1929) and Shoa (2003) that the abnormality of data should not affect the inferential statistic of regression.

Robustness Test Results

Variables	VIF	Tolerance Values
BDSZ	4.68	0.21
INSO_BIND	4.65	0.21
BIND	1.05	0.95
INSO-BDSZ	1.03	0.97
Mean VIF	2.29	
Hettest Chi2		0.07
Hettest Sig		0.78
Hausman Chi2		336
Hauman Sig		0.00
R2		0.63
Wald Chi2		158
Prob> F		0.00

Note: Computed using STATA 13

The result from Table 3 indicate that Wald Chi2 value of 158 with probability value of 0.00 that is significant at 1% confirms that the study model was fit with all the selected variables of the study. Also, coefficient of determination of R^2 which was 63.11% indicates the percentage of total variations of endogenous variable (EPERS) that was explained by exogenous variables (BDSZ, BIND, INSO_BDSZ, and INSO_BIND). The statistical implication is that, 63.11% of the total variability in EPERS of the whole listed Nigerian non-financial firms were caused by the collective effort of all the selected proxies of corporate governance mechanism; while the remaining 36.99% were caused by factors outside the model of this study.

Moreover, Multicolinearity and Heteroscedasticity tests were conducted for the study in order to see their existence or otherwise. The Multicolinearity test shows a variance inflation factor and tolerance values of less than 10 and 1 respectively, this signifies the absence of Multicolinearity problems in the study. The heteroscedasticity test shows a Chi2 value of 0.07 and a probability value of 0.78 which is not significant at any level. Hence, confirming the absence of heteroscedasticity in the data used for the study. Wooldridge test for Autocorrelation in panel data shows that there is no auto correlation among the data, hence GLS regression can be used for the study. However, Hausman specification test was employed for the selection of the model among the FEM and REM adopted for the study. The Hausman specification test reveals a Chi2 value of 336 with probability value of 0.00 which is significant statistically at 1% level of significance; thus fixed effect model was selected for interpreting the study's result. Following the selection of fixed effect model, the linear regression correlated panel corrected standard error (PCSEs) was carried out on the FEM in order to have a more robust result. Therefore, the hypotheses testing of the study were presented in the following section.

Presentation and Discussion of Regression results

The regression result of the model of the study was presented and the major findings discussed

Table 4:

Regression Results of the Model:

Variables	Coefficients	z-values	p-values
BDSZ	0.00	2.71	0.01
BIND	0.00	1.40	0.16
INSO_BDSZ	0.00	1.44	0.15
INSO_BIND	0.00	2.59	0.01
Constant	0.00	176	0.00

Note: Computed using STATA 13

The result in Table 4 revealed that the coefficient of board size (BDSZ) and the earnings persistence (EPERS) had a significant positive relationship. The coefficient is 0.00 and the p value of 0.00, at a 1% level of significance and a 99% confidence interval. This result implies that, the larger the board size the higher the financial reporting quality of the listed Nigerian non-financial firms. However, the result is not surprising because the prior expectation is that large board size will improve the financial reporting quality because larger boards are expected to commit more time and effort while smaller board will commit less time and effort to oversee management. Thus, the study rejects the null hypothesis 1 (Ho_1). This finding is consistent with the studies of Adebimpe and Peace (2011), Akeju and Babatunde (2017) and Beest, et al. (2009) who found positive relationship. However, it contradicts the findings of Uwalomwa, et al. (2018) that found board size to have a non-significant negative relationship with the timeliness of financial reports.

The result also suggests an insignificant positive relationship between board independence and financial reporting quality. This shows that the higher the level of board independence, the higher the financial reporting quality but not statistically significant at all level of significance. This is evidenced by a coefficient beta value of 0.00, z-value of 1.40 and a P-value of 0.16 which is statistically not significant at all level. Thus, the study fails to rejects the null hypothesis 2 (Ho_2). The finding is in line with the studies of Aifuwa and Embele (2019), Akeju and Babatunde (2017) and Fathi (2013). However, this result contradicts the study of Marra, et al. (2011) and Fodio, et al. (2013) who found an insignificant negative relationship.

Table 4 further revealed clearly that the direct relationship results of board size as moderated by institutional ownership (INSO_BDSZ) has a coefficient value of 0.00, z-value of 1.44 with a corresponding insignificant p value of 0.14. This connotes that the direct relationship of board size as moderated by institutional ownership has a positive insignificant impact on financial reporting quality (FRQ) of non-financial firms at no level of significance. This implies that for every 1% increase in INSO_BDSZ, there will be a corresponding increase of 0.00 on the financial reporting quality of listed non-financial firms in Nigeria. As observed from table 4 above, the result of board size without moderation had a positive statistically significant impact on FRQ whereas there exist a positive and insignificant impacting relationship between INSO_BDSZ and the FRQ of the sampled firms. This, therefore, implies that institutional ownership changes the direction of the relationship between board size and FRQ. The result validates and confirms hypothesis 3 (Ho_3) that Institutional ownership has no significant moderating effect on the relationship between the board size and financial reporting quality of listed Nigerian non-financial firms.

Similarly, from Table 4, it can be observed that the combined and moderated result of board independence with institutional ownership (INSO_BIND) has a coefficient value of 0.00, z-value of 2.59 and a p-significance value of 0.010. This connotes that the direct relationship of board independence as moderated by institutional ownership has a positive significant impact on financial reporting quality (FRQ) of non-financial firms at 1% level of significance. This implies that for every 1% increase in INSO_BIND, there will be a corresponding increase of 0.0014987 on the financial reporting quality of listed non-financial firms in Nigeria. This result conforms to the priori expectation of the researcher. As observed from table 4, the result of board independence without moderation had a positive but statistically insignificant impact on FRQ whereas there exist a positive and significant impacting relationship between INSO_BIND and the FRQ of the sampled firms. This, therefore, implies that institutional ownership changes the direction of the relationship between board independence and FRQ. This finding give us the basis to reject the fourth null hypothesis (Ho_4) of the study which suggest that, that Institutional ownership has no significant moderating effect on the relationship between the board independence and financial reporting quality of listed Nigerian non-financial firms.

Conclusion and Recommendations

The research investigated moderating effect of institutional ownership on corporate governance mechanism and financial reporting quality of listed Nigerian non-financial firms. The study concluded that BDSZ, is positively and significantly impacting on financial reporting quality of non-financial firms in Nigeria, while BIND is positively but insignificantly influencing financial reporting quality of listed non-financial firms in Nigeria. The study further concluded that only INSO_BIND is significantly moderating the relationship between corporate governance mechanism and financial reporting quality of the listed non-financial firms in Nigeria.

Finally, it is therefore concluded that institutional ownership has no moderating effect of on the relationship between BDSZ and financial reporting quality of the listed Nigerian non-financial firms. Following the conclusion from the findings of the study, the study makes these recommendations:

I. Base on the conclusion it is therefore recommend that the number of directors on board should be of a reasonable size that will improve monitoring of the quality of financial reports published by firms in Nigeria because of the positive impact it has on FRQ.

ii. Also in order to guarantee quality financial reports, large and overcrowded boards should be discouraged in Nigerian listed non-financial firms. This will foster faster communication, coordination and ultimately quality of financial report.

iii. The study further recommends that the presence of independent director on the board should be encouraged as they will enhance monitoring mechanism and reduce the principal–agent conflicts in the organization.

This study is limited to only two corporate governance variables namely; board size and board independence. However, other variables like Directors' tenure Board expertise and foreign directors can be taken into consideration in future research. Also, further research can be carried out on all the listed firms on the Nigerian Stock Market.

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