JOURNAL OF CONTEMPORARY ISSUES IN ACCOUNTING

Vol. 3 No.3, December, 2022 **ISSN:** 2814-1113

Available online *at https://journals.unizik.edu.ng/index.php/jocia*

Published by Nnamdi Azikiwe University - ANAN Center for Accountancy Research Studies, Awka, Nigeria

Published, 2022

ISSN: 2814-1113

Printed By:
SCOA Heritage Nig. Ltd
No 8 Onwurah Street, Awka
Anambra State
Phone: 08037264195, 08036699505
E-mail: scoaheritage@yahoo.com

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iii. The Abstract should not be more than 250 words and Keywords should not be more than five words arranged alphabetically.
iv. The paper should have a definite structure (five sections) showing the (a) Introductions (b) Literature Review/Theoretical Framework (c) Methodology (iv) Results and Discussions (v) Conclusions and Recommendations and (vi) American Psychological Association 7th edition format is recommended for in-text reference citations.
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RETHINKING THE DETERMINANTS OF LABOUR PRODUCTIVITY IN NIGERIA: A QUEST FOR LABOUR EFFICIENCY AND LOW COST PER UNIT OF OUTPUT

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Abstract

This paper examined the determinants of labour productivity in Nigeria over the period 1990 to 2020 by looking at the factors that influence labour output and reduces the cost of production per unit. Determinants of labour productivity were represented by the human capital development index, capital intensity, wage rate, per capita income, globalization index, governance and usage of information and communication technology. The auto-regressive distributed lag (ARDL) model was used for the data estimation and analysis. From the results, it was found that the explanatory variables, human capital development index, capital intensity, wages, globalization index, governance and application of ICT exerted negative effects on labour productivity in the short run, while, per capita income had a positive effect. In the long run, human capital development, capital intensity, per capita income and information and communication technology usage appeared to have the most significant effect on labour productivity in Nigeria. The study recommends that Nigeria should take advantage of globalization to attract foreign resources and knowledge to enhance the efficiency of labour in the country. Consequently, there is a need for trade liberalization that will permit new technology and innovation transfer needed for the upgrade of workers' skills. It further recommends improvement in public administration, institutional reforms and application of appropriate policies and regulations towards promoting and enhancing workers' wages and encourages them to acquire more knowledge through training, seminars and conferences.

Keywords: *Labour, efficiency, productivity, human capital, wages, ICT, governance*

Introduction

Human resource has a strategic role in the productivity increase of any economy, and this makes labour superior in the industrial competition (Razak, Osman, Yusof, Naseri & Ali, 2014). With effective, efficient and optimum uses of labour, all the merits supplied by productivity growth can be obtained. Labour efficiency is the ratio between the actual output produced and the standard output. Labour efficiency relates to labour productivity in that the efficiency of labour determines its output. Labour productivity measures the rate of output per worker in relation to the set standard or expected output. The increase in interest in the efficiency of labour is motivated by the need to bring down the unit costs of products of firms (Fallahi, Sojoodi & Salannia, 2011). With increasing globalization and expansion of competition in industrial products, labour output more than before has become determining factor in the competitiveness of industries in domestic and foreign markets (Fellahi, Sojoodi & Salannia, 2011). They expressed the fact that high labour ***productivity*** means lower per unit cost and, therefore, the ability of the firm to match prices on the global markets.

Nigeria is well-known for its large population, vast economy, natural resources endowment as well as manpower which explains why it is branded "the giant of Africa" (UNDP, 2019). During the past years, actions aimed at improving the productivity of labour have been included in various national development plans in the country because the ability to harness its rich-resource endowment depends on the efficiency of its labour force. This clearly shows that sustainable economic development over a long-run period cannot be achieved if available labour is not employed in the production process to add value to the natural resources at its disposal. Notwithstanding the level of abundant resources in terms of labour and raw materials, labour productivity has been unsatisfactory, falling below those of some developing countries with smaller resources and a low labour force. To give a glimpse of labour productivity in Nigeria, data sourced from the World Bank (see, globaleconomy.com) shows that the growth rate of labour productivity (GDP-to-labour force ratio) ranged from -3.13% to 3.93% between 1991 and 2001, hit 10.55% in 2002 and persistently declined, reaching negative values from 2013 to 2018. This scenario negates the term "giant of Africa" often used to describe Nigeria. Figure 1 presents the trend of labour productivity in Nigeria (1990-2020).

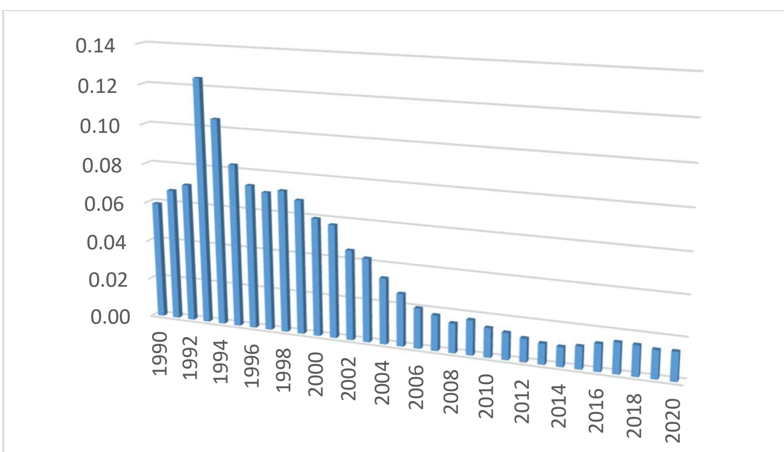


Figure 1: Labour productivity in Nigeria (1990 - 2020)
Source: Authors' computation

The Nigerian labour market has experienced problems ranging from unemployment, downsizing by employers of labour, inconsistent government policies, low employment generation capacity and an imbalance between the demand and supply of labour. As of 2019, it was estimated that the Nigerian labour force was about 62.47 million which qualified it as the largest workforce within the African continent (NBS, 2019). However, a large proportion of Nigeria's labour force appears to have consistently underperformed in terms of productivity of labour. Figure 2 shows that between 2011 and 2019 productivity of labour increased slowly notwithstanding the rapid increase in population and labour force in the country. The slow increase in the productivity of labour could be due to rising unemployment and low labour participation rates. The National Bureau of Statistics (NBS) report shows that out of an average population of 176.73 million people, only 55.25 million constituted the entire labour force out of which 55.12% (about 30.45 million) were economically active between 2010 and 2019. This implies that labour has been underemployed in Nigeria and the productivity of labour is low.

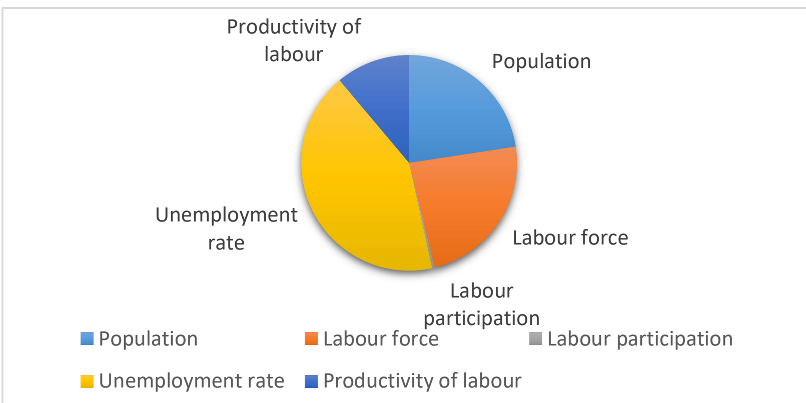


Figure 2: Profile of Nigeria's labour force (2010-2020)
Source: National Bureau of Statistics

The data and projections (see Table 1) reveal a realistic guide and forecast for the unemployment situation and job requirements in Nigeria between 2010 and 2030. Looking at policies aimed at addressing low labour efficiency in Nigeria is rather difficult in light of the rising rate of unemployment as approximately 1.8 million Nigerians enter the labour market each year (NBS, 2019). The initial response of the government was to engage unemployed youths in public programs such as Operation Feed the Nation as well as the Directorate of Food, Road and Rural Infrastructure (DIFRRI) which availed immediate and direct jobs to qualified individuals interested in agribusiness which automatically increased labour productivity in the agricultural sector in the mid-1980s (Falusi, 2014). Afterwards, better-planned and coordinated approaches followed in three major categories, namely; labour demand, labour supply and labour market interventions. Strategies for labour demand hinged on the creation of immediate jobs via public works in the private sector towards the enhancement of skills as well as entrepreneurship. Strategies for labour supply focused on training and education of potential workforce while the labour intervention strategy was bent on enhancing labour market activities by striking a balance between demand and supply of labour (Falusi, 2014).

Table 1: Projected Nigerian Job Requirements, 2010-2030

Year	Working Age Population	Unemployment rate (%)	Jobs Needed	Between Years	Jobs to be Added
2010	85,525,401	20.00	52,358,719		
2015	97,731,223	15.00	63,570,579	2010-2015	11,211,860
2020	111,088,8501	10.00	76,509,768	2015-2020	12,939,189
2025	125,325,513	8.00	88,233,036	2020-2025	11,723,268
2030	140,036,212	7.00	99,661,452	2025-2030	11,428,415

Source: NBS, 2019

A report from the United Nations Development Programme (UNDP) shows, that labour productivity in Nigeria is lower than that of South Africa and Ghana (UNDP, 2019). This implies that a large proportion of Nigeria's labour force is not fully engaged in economically productive activities, which could account for the persistent increase in unemployment and underemployment in the country. Then, one may ask; what factors are undermining the productivity of labour in a wealthy nation like Nigeria? The answers are not far-fetched. Recently, studies had identified the level of human capital development, availability of capital, ability to acquire and apply technology, the standard of living of employees, state of governance and globalization as critical factors strongly influencing labour efficiency in Nigeria. For instance, human capital development which entails the accumulation of knowledge, skills as well as expertise generates greater labour productivity amidst motivations through the desired wage level (Heshmati & Rashidghalam, 2016; Kaimbo, 2015). Nuttee, Thamma-Apiroam & Santipolvut (2019) averred that the availability of the necessary capital required to facilitate a production process accelerates the productivity of labour. Labour productivity is a function of the standard of living (measured by per capita GDP), as one with insufficient income would lack essential commodities like food, clothing, shelter, health services and even entertainment which are essential to the higher productive capacity of labour (Sengupta, 2017). On the other hand, Mallick (2014) advocated that through globalization, there is enhanced labour productivity through the acquisition and/or spillover effect of advanced and new information, communication and technology (ICT) systems from developed countries to less developed countries through FDI. It is also stated that there exists greater efficiency in well-governed countries than in countries where governance is poor (Elham, 2020).

Though labour productivity responds to many factors some factors such as working environment, firm policies, payment delay, relaxation allowances, job security, work satisfaction, outdated equipment, etc. are characterized by subjective and non-precise indicators or proxies. Hence, the study used more precise and objective variables such as the human capital development index, capital intensity (total capital-to-labour ratio), average wage rate, per capita income (a measure of standard of living), globalization index, and governance and ICT usage. The paper is organized into five (5) sections. Section one has introduced the study while section two reviews the existing literature on determinants of labour productivity. Section three covers the sources of data, model and methodological approach to the investigation. Section four is devoted to the results and discussion of findings while section five concludes the paper.

Review of related literature

Conceptual reviews

Determinants of Labour Productivity

Due to globalization, there is a rapid achievement of technology diffusion through foreign direct investment (Barrel & Pain, 1997; Barro, 1990). Hence, trade liberalization would trigger foreign competition, improved domestic production and increased capital mobilization as well as the human transfer of modern technology which will encourage efficiency in the process of resource allocation and economic productivity (Mallick, 2014). Furthermore, the classical Ricardian theory stated that differences in technology among countries could lead to comparative advantage. The Hecksher-Ohlin model theorized that comparative advantage could be generated from differences in factor endowments, but both the classical Ricardian and Hecksher-Ohlin models reached a consensus that globalization has a prominent role to play when it comes to the productivity of labour (Lam, 2015).

Also, the neoclassical growth model considered capital mobilization as a crucial factor towards enhancing productivity. Likewise, Awotunde (2018) asserted that greater capital formation could improve and stimulate higher productivity. Similarly, Kang and Na (2018) showed that capital flows to resource-scarce economies can revive the productivity of labour.

From another perspective, Smith emphasized the role of government regulations, policies and institutions in advancing the economic productivity of a country (Smith, 1776). He emphasized that some policies and regulations made by the government might not drive domestic productivity. Similarly, Barro (1990) stressed that government policies and institutions are seen to play a crucial role in enhancing labour efficiency in the long run.

Barro (1990) stated that the maintenance of the rule of law and improvement in government policies could exert a significant positive influence on economic productivity. Likewise, Khan and Ajmal (2015) affirmed that unsound policies that extend unrestricted authority to the governing elite over the allocation of resources could lead to the unproductivity of labour.

Human Capital and Labour Productivity

Nurudeen and Usman (2010) discovered an inverse relationship between human capital development and labour productivity due to poor financing of the Nigerian education sector. Similarly, Fallahi, Sakineh and Mehin (2010) found that human capital and labour productivity were negatively related due to inadequate and improper training by firms, hence workers could not effectively exhibit the required skills needed to adopt and put modern technology to work. Nevertheless, it might take a long term for human capital development to positively influence labour productivity which could be a plausible reason for the contradictory results obtained in some prior empirical studies. Also, in the short-term, training could meet other purposes like career prospects, salary and even working position rather than labour productivity.

Theoretical Framework

Endogenous Growth Model (EGM)

Theoretically, the EGM postulates that through adequate investments in human capital, infrastructures and research & development sustainable economic productivity will be achieved without relying on exogenous factors (Romer, 1990). Many empirical studies share the view of the EGM (Nuttee, Thamma-Apiroam & Santipolvut, 2019; Awotunde, 2018; Heshmati & Rashidghalam, 2016; Micallef, 2016).

Efficiency of Wages Theory

Another strand of theory explaining the determinants of labour productivity is the efficiency wages theory which avers that a higher wage rate would accelerate the opportunity cost of job loss and automatically would motivate workers to enhance productivity (Kumar, Webber & Perry, 2009; Gordon, 1997). In this light, myriads of empirical studies found a significant relationship between wages and the productivity of labour (Elham, 2020; Onwuchekwa & Ohachosim, 2017). On the other hand, Powell, Montgomery & Cosgrove (1994); Krueger & Summers (1987) found that a higher wage rate that is greater than the market clearance level is unlikely to achieve the desired level of labour productivity. Under perfect competition, the classical economic theory ascertained that wages are paid according to the marginal productivity of labour. However, following the 2008 financial crisis, both demands for labour and employment levels declined, which automatically made people desire to retain their jobs and improve productivity even with lower wage rates (Romei, 2017; Trpeski, Eftimov & Cvetanoska, 2016).

Empirical Review

Studies have been found in the banking sector which provides the branch level analysis by using the data envelopment analysis (DEA) technique (Paradi & Zhu, 2013). Analysis by Das *et. al.* (2009) identifies bank branches that operate at very low levels of labour-use efficiency and possible candidates for increased supervision and control.

Mačiulytė-Šniukienė and Gaile-Sarkane (2014) have evaluated the impact of the development of ICT on labour productivity in EU-27 states using the data from 2000 to 2011. Whether or not productivity and labour efficiency increase as a result of IT investment has been the subject of considerable debate (Badescu and Garcés-Ayerbe, 2009). If an innovative enterprise adopts more and more capital-intensive techniques, it might experience growth of only sales turnover and investment but not employment.

Also, Tsoku & Matarise (2014) found that wages and labour productivity are positively related in the short run but strongly dependent on the capital/labour ratio in the long run. Wage rates might affect productivity because a better-paid labour force is likely to be happier and to work more effectively (Opsahl & Dunnette, 1970). Employee satisfaction with pay and promotion may be expected to increase quality, productivity and hence customer satisfaction.

Methodology

In this paper, secondary data were used. The time series data cover a period of 31 years, from 1990 to 2020. The data were obtained from World Development Indicators (WDI) and the International Labour Organization Statistics (ILOSTAT) database. This paper followed the methodological approach used by Elham (2020) to analyze determinants of labour productivity. The model applied by Elham (2020) was based on the Cobb-Douglas production function as denoted by equation (1):

$$Y = f(K, L) \qquad (1)$$

Where,

Y = total domestic output; K = amount of capital; and L = labour

Using equation 1 to derive the function for the productivity of labour, both sides of the equation were divided by "L" to give equation (2):

$$Y/_{L} = f\left(K/_{L}, L/_{L}\right) = f\left(K/_{L}\right) \qquad (2)$$

Hence, the productivity of labour (Y/L) is the value of output (measured by real GDP) produced per worker. Hence, equation 2 implies that the productivity of labour (Y/L) is a function of capital intensity per labour (K/L). The model for this study was developed by looking at the factors that influence labour productivity. The function presented in equation (2) is thus stated in equation (3):

$$LBP = F(HCI, CAP, AWR, LNPCI, GLB, GOV\ and\ ICT) \qquad (3)$$

Where, LBP = labour productivity $(^{Y}/_{L})$; HCI = human capital development index; CAP = capital intensity $(^{K}/_{L})$; AWR = Average wage rate; LNPCI = Natural logarithm of GDP per capita; GLB = Globalization index; GOV = Governance; ICT = Information and communication technology usage.

The econometric form of equation (3) was denoted by equation (4):

$$LBP_t = \beta_0 + \beta_1 HCI_t + \beta_2 CAP_t + \beta_3 AWR_t + \beta_4 LNPCI_t + \beta_5 GLB_t + \beta_6 GOV_t + \beta_7 ICT_7 + \mu_t \qquad (4)$$

Where,
β_0 = denotes the constant, β_1 - β_7 = coefficients of the explanatory variables, and μ_t = Error term

3.1 Variables Description

Table 3.1: Description of variables and sources of data

Variable	Description	Source of Data
Labour efficiency (LBE)	Labour productivity is a measure of real economic output per labour. It entails the value of output per worker.	World Development Indicator (WDI)
Human capital development index (HCI)	HCI represents a composite index that measures average achievements in three aspects of human development - a healthy life, knowledge and a decent standard of living which are essential to greater productivity of labour.	World Development Indicator (WDI)
Capital intensity (CAP)	Capital intensity refers to the amount of available fixed or real capital in relation to labour. A higher ratio entails availability for productivity.	World Development Indicator (WDI)
Average wage	Labour productivity to a large depends on wages paid to workers. A worker who receives sufficiently high wages will ensure	International

rate (AWR)	an adequate standard of living and would be more productive.	Labour Organization (ILO), ILOSTAT database.
Per capita income (PCI)	PCI is a variable that measures the standard of living of a country. It is measured as the GDP-to-total population ratio.	World Development Indicator (WDI)
Globalization Index (GLB)	The globalization index covers aspects of economic, social, and political globalization. Higher values denote greater globalization. With globalization, there is the ease in transferring resources from resource-abundant countries to resource-scarce countries.	World Development Indicator (WDI)
Governance (GOV)	Governance was measured by the civil liberty index which evaluates freedom of expression and belief, associational and organizational rights, rule of law, as well as personal autonomy and individual rights. The rating ranges from 1 (strong liberties) to 7 (no liberties).	The global economy database: https://www.theglobaleconomy.com/ Nigeria/civil_liberties/
Information & communication technology (ICT)	ICT was measured by growth in the number of internet users. Internet users refer to individuals who use internet facilities in Nigeria.	The global economy database: https://www.theglobaleconomy.com/ Nigeria/Internet_users/

Source: Authors compilation

Analytical Technique

The Autoregressive Distributed Lag (ARDL) method was applied to test the cointegration. By including sufficient lags, the ARDL model captured the data-generating process in general to a specific framework and assimilates the short-run dynamics using the error correction model (ECM) without losing the long-run details. The dynamic ARDL model based on Pesaran, Shin & Smith (2001) is as specified in equation 5:

$$\Delta LBP_t = \delta_o + \sum_{i=1}^{p} \delta_1 \Delta LBP_{t-i} + \sum_{i=1}^{p} \delta_1 \Delta HCI_{t-i} + \sum_{i=0}^{p} \delta_2 \Delta CAP_{t-i} + \sum_{i=0}^{p} \delta_3 \Delta AWR_{t-i} + \sum_{i=0}^{p} \delta_4 \Delta LNPCI_{t-i} + \sum_{i=0}^{p} \delta_5 \Delta GLB_{t-i} + \sum_{i=0}^{p} \delta_6 \Delta GOV_{t-i} + \sum_{i=0}^{p} \delta_7 \Delta ICT_{t-i} + \beta_1 LBP_{t-1} + \beta_2 HCI_{t-1} + \beta_3 CAP_{t-1} + \beta_4 AWR_{t-1} + \beta_5 LNPCI_{t-1} + \beta_6 GLB_{t-1} + \beta_7 GOV_{t-1} + \beta_8 ICT_{t-1} + \mu_t \quad (5)$$

Once cointegration is established, the short-run dynamic parameters are obtained and allied with long-run estimates by estimating an ECM of the form:

$$\Delta LBP_t = \delta_o + \sum_{i=1}^{p} \delta_1 \Delta LBP_{t-i} + \sum_{i=0}^{p} \delta_2 \Delta HCI_{t-i} + \sum_{i=0}^{p} \delta_3 \Delta CAP_{t-i} + \sum_{i=0}^{p} \delta_4 \Delta AWR_{t-i} + \sum_{i=0}^{p} \delta_5 \Delta LNPCI_{t-i} + \sum_{i=0}^{p} \delta_5 \Delta GLB_{t-i} + \sum_{i=0}^{p} \delta_6 \Delta GOV_{t-i} + \sum_{i=0}^{p} \delta_7 \Delta ICT_{t-i} + \theta ecm_{t-i} \quad (6)$$

Where δ indicates the short-run dynamics, θ represents the parameter for speed adjustment and $t-1$ is the one-period-lagged error correction model/term. A change in the dependent variable does not depend on past errors if this coefficient is insignificant. The coefficient of θ ranges from -1 to 0, where 0 implies no convergence toward equilibrium and -1 implies perfect convergence. That is, any shock is perfectly adjusted in the next period if the value is -1. All the other things were already defined earlier.

Before the ARDL estimation, the data were tested for stationarity using the Augmented Dickey-Fuller (ADF) and Philip_Perron (PP) techniques of unit root testing (Dickey & Fuller, 1979; Phillips & Perron, 1988). This very stage is crucial because most time series data contain unit root and any regression analysis involving such data will likely yield spurious output. The general model for the ADF test is represented by equation (7):

$$\Delta y_t = \beta_0 + \beta_1 t + \beta\lambda y_{t-1} + \sum_{j-1}^{p} \delta_j \Delta y_{t-j} + \mu_t \quad (7)$$

Where,
y_{t-1} = lagged value of y_t at first difference
Δy_{t-j} = change in lagged value
δ = lag length
Δy_t = First difference of y_t
μ_t = error term

Results and Discussions

Diagnostic Test

Stationary Tests

This study investigated the time series properties of the data using the Augmented Dickey-Fuller (ADF) and Phillip-Peron (PP) tests to ascertain the order of integration of the series. The results of the ADF and PP tests are presented in Table 4.1:

The following hypotheses were tested for the ADF and PP unit root tests:
$\boldsymbol{H_o}$: Presence of unit root
H_{01} Unit root does not exist

Table 2: ADF unit root test results

	Augmented Dickey-Fuller (ADF)		Phillip-Perron (ADF)		Order of integration
Variables	Level	First diff.	Level	First diff.	
LBP	-2.6778{0.2519}	-5.8002{0.0003}	-2.7045{0.2419}	-6.0992{0.0001}	I(1)
HCI	-1.6671{0.4371}	-2.4878{0.0148}	-2.3901{0.3762}	-4.5451{0.0059}	I(1)
CAP	-4.1847{0.0156}	--	-4.9550{0.0021}	--	I(0)
AWR	-2.6181{0.2757}	-3.9956{0.0203}	-2.7940{0.2101}	-3.9956{0.0203}	I(1)
LNPCI	-2.2870{0.4278}	-4.7466{0.0078}	-2.4473{0.3438}	-4.7304{0.0037}	I(1)
GLB	-0.2832{0.9873}	-6.0205{0.0002}	-0.7887{0.9556}	-6.0038{0.0002}	I(1)
GOV	-2.9974{0.1494}	-3.4988{0.0159}	-2.8801{0.1825}	-8.0572{0.0000}	I(1)
ICT	-1.0160{0.9998}	-7.5366{0.0011}	-1.5203{0.4839}	-7.4706{0.0000}	I(1)

Source: Authors' computation

Table 4.1 showed that the variables are of both I(0) and I(1) and none was identified to be of I(2). Using the ADF and PP unit root tests, the p-values of LBP, HCI, CAP, AWR, LNPCI, GLB, GOV and ICT were found to be integrated of order I(1) while CAP turned out to be integrated of order I(0). Following the variables' mixed order of integration, the ARDL approach was preferred for the estimation.

VAR Lag Order Selection Criteria

The VAR order selection criteria were used in selecting the best lag interval. The option has a vector containing the selected lags from the different criteria. The AIC (Akaike information criteria) which has the lowest value of the lag selection criteria was selected. Consequently, the selected lag period is 2, which is the best fit as shown in Table 3:

Table 3: Lag Length Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-150.4423	NA	7.69e-06	10.92705	11.30424	11.04518
1	53.09340	280.7389	6.03e-10	1.303903	4.698569	2.367070
2	220.7602	138.7587*	1.57e-12*	-5.845529*	0.566617*	-3.837325*

Source: Authors' Computation

Note: * 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.

Hypotheses Test
ARDL Estimation

The approach developed by Pesaran, Shin & Smith (2001) was used for the bounds test (cointegration or long-run relationship). Table 4 shows the outcome of the bounds test applied to the estimated equation to check for cointegration among the model variables. The null hypothesis of the absence of cointegration was rejected at both 1% and 5% levels, where the F-Statistic value 10.066 was observed to be greater than I(1) bounds at both 1% and 5% levels.

Table 4: Bounds Test Results

Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	16.06648	5%	2.17	3.21
k	7	1%	2.73	3.9

Source: Authors' Computation

The long-run estimates of the ARDL model were presented in Table 5:

Table 5: Long-run estimates

Variable	Coefficient	Std. Error	t-Statistic	Prob.
HCI	-0.245635	0.089080	-2.757469	0.0202
CAP	-0.018081	0.007686	-2.352352	0.0405
AWR	-0.002008	0.004019	-0.499575	0.6282
LNPCI	0.018239	0.008129	2.243573	0.0487
GLB	-0.005477	0.003007	-1.821743	0.0985
GOV	-0.001145	0.010430	-0.109792	0.9147
ICT	-0.003505	0.001183	-2.963174	0.0142
C	0.374104	0.206425	1.812303	0.1000

Source: Authors' computation

The long-run estimated coefficients show that labour productivity (LBP) was hindered by the level of HCI, CAP, AWR, GLB, GOV and ICT while LNPCI was found to cause an increase in LBP. The coefficient of HCI implies that LBP decreased by 0.245635 due to the status of human capital in Nigeria which could be attributed to the poor state of the education and health sectors of Nigeria occasioned by insufficient budgetary allocation (Umoru & Yaqub, 2013). The negative coefficient of CAP indicates that LBP decreased by 0.018081 due to the level of capital intensity probably due to poor capital allocation or low capital mobilization occasioned by the vagaries of macroeconomic fundamentals (Elham, 2020). The estimated coefficient of AWR, which turned out negative, shows that the rate of change in the average wage rate caused LBP to decline by 0.002008 which could imply that the wage rate in Nigeria has not been encouraging labour productivity. The LNPCI emerged with a positive coefficient which implied that labour productivity would maintain an upward trend up to 0.018239 as long as per capita income is increasing, indicating that a better standard of living triggers higher productivity of labour. The negative coefficient of globalization (GLB) is indicative of the fact that LBP decreased by 0.005477 with a higher globalization wave, implying that the unproductivity of labour in Nigeria could be due to brain drain as workers have continued to leave the shores of Nigeria for overseas for better working conditions. Governance (GOV), on its own, turned out negative, showing that labour productivity was reduced by 0.001145 amidst bad governance as experienced in Nigeria over the years. Regarding ICT, it was found that labour productivity declined by 0.003505 due to the number of people using information and communication technology, indicating that low ICT usage makes labour unproductive.

Among the determinants of labour productivity highlighted in this study, it was found that HCI, CAP, LNPCI and ICT were the most significant determinants in the long run. The summary of hypotheses testing has been done in Table 6 based on the following decision rule:

A variable is adjudged significant if its probability value is less than 0.05. A variable is considered insignificant if its probability value is greater than 0.05.

Table 6: Summary of hypothesis testing

Variable	Null hypothesis	Probability	Decision
HCI	Human capital development has no significant effect on labour productivity	0.0202 < 0.05	Significant
CAP	Capital intensity has no significant effect on labour productivity	0.0405 < 0.05	Significant
AWR	The average wage rate has no significant effect on labour productivity	0.6282 > 0.05	Insignificant
LNPCI	Per capita income has no significant effect on labour productivity	0.0487 < 0.05	Significant
GLB	Globalization has no significant effect on labour productivity	0.0985 > 0.05	Insignificant
GOV	Governance has no significant effect on labour productivity	0.9147 > 0.05	Insignificant
ICT	Information and communication technology has no significant effect on labour productivity	0.0142 < 0.05	Significant

Source: Compiled by authors

Having ascertained the long-run relationship among the variables, the study proceeded to estimate the error correction mechanism (ECM) and the short-run dynamics. The estimated coefficient of the ECM (-0.565857) is negative and statistically significant at a 1% level. ECM is one period-lagged error correction model/term. The coefficient of ECM shows a relatively fast convergence of the variables to the equilibrium. The value of the ECM implies that approximately 57% of the disequilibrium in the system was adjusted each year. Thus, it takes about 1.77 years (i.e. 1/ECM) for the LBP model to reach its long-run equilibrium which justifies the lag length of two (2) selected for the study.

Table 7: Error Correction Mechanism

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LBP(-1))	-0.730503	0.065673	-11.12326	0.0000
D(HCI)	-0.013960	0.019015	-0.734141	0.4797
D(HCI(-1))	0.102644	0.033951	3.023303	0.0128
D(CAP)	0.023817	0.001808	13.17617	0.0000
D(AWR)	-0.004154	0.001079	-3.848727	0.0032
D(LNPCI)	0.012008	0.002568	4.676231	0.0009
D(GLB)	0.013356	0.000739	18.07743	0.0000
D(GOV)	0.009663	0.001566	6.171618	0.0001
D(ICT)	-0.000949	0.000141	-6.708441	0.0001
D(ICT(-1))	-0.004657	0.000283	-16.44112	0.0000
ECM(-1)	-0.565857	0.035074	-16.13310	0.0000
R-squared	0.959571			
Adjusted R-squared	0.937110			
Durbin-Watson stat	2.508212			

Source: Authors' computation

Apart from LNPCI and ICT, the short-run coefficients of other variables' coefficients turned out different from the signs observed in the long run. This shows that the determinants of labour productivity have time-varying effects. The time-varying effects imply that the independent variables do not affect the dynamics of labour productivity at the same time but they differ from time to time.

Stability Diagnostic Test

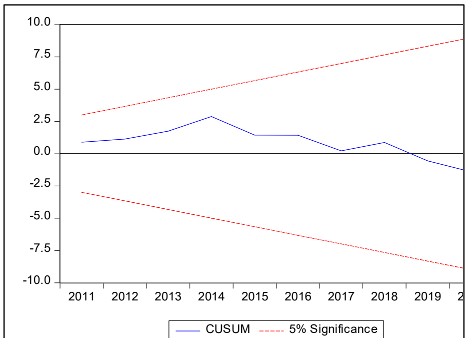
The stability diagnostic tests of the ARDL model are presented in Table 4.7:

Table 8: Stability Diagnostic Tests of the ARDL Model

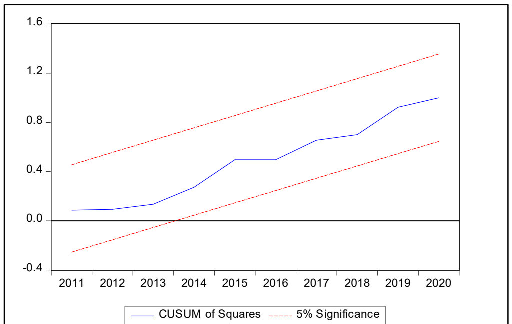
Test	F-statistic	P-value
Serial correlation LM test	4.661533	0.1167
Heteroskedasticity test: Breush-Pagan-Godfrey	0.503460	0.9015
Jarque-Bera normality test	1.561932	0.4579

Source: Authors' computation

Table 8 indicates the stability diagnostic test results. The values of the F-statistic and their corresponding p-value of the serial correlation LM test show that the null hypothesis of no serial correlation cannot be rejected, meaning that the ARDL model has no problem with serial correlation. The Heteroskedasticity test (Breush-Pagan-Godfrey) shows that the model does not suffer from Heteroskedasticity as the p-value of the F-Statistic was more than 5%, implying that the null hypothesis of no Heteroskedasticity cannot be rejected. Similarly, the result of the Jarque-Bera normality test indicates that the null hypothesis of normality cannot be rejected. Other than the above-mentioned tests, the CUSUM and QUSUMSQ techniques have also been applied based on the ECM model which was estimated. The following Figure 3 reveals that both the series are lying inside their critical bounds at a 5% significance level. This verifies the stability of the ECM model with respect to all involved variables and also indicates that there are no structural breakpoints in the estimated model.



3: CUSUM test



4: CUSUMSQ test

Figure 3: CUSUM test

Conclusion and Recommendations

Achieving sustainable productivity of labour has long been regarded as a cornerstone for economic growth and development in every nation. However, the productivity of labour has historically been low in Nigeria due to the lack of human capital development index, poor governance, poor standard of living and low wages. This study applied the auto-regressive distributed lag (ARDL) model to investigate the determinants of labour productivity in Nigeria. Results showed that the productivity of labour was more responsive to human capital development, capital intensity, per capita income and information and communication technology usage in the long run. However, labour productivity was positively affected by per capita income but negatively affected by human capital index, capital intensity, wage rate, globalization, governance and information and communication technology in the long run. From the short-run estimation, it was found that the coefficients of LNPCI and ICT remained as observed in the long-run but all other coefficients changed, implying that the observed determinants of labour productivity varied with time. Based on the results, this paper concludes that the explanatory variables used in this study, especially human capital development, capital intensity, per capita income and information and communication technology usage are significant long-run determinants of labour productivity in Nigeria. The findings from the analysis could be used for the betterment of labour productivity in Nigeria based on the following recommendations:

1) Nigeria must build capacity through investments in human capital by ensuring that the labour force is well-educated and trained to enhance labour efficiency which would further boost the overall economy.
2) There is a need to ensure adequate capital mobilization which would trigger higher labour productivity. Hence, it is recommended that the government build capacity towards ensuring sufficient capital accumulation through a public-private partnership.
3) Also, policymakers should aim at developing policies that would ensure that wages paid to workers are commensurate with the work done as this would encourage workers to do better. This may imply an upward review of the minimum wage of ₦30,000 currently paid by the Nigerian government.
4) With the negative response of labour productivity to low per capita income, there is a need to ensure equitable distribution of productive resources that would engage the Nigerian population in economically productive activities.
5) Nigeria should take advantage of the current globalization waves to attract foreign resources and knowledge to enhance labour productivity in the country as well as compete in the international labour market. Consequently, there is a need for trade liberalization that will permit new technology and innovation transfer needed for the upgrade of workers' skills.
6) There should be improvements in public administration, institutional reforms and application of appropriate policies and regulations towards promoting and enhancing national productivity of labour, as well as to ensure that all resources are efficiently and effectively employed in pursuit of this objective.
7) To facilitate high labour productivity, there is a need to make available adequate and modern technology and also to educate the labour force on how to apply such technology and innovations in ICT and other areas of productivity.

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EFFECTS OF FORENSIC ACCOUNTING ON FRAUD DETECTION AND PREVENTION IN BUSINESS ORGANISATIONS IN NIGERIA

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Abstract
There has been an upward surge in financial fraud worldwide over the past decade. Uncovering these frauds is therefore a major concern of forensic accountant to carry out the effective investigation as well as the performance of the individuals related with the criminal activities. This study examined the role of the forensic accountant in the prevention and detection of fraud in business organisations in Nigeria. The study used a survey design using questionnaire to obtain data from 328 accountant involved in audit firms (AF), Deposit Money Banks (DBM), and small and medium size enterprises (SMEs). Data were analyzed using SPSS 24 and results were considered significant at $p < 0.05$. Results revealed that majority of business organisations perform better in fraud control with a mean value of 3.52 ±1.25SD. Moreover, there was a significant relationship between internal control and forensic accounting ($P= 0.021$) though only operating efficiency is positively related to forensic accounting. The result of the model summary of the regression analysis for the operational efficiency model shows R-squared value of 0.406, indicating that about 40.6% of variations in operational efficiency is explained by forensic accounting. The ANOVA result of the model shows that F-statistic value of 126.522 with significance value of 0.000 which indicates that F-statistic is significance ($p < 0.05$). Forensic accounting was found to be statistically significant in affecting the information and communication technology of business organisations in Nigeria. Findings revealed that forensic accounting play an essential role in the detection and prevention of fraud in business organisations in Nigeria.
Keywords: *Forensic Accounting, Fraud, Business Organisation, Information and Communication Technology*

Introduction
Fraud is gradually becoming a normal way of life in both public and private sectors in most African countries, from the presidential cabinets, down to the political officer, through middle management cadre and to lower managers in Nigeria (Gbegi & Adebisi, 2014). The unrelenting series of embarrassing audit failures over the last 52 years has prompted a paradigm shift in accounting. Interestingly, in the mid-20th century, when the flight from fraud detection was at its height, a few observers predicted that in the future there will be acceptance of the general responsibility of the auditor to perform tests to detect material defalcations and errors if they exist (Brown, 1962). Forensic accounting is perceived to have evolved in response to certain emerging fraud related cases. The scandals that recently rocked the corporate world with classical examples being the often-cited Enron and

WorldCom cases have also brought the field of forensic accounting to the forefront. Forensic accounting is seen as encapsulating all other investigation related areas in uncovering financial fraud. The increasing sophistication of financial fraud requires that forensic accounting be added to the tools necessary to bring about the successful investigation and presentation of those individuals involved in criminal activities (Moduga & Anyaduba, 2013). The general expectation is that forensic accounting may offer some respite to the seemingly vulnerability of conventional accounting and audit systems to financial fraud.

The primary objective of financial reporting is to provide high-quality financial reporting information concerning economic entities, primarily financial in nature, useful for economic entities to achieve useful economic decision making (FASB, 1999; IASB, 2008). Providing qualitative financial reports is important because it will positively influence capital providers and other stakeholders in making investments, credit and similar resource allocation decision thereby enhancing overall market efficiency (IASB, 2008). According to Warshavsky (2012).

Financial Reporting Quality relates to the ability of a company's reported performance to best symbolize its true earnings. He further argues that analysts, investors and management have deployed dozens of forensic indices that aid the forensic accountant in assessing the probability of performance index manipulation by a suspect company. Warshavsky (2012), observed that because the financial statement are the responsibility of company's management, transactions can be structured to best achieve a desired accounting result by reporting key financial transactions to the company's advantage. He stresses that the quality of a company's earnings is one facet of an investigation that is often overlooked in the financial forensic process.

The place of Forensic Accounting in entrenchment of quality assurance of financial statement cannot be overemphasized. The issue of quality is very critical to the usefulness that financial reports could serve and Forensic Accounting which looks beyond mere adherence of financial reports to policies and principles but goes further to verify the underlying facts that could be tendered as evidence even in the courts has been veritable in the strengthening of quality of reports being issued by accountants. Financial reporting quality which encompasses the earnings quality, is a broader concept that not only refers to financial information but also to disclosures and other non-financial information useful for decision making included in the report(Beest, Braam & Boelens, 2009).

Accountants by their training are expected to demonstrate sufficient professional conduct in the discharge of their functions either as practicing accountants or as employees of organization. These professional conducts are governed by ethics which dictate professional behavior. Accountants constitute major custodians of organization resources. It is important to reflect a protective disposition in daily assignments alongside the requirements of ethical practices. In this perspective, controls to safeguard resources and reduce fraudulent practices will be enhanced. Though, strategies to control/minimize fraud could range from adequate remuneration and motivation of workforce, demonstration of exemplary leadership by management staff to implementation of relevant legislations (Abiola & Oyewole, 2013), accountants on whom managers, owners, and potential investors rely to make economic decisions based on information supplied by them (Stoniciuviene & Naujokaitience, 2013) are expected to be courageous and demonstrate high- level professional competencies and ethical conduct.

The failure of statutory audit to prevent and reduce mis-appropriation of corporate fund and an increase in corporate crime has put pressure on the professional accountant and legal practitioner is find a better way of exposing frame in business world. The accounting profession has in the recent past been challenged with entrenching quality in the financials reports which is perceived as the hallmark of the profession. Recent developments tend to establish the contrary. The banking sector in Nigeria has had several reasons to be overhauled in the recent past, the basic reasons being that they do not worth what they claim (Sanusi,2010). The case of Enron and WorldCom a s earlier cited also lay credence to this assertion and brought to the fore the extent of damage that poor quality financial reports can do. This study therefore seeks to establish the extent to which Forensic Accounting as an aspect of accounting can help in achieving qualitative financial statements that could aid stakeholders in making better investment decisions.

Many researchers have measured the quality of financial reporting indirectly by focusing on attributes that are believed to influence quality of financial reports such as earnings management, financial restatements and timeliness (Barth, Beaver and Lang, 2008; Schipper and Vincent, 2003; Cohen, Krishnamorthy & Wright, 2004). Despite, a considerable interest in the effectiveness of accounting standards on the quality of financial reporting, empirical literature emerged that offers contradictory findings about the questions to what extent accounting standards contribute to the decision usefulness of financial reporting information (Beest, et al. 2009). The enhancement of financial investigation will not only unveil the untoward acts of criminals, lead to recoveries but this may only be achievable if auditors who have been conversant with the tricks involved in the manipulations of figures are involved in financial investigations and make necessary impact to improve on quality assurance on financial statements which are the basic records presented (Ahamad, Zayyad & Rasak,2013). Their study however reveal that conducting an independent audit and incorporating it into periodic audit will most likely not enhance financial crime investigation especially in the aspect of early detection and confirmation of fraud. The incorporation of forensic accounting skills into conventional may actualize timely detection and confirmation of manipulations of financial reports as forensic accounting is based on the premise of looking for indicators of abnormal occurrences in the accounting and financial reporting system, McKittrick (2009).

From the foregoing, it is evident that researches have been done on the impact of forensic accounting on prevention of financial frauds while little or no extant study has been on the need to employing forensic accounting to enhance quality assurance of financial statements and hence the justification for this study. The study is also further necessitated by the divergent views of scholars on the effectiveness of forensic accounting on quality assurance of financial statements while many anchor theirs on earning quality. This study specifically seeks to x-ray the potency of forensic accounting in entrenching qualitative financial reporting in Nigeria. The researcher noted the following objectives to guide the study.

1. To examine the effects of forensic accounting on operational efficiency in business Organisation in Nigeria.
2. To evaluate the effects of forensic accounting on fraud control in business Organisation in Nigeria.
3. To examine the impact of forensic accounting on Information and Communication Technology (ICT) in business Organisation in Nigeria.

Predicated on these objectives the researcher, formulated the following Hypotheses in their null forms to guide the investigation of the study:

Ho_1: Forensic accounting does not have significant effects on operational efficiency in business organisations in Nigeria.

Ho_2: Forensic accounting does not have significant effects on fraud control in business organisations in Nigeria.

Ho_3: Forensic accounting does not have significant effects on ICT in business organisations in Nigeria.

The paper is organised as follows' the next section reviews relevant literature with regards to context justification and provide a theoretical background for the study, respectively. Next describes the sample data and empirical methodology. The last section summaries the main results, offers conclusion and recommendations.

Review of related Literature

Conceptual Reviews

a) The Concept of Fraud

Accounting figures are heavily exposed to fraud due to their influence on numerous crucial decisions that affect various key social actors with far reaching implications. Okafor (2004) reported that fraud is a generic term and embraces all the multifarious means which human ingenuity can devise, and resorted to by an individual to get advantage over another in false representation. According to Anyanwu (1993), fraud is an act or course of deception, deliberately practiced to gain unlawful or unfair advantage; at the detriment of another. Karwai, (2002); Ajie and Ezi, (2002); Anyanwu, (1993); Okafor, (2004) and Adeniji, (2004) Summarize the types of fraud on the basis of methods of perpetration which includes the following but not exhaustive: defalcation, suppression, outright theft and embezzlement, tampering with reserves, inside abuses and forgeries, fraudulent substitutions, unauthorized lendings, lending to ghost borrowers, kite flying and cross firing, unofficial borrowing, impersonation, fake payment, fraudulent use of the firms documents, fictitious accounts, false proceeds of collection, manipulation of vouchers, dry posting, over invoicing, inflation of statistical data, ledger accounts manipulation, fictitious contracts, duplication cheque books, computer fraud, misuse of suspense accounts, false declaration of cash shortages etc. It has been analysed that three components come to bear when committing fraud. These components which are pressure, opportunity and justification constitute the fraud triangle. Pressure factors could be categorized into three groups: pressures with financial content, pressures steaming from bad habits and pressures related with job.

Opportunity factor is the second component of the fraud triangle. It directly involves top management and owners of the business in particular. Providing the opportunity to commit fraud is one of the most important factors arising from frauds. The third component of the fraud triangle is fraudster's developing defence mechanisms in order to justify their action (Enofe, Okpako, & Atube, 2013). Over time, increase in the events of fraudulent acts has led to great importance attached to the initial detection of fraud (Enofe, Okpako & Atube, 2013).There are two main ways to detect frauds: (a) detection by chance and (b) conducting a proactive research and encouraging initial identification of symptoms, (Enofe, Okpako, & Atube, 2013). Fraud is costly as an estimated $3.5 trillion worldwide has been lost due to fraudulent financial statements, asset misappropriation, and corruption (ACFE, 2012). As a result, accounting standard setters have increased the steps auditors are expected to take in order to detect fraud which ultimately should restore public trust in the audit profession. However, identifying the occurrence of the cases of fraud is very difficult (Karwai, 2002). According to (Karwai, 2002), frauds perpetrated by organizations in modern day usually involve complex web of conspiracy and deception that often mask the actual cause. Fraud in whatever nature and guise, has to be detected first, since detection of fraud is an important pre- requisite of rooting out its occurrence. It is agreeable that an auditor does not have the absolute duty to uncover fraud, but is expected to practice fair and true reporting to ensure that the interests of the public as well as the employees are protected (Enofe, Okpako, & Atube, 2013). Companies should look towards new approaches rather than follow the traditional approach as forensic accounting may be the next best alternative in resolving financial problems (Enofe, Okpako, & Atube, 2013). Earlier research (Rezaee 2002; Crumbley 2003 and 2009; Peterson and Reider 1999, 2001; Rezaee, Reinstein, and Lander 1996; Rezaee and Burton 1997) reviews the literature on forensic accounting practices, certifications, and education.

These studies also provide evidence indicating that forensic accounting education has evolved from being limited, to continuing professional education sessions for practicing accountants, to a current state of being offered as a credit course by several universities (Enofe, Okpako and Atube, 2013). (Buckhoff and Schrader, 2000) observed that the inclusion of forensic accounting as a course to the accounting curriculum can greatly benefit the three major stakeholders in accounting education namely, the academic institutions, students, and employers of accounting graduates. Empirical evidence from a study by Boritz, Kotchetova and Robinson (2008) confirms that forensic accountants could detect significantly higher number of fraud than auditors. Srivastava, Mock and Turner (2003) in their study found that forensic audit procedures significantly lowered fraud risks. Furthermore, research has also proven that proactive forensic data analysis using computer based sophisticated analytical tests can detect fraud that may remain unnoticed for years (Brown, Aiken, & Visser, 2007). According to the US General Accounting Office (GAO) (1996), there is now a strong emphasis on fraud prevention and detection during statutory audits. The United States and international standards setters have increased the responsibility of auditors to consider the risks of fraud while conducting audits of financial statements. A study by Bierstaker, Brody and Pacini (2006) revealed the perception of accountants regarding fraud detection and prevention methods. The findings revealed that organizational use of forensic accountants was the least often resorted to but had the highest effectiveness ratings. This is similar to the findings of Ernst and Young (2003) worldwide fraud survey, which states that only 20% of organizations employed forensic accountants although the satisfaction level for their service was rated at 88% as against the use of statutory auditors. There is however a greater call for auditors to acquire forensic skills in the discharge of their duty. This call has been corroborated by Enyi (2009) who submits that all normal statutory audits should contain some elements of forensic enquiry as the evidence of fraudulent activities can be easily discovered if a thorough evaluation of the adequacy and compliance of the internal control mechanism is made. All these are aimed at fraud prevention and detection. This may not be achieved by an auditor without some understanding of forensic accounting methods (Effiong, 2012)

Concept of Forensic Accounting

This section reviews the meaning and concept of forensic accounting, origin of forensic accounting, and focus of forensic accounting. It attempts to discuss the differences between traditional accounting and forensic accounting. It further reviews the importance of forensic accounting, skills required by forensic accountants. Forensic accounting comprises two words – forensic and accounting. The term accounting itself has been defined by the American Institute of Certified Public Accountants (AICPA) as the art of recording, classifying, and summarising in a significant manner and in terms of money, transactions and events which are, in part at least, of financial character, and interpreting the results thereof (AICPA Committee on Terminology). It is thousands of years old. The earliest accounting records, which date back more than 7,000 years, were found in the Middle East. The people of that time relied on primitive accounting methods to record the growth of crops and herds. Accounting evolved, improving over the years and advancing as business advanced (Friedlob & Plewa 1996). Early accounts served mainly to assist the memory of the businessperson. The account was for the proprietor or record keeper alone. Cruder forms of accounting were inadequate for the problems created by a business entity involving multiple investors. Double-entry bookkeeping first emerged in northern Italy in the 14th century, where trading ventures began to require more capital than a single individual was able to invest. The development of joint stock companies created wider audiences for accounts, as investors without firsthand knowledge of their operations relied on accounts to provide the requisite information (Carruthers & Espeland 1991). This development resulted in a split of accounting systems for internal (i.e. management accounting) and external (i.e. financial accounting) purposes, and subsequently also in accounting and disclosure regulations and a growing need for independent attestation of external accounts by auditors (Lauwers & Willekens 1994).

Today, accounting is called the language of business because it is the vehicle for reporting financial information about a business entity to many different groups of people. There are different branches of accounting. The branch of accounting that concentrates on reporting to people inside the business entity is called management accounting. It is used to provide information to employees, managers, owner-managers and auditors. Management accounting is concerned primarily with providing a basis for making management or operating decisions. Accounting that provides information to people outside the business entity is called financial accounting. It provides information to present and potential shareholders, creditors such as banks or vendors, financial analysts, economists, and government agencies. Because these users have different needs, the presentation of financial accounts is very structured and subject to many more rules than management accounting. The body of rules that governs financial accounting is called Generally Accepted Accounting Principles (GAAP) (Friedlob & Plewa 1996). Forensic accounting also called investigative accounting or fraud audit is a merger of forensic science and accounting (Kasum, 2009). Forensic science, as Crumbley (2003) put it may be defined as application of laws of nature to the laws of man. A forensic scientist is one who examines and interprets evidence and facts in legal cases and also offers experts opinions regarding their findings in the court of law. In the present context, the science is accounting, hence the examination and interpretation will be of economic information.

Role of Forensic Accounting

From the foregoing, the importance of forensic accounting cannot be over emphasized. Writing on the role of forensic accounting in solving the vexed problems of corporate world, Owojori and Asaolu (2009) noted the failure of statutory audit to prevent and reduce misappropriation of corporate fund. This increase in corporate crime has put pressure on the professional accountant and legal practitioner to find a better way of exposing fraud in the business world. The importance of forensic accounting can be clearly understood from the context of failure in statutory audits to detect and prevent fraud has been summarized by Owojori and Asaolu (2009).

Moreover, occupational fraud committed by employees usually involves the theft of assets and embezzlement. Others are the involvement of employees in kickback schemes or conversion of corporate assets for personnel use. The forensic accountant can intervene and observe the assets, by examination, invigilation, inspection of documents and interview of those involved to control such practices. Experience and these types of engagement enable the forensic accountant to offer suggestions as to internal controls that owners could implement to reduce the likelihood of fraud.

Besides, the forensic accountant will also engage himself in criminal investigation on behalf of police force (Eiya and Otalor, 2013), where his report is prepared with the objectives of presenting evidence in a professional and concise manner. These assumptions often involve a detailed analysis of numerous years of accounting records to quantify the issues in dispute. He does need an understanding of legal issue of business activities. The forensic accountant can thus be of assistance in various ways that include investigation accounting, review of the factual situation and provision of suggestion, regarding possible courses of actions, assisting with the professional and recovery of assets and co-ordination of other experts, viz. private investigators, forensic document examiners, consulting engineers Detailed below are various areas in which a Forensic Accountant will often become involved (Mehta and Mathur 2007; Ghosh and Banerjee 2011; Eiya and Otalor, 2013)

Forensic Accounting and Information Communication and Technology (ICT)

Forensic accounting is a new trend particularly in developing economies. Hence, professional accountants with adequate skill and technical know-how on forensic issues are hardly available (Ehioghiren & Atu, 2016). It is an integral part of the accounting profession which has the sole aim of unearthing fraudulent activities within and outside an organization so far as the third party‟s action is in any way reflective on the activities of that organization (Modugu and Anyaduba, 2013). Forensic accounting is the science that deals with the relation and application of financial accounting, tax and auditing knowledge to analyze, investigate, inquire, test and examine matters in civic law and criminal law (Lohana, 2013).

Augustine and Uagbale (2014) investigated on the growing relevance of forensic accounting as a tool for combating fraud and corruption with focus on Nigeria experience using descriptive statistics methodology and exploratory design their study revealed that forensic accounting in Nigeria is still in its infancy stage and most Nigerians seemed to assume that there is no difference between forensic accounting and auditing. Similarly, Omar et al. (2013) examined „The relevance of IT application and forensic accounting‟ and they came out with the fact that, the ICT has been practically an important instrument for halting corruption. It enhances true transparent responsibility and accountability of government administration. Okunbor and Osaretin (2010) reported that the spates of corporate failures have placed responsibility on accountants to develop themselves with the skills to identify and act upon indicators of frauds, mismanagement and other wrong doing

Methodology

The study used a survey design using questionnaire to obtain data from 328 accountant involved in audit firms (AF), Deposit Money Banks (DBM), and small and medium size enterprises (SMEs).

The population for this study was 1822 which comprises of all the accountants in Abuja that work with audit firms, Deposit Money Banks (DMBs) and Small and Medium Enterprises (SMEs). The sample size selected for the study was 328 which was selected from audit firms, Deposit Money Banks (DMBs) and Small and Medium Enterprises (SMEs) in Abuja using Yamane (1967) statistical formulae for determination of sample size.

The instrument of data collection for this study is mainly questionnaire. Using the four Likert Scale method, the responses are scored as Strongly Agree (SD) =4, Agree (A)=3, Disagree (D)=2, Strongly Disagree (SD)=1.

Model Specification

FA= f (FC, OE, FR, ICT)

FA= Forensic Accounting FC= Fraud Control OE= Operational Efficiency, ICT= Information Communication and Technology.

The proposed model of the relationship among the variables for the analysis is as following:

Y = BO +B1X1+B2X2+E

BO= Constant term B1 and B2= Coefficients of the independent's variables

Method of Data Analysis

The data collected was analyzed using SPSS 24 and results were considered significant at $p < 0.05$. Descriptive statistics which involve the use of mean and standard deviation while regression analysis was adopted to test the stated hypotheses. The regression analysis was conducted to show the effects of the independent variables on the response variable. For the ordered estimation conducted in this study, the main statistics of interest are the coefficient estimates and their corresponding significance

Data Analysis and Result

Responses on Forensic Accounting and Internal Control

In order to examine the responses to the influence of forensic accounting on internal control by the sampled business organizations. Table 4. 1 presents a summary in respect to responses on the extent to which forensic accounting is effective on various aspect of internal control of business organizations which include fraud control, financial reporting, operating efficiency, and information and communication technology. The table shows that in relation to other internal control, majority of business organisations perform better in fraud control as the mean point of most of its items are above 3 (i.e. above undecided and moving close to agree and strongly agree). The only exception is the item on the extent of disclosure of information on corporate governance issues which has its mean point below 3. Business organisations also perform better in information and communications aspect of internal control as only one out of four items is below a mean point of 3. This exception as to do with finding easy solutions to fraudulent practices. Next in performance regarding internal control of business organisations is financial reporting which has two of its five items having mean points below 3. These are related providing annual reports that reflects true picture of organisations and providing annual reports that are specific and industry-based. The least in the performance of business organisations regarding internal control is their operating efficiency. The mean point of most of its four items are below 3. The only exception is improving profits of the organisations. Operating efficiency such as the improvement in overall performance, the control and relationships among departments, and the methodology of carrying out activities in a cost-effective manner have mean point below 3. This simply indicates that business organisations in Nigeria are falling short in the effectiveness of forensic accounting in bringing about an improvement in these items of the different aspects of internal control.

Table 4. 1: Extent to which Forensic Accounting is Effective on Internal Control

	Mean	Std. Dev.
Forensic Accounting (FA) disclosed that auditors is qualified or not	3.74	1.203
FA can identify misappropriated assets and identify reversible insider transactions	4.21	1.084
FA can be used to uncover diverted fraudulent practices	4.34	0.704
FA is effective as a fraud detection tool	3.88	1.141
FA is a to prevent suspicious or fraudulent transactions	4.15	0.684
FA will extensively disclosed information on corporate governance issues	2.87	1.350
FA enhances the quality of financial reporting	3.04	1.702
FA improves stakeholders trust and confidence in financial statement	3.46	1.541
FA helps to produce annual reports that will reflects the true picture of the organisations	2.37	1.381
FA will helps to produce annual reports with good feedback information	3.25	1.557
FA will aid to produce annual reports that will be specific and industry based	1.87	1.122
FA helps to improves the performance of business organisations	1.87	1.122
FA helps to improves the profit of the business	3.52	1.259
FA helps to improves the control and relationships of all the departments	2.11	1.388
FA helps to improves the methodology of carrying out activities in a cost effective manner	2.02	1.181
ICT helps in effective delivery of FA to business organisations	4.45	0.664
The skills of FA requires effective knowledge of ICT	3.61	1.185
The knowledge of ICT helps forensic accountants to discharge their duties effectively with regards to fraud control	4.35	0.941
ICT skills in FA makes their job simpler and easy to find solutions to fraudulent practices in business organisations FA	2.02	1.181

Source: Author's Computation, 2018.

Correlation Analysis

The results presented in Table 4.2 indicate that each of the internal control is statistically significant in relating with forensic accounting but only operating efficiency is positively related to forensic accounting. Among all these relationships with forensic accounting, that of operational efficiency is the strongest relationship with a Pearson correlation coefficient of 0.637. The result indicates that all relationships between each of the internal controls and forensic accounting are statistically significant at least at 5% level of significance. This implies that on one hand, higher levels of the use of forensic accounting is associated with higher levels of operational efficiency on business organisations in Nigeria while on the other hand, higher levels of the use of forensic accounting is associated with lower levels of fraud control, financial reporting, and information and communication technology in business organisations in Nigeria.

Table 4. 2: Pearson Correlation Matrix

		1	2	3	4	5
Forensic accounting	Pearson correlation	1	-.650**	-.201**	.637**	-.224**
	Sig.		.000	.006	.000	.002
	N	187	187	187	187	187
Fraud control	Pearson correlation	-.650**	1	.205**	-.278**	.256**
	Sig.	.000		.005	.000	.000
	N	187	187	187	187	187
Financial reporting	Pearson correlation	-.201**	.205**	1	-.478**	.001
	Sig.	.006	.005		.000	.988
	N	187	187	187	187	187
Operational efficiency	Pearson correlation	.637**	-.278**	-.478**	1	-.291**
	Sig.	.000	.000	.000		.000
	N	187	187	187	187	187
ICT	Pearson correlation	-.224**	.256**	.001	-.291**	1
	Sig.	.002	.000	.988	.000	
	N	187	187	187	187	187

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

Regression Analysis

The regression analysis presented in this study is to examine the effect of forensic accounting on each of the internal control measures namely, operational efficiency, financial reporting, fraud control, and information and communication technology of business organisations in Nigeria. Four models are specified where each of these four measures of internal control are dependent variables forensic accounting is the independent variable in each model. The result presented in Table 3 shows the model summary of the regression analysis for the operational efficiency model. It shows R-squared value of 0.406, indicating that about 40.6% of variations in operational efficiency is explained by forensic accounting.

Table 4. 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.637	.406	.403	22.440

Source: Author's Computation, 2018.

Table 4.4 presents the ANOVA result of the model. The result shows F-statistic value of 126.522 with significance value of 0.000 which indicates the F-statistic is significance since its significance value is less than 0.05. This indicates that the overall model is statistically significant, hence, forensic accounting is statistically significant in affecting the operational efficiency of business organisations in Nigeria.

Table 4.4: ANOVA Table

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	63713.040	1	63713.040	126.522	.000
1	Residual	93161.131	185	503.574		
	Total	156874.171	186			

Table 4.5 presents the coefficients of forensic accounting and its impact on operational efficiency of business organisations in Nigeria. The result shows that the coefficient of forensic accounting is positive, indicating that forensic accounting positively influence operating efficiency of business organisations in Nigeria. This effect is also found to be statistically significant (judging from its probability value being less than 0.05). The significant positive standardized coefficient value of forensic accounting (0.637) indicates that increase in forensic accounting will lead to increase in operational efficiency of business organisations in Nigeria by about 63.7 percent. In other words, improvements in the use of forensic accounting is important for improvements in internal control of business organisations that as to do with their operational efficiency.

Table 4. 5: Coefficients Table

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	33.493	2.711		12.356	.000
	Forensic accounting	.806	.072	.637	11.248	.000

Source: Author's Computation, 2018.

Financial Reporting

The result presented in Table 4.6 shows the model summary of the regression analysis for the financial reporting model. It shows R-squared value of 0.479, indicating that about 47.9% of variations in operational efficiency is explained by forensic accounting.

Table 4. 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate

1	.692	.479	.452	10.322

Source: Author's Computation, 2018.

Table 4.7 presents the ANOVA result of the model. The result shows F-statistic value of 169.829 with significance value of 0.000 which indicates the F-statistic is significance since its significance value is less than 0.05. This indicates that the overall model is statistically significant, hence, forensic accounting is statistically significant in affecting the financial reporting of business organisations in Nigeria.

Table 4.7: ANOVA Table

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	9833.970	1	9833.970	169.829	.006
	Residual	10712.437	185	57.905		
	Total	20546.406	186			

Table 4. 8 presents the coefficient of forensic accounting and its impact on financial reporting of business organisations in Nigeria. The result shows that the coefficient of forensic accounting is negative, indicating that forensic accounting negatively influence financial reporting of business organisations in Nigeria. This effect is also found to be statistically significant (judging from its probability value being less than 0.05). The significant negative standardized coefficient value of forensic accounting (-0.401) indicates that increase in forensic accounting will lead to a decline in financial reporting of business organisations in Nigeria by about 40.1 percent. In other words, the use of forensic accounting is detrimental to the level of financial reporting of business organisations in Nigeria.

Table 4. 8: Coefficients Table

Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	Std. Error	Beta		
1	(Constant)	23.124	1.247		18.546	.000
	Forensic accounting	-.292	.103	-.401	-2.835	.006

Fraud Control

The result presented in Table 4. 9 shows the model summary of the regression analysis for the fraud control model. It shows R-squared value of 0.422, indicating that about 42.2% of variations in fraud control is explained by forensic accounting.

Table 4. 9: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate

1	.650	.422	.419	10.614

Table 4. 10 presents the ANOVA result of the model. The result shows F-statistic value of 135.145 with significance value of 0.000 which indicates the F-statistic is significance since its significance value is less than 0.05. This indicates that the overall model is statistically significant, hence, forensic accounting is statistically significant in affecting the fraud control of business organisations in Nigeria.

Table 4. 10: ANOVA Table

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	15224.704	1	15224.704	135.145	.000
	Residual	20841.072	185	112.654		
	Total	36065.775	186			

Table 4. 11 presents the coefficient of forensic accounting and its impact on fraud control of business organisations in Nigeria. The result shows that the coefficient of forensic accounting is negative, indicating that forensic accounting negatively influence fraud control of business organisations in Nigeria. This effect is also found to be statistically significant (judging from its probability value being less than 0.05). The significant negative standardized coefficient value of forensic accounting (-0.650) indicates that increase in forensic accounting will lead to a decline in fraud control of business organisations in Nigeria by about 65.0 percent. In other words, the use of forensic accounting is also detrimental to the level of fraud control of business organisations in Nigeria.

Table 4. 11: Coefficients Table

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	31.525	1.282		24.590	.000
	Forensic accounting	-.394	.034	-.650	-11.625	.000

Information and Communication Technology

The result presented in Table 4.12 shows the model summary of the regression analysis for the information and communication technology model. It shows R-squared value of 0.416, indicating that about 41.6% of variations in information and communication technology is explained by forensic accounting.

Table 4. 12: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate

1	.645	.416	.405	16.763

The value of 0.000 which indicates the F-statistic is significance since its significance value is less than 0.05. This indicates that the overall model is statistically significant, hence, forensic accounting is statistically significant in affecting the information and communication technology of business organisations in Nigeria.

Table 4.13: ANOVA Table

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	22746.376	1	22746.376	131.576	.000
	Residual	31982.031	185	172.876		
	Total	54728.406	186			

Table 4. 14 presents the coefficient of forensic accounting and its impact on information and communication technology of business organisations in Nigeria. The result shows that the coefficient of forensic accounting is negative, indicating that forensic accounting negatively influence information and communication technology of business organisations in Nigeria. This effect is also found to be statistically significant (judging from its probability value being less than 0.05). The significant negative standardized coefficient value of forensic accounting (-0.324) indicates that increase in forensic accounting will lead to a decline in information and communication technology of business organisations in Nigeria by about 32.4 percent. In other words, the use of forensic accounting is also detrimental to the level of ICT of business organisations in Nigeria.

Table 4.14: Coefficients Table

Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**T**	**Sig.**
		B	Std. Error	Beta		
1	(Constant)	42.327	2.025		20.905	.000
	Forensic accounting	-.267	.124	-.324	-2.153	.012

Discussion of Findings

In order to examine the responses to the influence of forensic accounting on internal control by the sampled business organizations. Table 4. 2 presents a summary in respect to responses on the extent to which forensic accounting is effective on various aspect of internal control of business organizations which include fraud control, financial reporting, operating efficiency, and information and communication technology. The table shows that in relation to other internal control, majority of business organisations perform better in fraud control as the mean point of most of its items are above 3 (i.e. above undecided and moving close to agree and strongly agree). The only exception is the item on the extent of disclosure of information on corporate governance issues which has its mean point below 3. Business organisations also perform better in information and communications aspect of internal control as only one out of four items is below a mean point of 3. This exception as to do with finding easy solutions to fraudulent practices. Next in performance regarding internal control of business organisations is financial reporting which has two of its five items having mean points below 3. These are related providing annual reports that reflects true picture of organisations and providing annual reports that are specific and industry-based. The least in the performance of business organisations regarding internal control is their operating efficiency. The mean point of most of its four items are below 3. The only exception is improving profits of the organisations. Operating efficiency such as the improvement in overall performance, the control and relationships among departments, and the methodology of carrying out activities in a cost effective manner have mean point below 3. This simply indicates that business organisations in Nigeria are falling short in the effectiveness of forensic accounting in bringing about an improvement in these items of the different aspects of internal control.

The results presented in Table 4.2 indicate that each of the internal control is statistically significant in relating with forensic accounting but only operating efficiency is positively related to forensic accounting. Among all these relationships with forensic accounting, that of operational efficiency is the strongest relationship with a Pearson correlation coefficient of 0.637. The result indicates that all relationships between each of the internal controls and forensic accounting are statistically significant at least at 5% level of significance. This implies that on one hand, higher levels of the use of forensic accounting is associated with higher levels of operational efficiency on business organisations in Nigeria while on the other hand, higher levels of the use of forensic accounting is associated with lower levels of fraud control, financial reporting, and information and communication technology in business organisations in Nigeria.

The regression analysis presented in this study is to examine the effect of forensic accounting on each of the internal control measures namely, operational efficiency, financial reporting, fraud control, and information and communication technology of business organisations in Nigeria. Four models are specified where each of these four measures of internal control are dependent variables forensic accounting is the independent variable in each model.

The result presented in Table 3 shows the model summary of the regression analysis for the operational efficiency model. It shows R-squared value of 0.406, indicating that about 40.6% of variations in operational efficiency is explained by forensic accounting.

Table 4.4 presents the ANOVA result of the model. The result shows F-statistic value of 126.522 with significance value of 0.000 which indicates the F-statistic is significance since its significance value is less than 0.05. This indicates that the overall model is statistically significant, hence, forensic accounting is statistically significant in affecting the operational efficiency of business organisations in Nigeria.

Table 4.5 presents the coefficients of forensic accounting and its impact on operational efficiency of business organisations in Nigeria. The result shows that the coefficient of forensic accounting is positive, indicating that forensic accounting positively influence operating efficiency of business organisations in Nigeria. This effect is also found to be statistically significant (judging from its probability value being less than 0.05). The significant positive standardized coefficient value of forensic accounting (0.637) indicates that increase in forensic accounting will lead to increase in operational efficiency of business organisations in Nigeria by about 63.7 percent. In other words, improvements in the use of forensic accounting is important for improvements in internal control of business organisations that as to do with their operational efficiency.

The result presented in Table 4.6 shows the model summary of the regression analysis for the financial reporting model. It shows R-squared value of 0.479, indicating that about 47.9% of variations in operational efficiency is explained by forensic accounting.

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The result presented in Table 4. 9 shows the model summary of the regression analysis for the fraud control model. It shows R-squared value of 0.422, indicating that about 42.2% of variations in fraud control is explained by forensic accounting.

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percent. In other words, the use of forensic accounting is also detrimental to the level of ICT of business organisations in Nigeria.

Conclusion

Professional ethics from the perspective of accountants has the capacity to ameliorate fraud taking into consideration the national value system. In addition, fraud control measures may be unproductive without an improvement in the eroded national value system. This study is therefore significant as it has contributed to literature on fraud from the dimension of accountants ethics, highlighting the value system factor in Nigeria. Organisations should be circumspect in staff recruitment to properly expose their characteristics before engagement. This will reduce the risk of employee fraud. In the same vein, staff should be adequately motivated (in terms of the condition of service) to guide against management fraud and possible connivance with third parties external to the organization. Though, attention was focused on accountants' ethics, behavioral patterns and philosophy of institutions (private and public) greatly explain variations in fraud control. In our environment where elected and political office holders are the highest paid group, more, from the taxpayers' resources, is fraudulent, unethical and discourages productivity. Unless this trend is reversed, good corporate governance will continuously elude the people.

Forensic accounting is the bests ever growing areas accounting that enables in enhancing the chances Success in day to day life of corporate firm by surmounting all the vexing and critical problems of corporate field as panacea. Thus various agencies fighting corruption worldwide will need to engage the service of forensic accounting to compliment efforts of other professional in reducing fraudulent activities an installing fraud proof internal control system in corporate organization. So it's beyond doubt that the role of forensic accountant will become very major in corporate field; public accounting and in all awareness of government in the days to come.

Forensic accounting positively influence operating efficiency of business organisations in Nigeria. This effect is also found to be statistically significant (judging from its probability value being less than 0.05). The significant positive standardized coefficient value of forensic accounting (0.637) indicates that increase in forensic accounting will lead to increase in operational efficiency of business organisations in Nigeria by about 63.7 percent. In other words, improvements in the use of forensic accounting is important for improvements in internal control of business organisations that as to do with their operational efficiency.

Forensic accounting is statistically significant in affecting the financial reporting of business organisations in Nigeria. The result shows that the coefficient of forensic accounting is negative, indicating that forensic accounting negatively influence financial reporting of business organisations in Nigeria. This effect is also found to be statistically significant (judging from its probability value being less than 0.05). The significant negative standardized coefficient value of forensic accounting (-0.401) indicates that increase in forensic accounting will lead to a decline in financial reporting of business organisations in Nigeria by about 40.1 percent. In other words, the use of forensic accounting is detrimental to the level of financial reporting of business organisations in Nigeria.

Forensic accounting is statistically significant in affecting the fraud control of business organisations in Nigeria. The result shows that the coefficient of forensic accounting is negative, indicating that forensic accounting negatively influence fraud control of business organisations in Nigeria. This effect is also found to be statistically significant (judging from its probability value being less than 0.05). The significant negative standardized coefficient value of forensic accounting (-0.650) indicates that increase in forensic accounting will lead to a decline in fraud control of business organisations in Nigeria by about 65.0 percent. In other words, the use of forensic accounting is also detrimental to the level of fraud control of business organisations in Nigeria.

Forensic accounting is statistically significant in affecting the information and communication technology of business organisations in Nigeria. The result shows that the coefficient of forensic accounting is negative, indicating that forensic accounting negatively influence information and communication technology of business organisations in Nigeria. This effect is also found to be statistically significant (judging from its probability value being less than 0.05). The significant negative standardized coefficient value of forensic accounting (-0.324) indicates that increase in forensic accounting will lead to a decline in information and communication technology of business organisations in Nigeria by about 32.4 percent. In other words, the use of forensic accounting is also detrimental to the level of ICT of business organisations in Nigeria.

Recommendations

Based on the above, it is recommended that accountant in business organisations in Nigeria should acquire training in forensics to enable them carry out this investigative aspect and be in a position to offer advises that could unravel those issues which has mitigated quality assurance of financial statements. Moreover, forensic accountants should be employed to fortify the internal control of various organisations while reports are benchmarked against the fundamental and enhancing qualitative attributes in order to appreciate organisations that have adhered to the requirements. Accounting Regulators in Nigeria such as the Financial Reporting Council and other relevant accounting bodies should develop programmes to ensure certification of accountants in this area of accounting.

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EFFECT OF MODERN MANAGEMENT ACCOUNTING PRACTICE ON LISTED CONSUMER GOODS' COMPANIES IN NIGERIA

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Abstract
This study aims to investigate the application of modern management accounting techniques and the challenges confronting its application in the unlisted consumer goods' firms in Nigeria. One set of questionnaire was structured and used to gather the primary data. 56 firms representing 30% of the population were sampled and 38 of them returned the completed questionnaire. Descriptive statistics, one sample t-test and Spearman correlation were used to analyse the data. It was found out the most of the new techniques have not been known as only Total Quality Management, Customer Accounting, Throughput Accounting and Back-flush Accounting have only been partially or fully used. Lack of management support is the most prevailing challenge revealed, followed by lack of awareness of those techniques and preference for financial/historical information. The findings of this study indicates that consumer goods firms in Nigeria are still addicted to practicing management accounting techniques, though in conjunction with a few of the modern techniques. Empirical evidence from the study suggests a moderate and positive relationship between firm size and modern management accounting techniques.
Key words: *Accounting, Techniques, Application, Management, Consumers.*

Introduction

Inefficiency in the application of given any set of working tools constitute potential impediment capable of affecting the economy of any organization, talk less of operating ventures in that economy, with the worst-hit likely to be the developing countries (Ajibolade, 2013). In his words, Riahi-Belkaoni (1994), posited that it is the inefficient application/under-employment of any given resources in a production process that is capable of leading that nation to create the right or wrong products. Efficiency of the consumer goods firms is inevitable for the sector to make meaningful contributions toward solving the nation's economic problems (Ajibolade, 2013); management accounting has been suggested as a solution to inefficiency for providing information that can assist managers in fulfilling the goals of the organizations (Horngren, *et al.,* 1994).

The last three decades has seen the traditional cost and management techniques being confronted with a lot of criticisms from various authors. The critics claims that management accounting has lost its relevance due to the innovations and dynamism of business environments (Johnson and Kaplan, 1987). The critics of the conventional techniques did not only point out the inefficiencies of the d techniques but also advocated for modern management accounting techniques.

Abnitio, the traditional techniques available to management accounting experts for information provision to managers are perhaps the standard costing, variance analysis, absorption costing, marginal costing, Cost Volume Profit Analysis and Process costing among others (ICAN, 2014); Ashfaq, Younas, Usman & Hanif, 2014; Ajibolade, 2013 Ekibatani & Sangeladji, 2008), but these traditional techniques have lost their "salt/relevance" in the modern day business environment (Johnson and Kaplan, 1987). The traditional management accounting system has been criticised for being subservient to financial accounting and hence produces information that is too late, too aggregated and too distorted to be relevant for managers' planning and control decisions (Waweru, 2010; Johnson & Kaplan, 1987; Kaplan, 1984). This criticism has generated a lot of controversies about the usefulness of management accounting in the 21st century business environment. In a bid to address the weaknesses of the traditional management accounting techniques, the critics of traditional have advocated for modern techniques such as Balanced Score Card, Activity-Based- Costing/Activity-Based-Management (ABC/ABM), and Life cycle Costing, Target Costing, Just-in-Time (JIT), Kaizen Costing and the host of others. However, from recent studies, it has shown that the traditional techniques are still being used in many nations of the world such as Turkey (Badem, Ergin, and Dury, 2013), UK (Dugdale, Jones and Green, 2005), US (Rosemary and Cheryl, 2004), and Bangladesh (Mazunder, 2007; Yeshmin and Fowzia, 2010), among others.

It is worrisome that despite the severe criticisms of traditional management accounting techniques and the acclaimed benefits of the modern techniques, the practice of modern management accounting techniques in many parts of the world is still very low. This study unearths the application of the modern management accounting techniques in Nigerian consumer goods firms and found out that modern management accounting techniques have not been in practice as only Total Quality Management (TQM), Customer accounting, Throughput accounting and Back Flush accounting have been either fully or partially applied. The study as found out that lack of management support, lack of awareness of those techniques and preference for financial/ historical information are responsible for low application of the modern techniques. The current management accounting practices among the consumer goods firms in Nigeria principally include a mixture of traditional management accounting and some modern techniques. Evidence from this study also suggests a positive moderate relationship between firm size and modern management accounting techniques. In the right of these, the researchers formulated the below mentioned hypotheses to guide the investigation of the study:

Ho₁: Consumer goods' firms have not applied modern management accounting techniques.

Ho₂: There is no relationship between firm size and the diffusion of modern management accounting techniques.

The paper is organised as follows' the next section reviews relevant literature with regards to context justification and provide a theoretical background for the study, respectively. Next describes the sample data and empirical methodology. The last section summaries the main results, offers conclusion and recommendations.

Review of Related Literature

Conceptual reviews

Traditional management accounting

Traditional management accounting techniques are said to have lost their relevance in the 21st century business. That it is subservient to financial accounting and consequently produces information that is too late, too aggregated and too distorted to be relevant for managers' planning and control decisions (Kaplan, 1984, Johnson and Kaplan, 1987). However, despite the heavy criticisms advanced against the traditional management accounting techniques, the extant literatures show that they are still being widely used, while the modern techniques are still unpopular in some places despite a lot of advantages credited to them (Badem, Ergin, & Dury, 2013; Dugale, Jones & Green 2005; Rosemary & Cheryl, 2004).

Diffusion of innovation theory

Rogers and Scott (1997), defines innovation, as simply "an idea perceived as new by the individual and diffusion as the process by which innovation is communicated through certain channels over time among the members of a social system, or a special type of communication concerned with the spread of messages that are perceived as new ideas.

Size is the most ambiguous influencing factor in diffusion of innovation (Askarany & Smith, 2008). Firm size can be determined based on different parameters and number of employees is one criterion for determining size of firms and categorising firms to small, medium and large firms (Askarany & Smith, 2008). The influence of firm size on innovation has produced mixed result; as some claim that large firm adopt innovation faster than small firms because of their ability to afford capital, to put up with the costs of innovation and bear the risk of failure (Brown (1981, cited in Askarany & Smith, 2008); but according to Nooteboom (1994), small firms bring technological change to the market more quickly than large businesses when there is less bureaucracy, greater motivation, better survey of the entirety of the project, and greater proximity to the market associated to small firms, however, while Fieldman (1994), posits that small business are the prime source of technological change in certain industries.

Nimtrakoon and Tayles (2010), found out that larger firms in Thailand obtain higher benefit from both contemporary and traditional MAPs than smaller firms. Ahmad and Zabri (2012), also states that both Malaysian small and medium firms made extensive use of traditional management accounting practices (MAPs) and only selectively use modern MAPs, while medium firms uses as twice as many small firms. Evidence from Australia suggests the existence of a significant positive association between business size and both the diffusion of production innovation, and the diffusion of ABC in organisations Askarany & Smith, (2008). The mixed results on the effect of firm size on innovation makes this study to propose the following null hypotheses:

Methodology

This section is intended to show a systematic approach which the researcher uses to achieve the objectives of the study. It comprises the population, sampling technique, sample size, research instrument and statistical techniques of the study.

Population and Sampling Design

The population for this study comprises unlisted consumer goods firms in Nigeria; they are the micro, small and medium scale firms in Nigeria. This is based on the definitions of Louis and Annette (2005), and Parker and Torres (1994), that a micro-firm is defined as having no more than 10 employees; a small firm with 11-50 employees; and a medium firm with 50 to 100 employees have over 100 employees Forsaith and Fuller (1995), posit that many firms are neither small nor large Such firms are not publicly listed, yet financial markets do not require personal guarantees for firms' financing. Osteryoung and Newman (1992), describes such firms as medium size firms. The contribution of micro, Small and Medium firms to Nigerian economy cannot be overemphasized as the sector created 89.9% of the total new jobs created in Nigeria in 2009 (Bunyasi, Bwisia & Namusonge, 2014), and contributed 59% of total Gross Domestic Product (Rok, 2009) .

The study population incudes one hundred and seventy nine (179) unlisted consumer goods firms in Nigeria. Since there is a high concentration of consumer goods firms in the Industrial Areas of Lagos State, the researcher used industrial area as the study area and purposively sampled 56 firms. The purposive method was used to collect sample as a result of inconsistencies in data reporting of firms to the bureau of statistics in Nigeria.

Data Collection

A well-structured questionnaire was prepared to elicit the primary data from the respondents and personally administered to the Management Accountants/ head of accounts/Finance units of the sampled firms and in some cases to the receptionists for onward delivery to the appropriate units. The 56 sample size represents 31.28% of the population which is an appropriate size according to Mugenda and Mugenda (2003). A copy of the questionnaire was dropped with each firm and 48 useful copies were competed and returned.

The questionnaire was divided into eight parts. The first part consists of 4 questions bordering on the personal information about the respondents specifying their academic and professional qualifications, specialization and position. The second part contains 4 corporate characteristics including age of the firm, type of products, number of products, type of market and firm size. The third part comprises questions on application of the modern techniques ranging from no application to full application. No application was assigned 0, Desire to apply but face difficulty was assigned 1, Desire to but still in preparation stage was assigned 2, partial application was assigned 3 and full application was assigned 4. For the purpose of the hypotheses testing, one sample t-test was computed for the difference between the actual mean of application and the hypothesized mean of application which is equal to 2. The fourth part asked question about perceived impact of the modern techniques while the fifth part comprises questions on the usage of traditional techniques. The usage was scaled from very often to never which were assigned 5 to 0 respectively. The sixth part contains questions on the perceived relevance of the traditional techniques, the seventh part constitutes questions on the challenges encountered when trying to apply the techniques and the eighth part was made up of questions on possible solutions. Descriptive statistics comprising mean, standard deviation and frequency were used and ne sample t-test and Pearson Correlation were also used for the purpose of hypotheses testing.

Results

This section consists of both descriptive and inferential analysis.

Descriptive Analysis

Table 1. Modern Management Accounting Techniques as Perceived

Status	Frequency	Percent	Valid Percent	Cumulative Percent
Quite Satisfactory	16	37.2	37.2	37.2
Fairly Satisfactory	15	34.9	34.9	72.1
Unsatisfactory	12	27.9	27.9	100.0
Total	**43**	**100.0**	**100.0**	

Field Survey, 2022.

From the Table one, only few respondents (16= 37%) of the respondents opined that the modern techniques are quite satisfactory. However, all the respondents are satisfied with the traditional techniques.

Table 2.= Reasons for Low application of modern management accounting techniques

Reasons	Rank
Historical information is given more importance	3rd
Lack of Awareness	2nd
Modern techniques are not applicable	8.5th
Extra Cost involved	8.5th
Lack of specialists	8.5th
Lack of Technological advancement	5th
Lack of Management Support	1st
Lack of awareness of the benefits attached to the modern techniques	4th
Resistance to Change	5.5th
Type of Product, No of Product and Type of Market	10th
Type of Industry	8.5th

Field Survey, 2022.

In table 2, Lack of suitable technological advancement that can match the application of modern techniques and resistance to change are ranked 4th while extra cost involved, lack of specialist, non-applicability of the techniques and type of industry are very far from likely reason as they are ranked 8.5th, while the type of industry is the most likely reason for low application as it appears at the bottom of the ladder. However, this finding contradicts the finding of Saaydah and Khatatneh (2014), in Jordan where involvement of extra cost is the most prevailing reason, followed by lack of specialists; and the findings of Mazumder (2007), in Bangladesh, where lack of awareness by the top management who placed more emphasis on financial information, that involvement of extra costs are the first prevailing difficulties.

Table 3: The Perceived benefits of Traditional Techniques

	Frequency	Percent	Valid Percent	Cumulative Percent
Quite Satisfactory	16	37.2	37.2	37.2
Valid Fairly Satisfactory	27	62.8	62.8	100.0
Total	**43**	**100.0**	**100.0**	

Field Survey, 2022.

In Table 3, the prevailing factors preventing the application of the modern cost and management accounting techniques is lack of management support, giving rise to lack of awareness of the modern techniques and preference for historical or financial information which rank 2nd and 3rd respectively.

Table 4.= Perceived Solution to Low application of Modern Techniques

Reasons	Rank
Seminar and Workshop	1.5th
Awareness among top management	1.5th
Emulation of techniques being used by the competitors	3rd
Getting up-to-date information from the professional bodies	4th
Introducing Management Audit more extensively	5th

Field Survey, 2022.

As shown in Table 4, five proposed solutions to the problem of application were posed to respondents to assess; seminar and workshop on the importance and benefits of the techniques and awareness of those techniques were given equal and highest consideration. This was followed by emulating the competitors by applying the techniques which the competitors have successfully applied. Getting up to date in formation from the professional bodies' newsletters and magazines was also considered relevant and the 4th in the list, while introduction of management audit more extensively was considered the least.

Table 5.= The Degree of Application of Traditional Techniques

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Standard Costing	43	1	5	3.21	1.505
Variance Analysis	38	2	5	3.26	1.057
Absorption Costing	43	1	5	2.56	1.777
Marginal Costing	43	1	5	3.44	1.666
Financial Statement Analysis	43	3	5	4.77	0.649
Fund Flow Analysis	43	1	5	3.70	1.655
Cash Flow Analysis	43	4	5	4.60	0.495
Cost Volume Profit Analysis	43	3	5	4.26	0.978
Sensitivity Analysis	43	1	5	2.56	1.777
Simulation Analysis	39	1	5	2.38	1.786
Process Costing	43	1	5	2.53	1.764
Budgetary Control	43	1	5	3.12	1.815
Opportunity Costing	43	1	5	2.53	1.764
Capital Budgeting techniques	43	1	5	3.02	1.739
Differential Costing	43	1	5	2.26	1.482
Valid N(likewise)	34				

Field Survey, 2022.

Table 5 clearly points out that Financial Statement Analysis and Cash Flow Analysis are being used very often by the firms. Likewise, Cost Volume Profit Analysis and Fund Flow Analysis are being used often times. All other techniques are also being used but sparingly.

The status of modern management accounting techniques shown in Table 6 are discussed as follows:

Table 6: Application of Modern Cost and Management Accounting Techniques

S/N	Techniques	N	Mean	SD	DF	t	Sig
1	Balance Score Card	43	1.16	1.7	42	3.2	0.061
2	Activity Based Costing	43	1.65	1.8	42	1.25	0.217
3	Total Quality Management	43	2.79	1.78	42	2.92	0.006
4	Life Cycle Costing	43	1.16	1.8	42	3.4	0.058
5	Target Costing	43	1.49	1.63	42	2.1	0.59
6	Throughput Accounting	43	2.23	1.78	42	0.03	0.04
7	Back Flush Accounting	43	2.14	1.72	42	0.534	0.48
8	Just in Time System	43	1.4	1.93	42	2.06	0.056
9	Kaizen Costing	43	1.37	1.83	42	2.26	0.079
10	Benchmarking	43	1.6	1.45	42	1.77	0.84
11	Value Chain Costing	43	1.12	1.74	42	3.34	0.092
12	Customer Accounting	43	3.13	0.34	42	20.80	0.000

Field Survey 2022.

Table 6 clearly reveals that only Total quality Management, Customer Accounting, Throughput Accounting and Back flush Accounting have been partially or fully applied by consumer goods firms in Nigeria, since their mean values 2.79,3.13, 2.23 and 2.14 respectively are greater than 2(the hypothesized mean). Their P-values which are also less than 0.05 indicates that the nu hypotheses could be rejected which implies that they have been applied by the firms.

Since the actual means of Balance Score Card, Activity Based Costing, life Cycle Costing, Target Costing, Just in Time, Process Reengineering, Kaizen Costing, Benchmarking and value chain costing are 1.65, 1.16, 1.49, 1.4, 1.65, 1.37, 1.60 and 1.12, respectively, it means they have neither been partially nor fully applied (their mean values are lower than 2 which is the hypothesized mean); though consumer goods firms in Nigeria desire to apply them, they have not been able to apply them because of the difficulties concerning their applications Their p-values which are more than 0.05 as imply that the null hypothesis which assumes they have not been applied cud be accepted.

Table 5 and 6 clearly show that the current management accounting practices among the consumer goods firms in Nigeria are mostly traditional techniques with only some of them combining the traditional techniques with some modern techniques. Financial Statement Analysis, Cash flow Analysis and Standard Costing are the prevailing traditional management accounting practices.

Table 7.= Relationship between Firm size and diffusion of Management Accounting Techniques Correlation

Firm Size		Activity Based	Costing
Activity Based Costing	Pearson Correlation	1	0.524
	Sig. (2-tailed)		0.476
	N	4	4
Firm Size	Pearson Correlation	0.524	1
	Sig. (2-tailed)	0.476	
	N	4	4

Field Survey 2022.

Table 8.= Firm Size and application of ABC

Firm Size	**No of Employees**	**Frequency**	**Application of ABC**	**% of Firm applying ABC**
Micro	1-10	7	1	1/7 = 14.29%
Small	11-50	12	3	3/12 = 25%
Medium	51-100	15	4	4/15 = 26.7%
Large	100 and above	9	3	3/9 = 33.3%
Total		**43**	**11**	

Field Survey, 2022.

Inferential Analysis

Activity Based Costing was used as proxy for modern management accounting techniques. The reason for choosing ABC is because it is the most popular modern management accounting techniques (Kaplan, 1986, Kaplan, Anderson & Steven, 2007). Out of the 43 firms that responded, only 11 of them have fully applied ABC. The firm size based on the number of employees and their applications of ABC are show in Table 8. Out of the 43 firms that responded, 7(16%) are micro firms, 12(28%) are small firms, 15(35%) are medium size firms while 9(21%) are large firms. The correlation coefficient of 0.524 indicates a moderate and positive relationship between firm size and application of modern management accounting techniques more than smear firms.

Discussion

The overall objective of this study investigated the application of modern cost and management accounting techniques. The researcher tested the application of 13 modern management accounting techniques and found that only four of them have been either partially of fully applied. The applied modern techniques are Total Quality Management, Customer accounting, Throughput Accounting and Back Flush Accounting while the frequently used traditional techniques are Financial Statement Analysis and Cash Flow Analysis. The study further reveals that the current management accounting practice in the consumer goods firms in Nigeria is mostly traditional, while some of them practice a combination of traditional and some modern techniques.

The low application of the modern techniques could be linked to the various difficulties that confront the firms when attempting the application. The most prevailing difficulty is the lack of management support that resulted in lack of awareness of the techniques, and preference for Financial/historical information. Contrary to the findings of Saaydah and Khatatnch (2014), and Mazumder (2007), where extra costs are involved, lack of specialists, lack of awareness that preference for Financial /historical information are the prevailing difficulties, this study shows that the involvement of extra costs and lack of specialists are not perceived as the prevailing challenges. However, this study lends credence to their study by confirming that preference for financial information is perceived as one of the prevailing difficulties. This is evident in the high frequency of using Financial Statement Analysis and Cash Flow Analysis.

The researcher also found that 12 firms which represents 28% of the respondents submit that the performance of the modern techniques is not satisfactory while 15(35%) perceived that their performance is fairly satisfactory and 16(37%) submit that there's performance of traditional techniques. On the contrary, all the respondents submit that the performance of traditional techniques is satisfactory. It appears that most respondents prefer traditional techniques to modern techniques. This could be linked to the financial and quantitative data which the traditional techniques provide and the challenges they face when trying to apply the modern techniques.

The findings of this study establish a relationship between firm size and application of modern management accounting techniques. This study lends credence to the findings of Askarany and Smith (2008); Ahmad and Zabri (2012), and Brown (1981), which says that larger firms apply technological innovation faster than small firms but contradicts the findings of NoteBoom (1994) and Fieldman who posited that smaller firms are the prime sources of technological innovation.

Findings and Conclusion

This study finds out that modern management accounting techniques have not been sufficiently applied by the consumer goods firms in Nigeria; hence they currently practice traditional management accounting techniques and some of them combining both traditional techniques and the modern techniques. The main reasons for the low application of the modern techniques include lack of management support, lack of awareness of the techniques as a result of which they are giving preference to Financial/historical information. Evidence from this study shows that positive and moderate relationship exists between firm size and application of modern management accounting techniques, as larger firms apply the modern management accounting techniques more than smaller firms.

In conclusion therefore, this study investigated only the unlisted consumer goods firms, hence, caution should be exercised to avoid generalizing the outcome of this study.

Recommendations

Based on the findings of this study, the researcher recommends for vigorous seminars/workshops/conferences, compulsory and regular reading of professional newsletters and magazines to be made available for both staff and the management by the management of the firms. The researcher also recommends that management of the firms should as a point of duty copy from their competitors by applying those techniques that have enabled their competitors to have an edge over their contemporaries, if they are truly representatives of their establishments.

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EFFECTS OF TAXATION ON CORPORATE INVESTMENT IN NIGERIA

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Abstract
This paper evaluates the effect of tax aggressiveness on corporate investment expenditure in Nigeria based on a sample of 119 non-financial firms quoted in Nigeria stock exchange from 2010 to 2017. The outcomes measured by estimating pooled ordinary least squares, random and fixed effects models. The corporate tax aggressiveness indicators are tax saving, effective tax rate, book tax gap, temporary tax difference with firm size as control variable. Findings, among others, reveal that tax aggressiveness has a statistically significant influence on corporate investment expenditure in Nigeria. It provides evidence that tax aggressiveness positive and statistically significant coefficients of the tax aggressiveness variables, particularly tax saving and effective tax rate which maintained a consistent positive and statistically significant relation to corporate investment expenditure across all model specifications. In other words, increase in tax saving and effective tax rate boost total investment expenditure, investment maintenance expenditure and new investment expenditure in Nigeria. Other findings are that book tax gap shows a negative impact on corporate investment expenditure. This is because managers reduces taxable income to increases investment maintenance expenditure. For the control variables, total assets boost corporate investment expenditure.
Keywords: *tax aggressiveness, tax saving, effective tax rate, book tax gap, temporary tax difference and investment expenditure*

Introduction

Corporate investment is the allocation of money in the expectation of some benefit in the future known as return. Helpman, Melitz and Yeaple (2004) stated some motives on why and how firms engage on investments are trade friction, value of exercising corporate control, wealth maximization and so on. Investment is gear towards firms' growth, wealth growth and job creation. One of the unresolved question in economics is the degree at which corporate taxation affect corporate investment (Moon, 2019). The study re-emphasized that a recurring debate on what extent tax aggressiveness would stimulate corporate investment. Federici1 and Parisi1 (2015) reported that corporate investment is one of the main drivers of the economy and how tax aggressiveness affect corporate investment behavior of firms is a question of importance. They reported that taxation has large effect on firm's investment decisions. Corporate taxes impinge directly on the incentive to accumulate capital and to perform research in many countries. Nigeria is among the country in West African that the influence of corporate taxation on corporate investment expenditure still been categorized at a growing stage. Holland and Vann

(1998) clearly explained the two broad corporate taxation drivers on corporate investment decisions. Firstly, investors emphasize on the benefit of tax incentives in form of tax aggressiveness of firms which increase investments and give rise to regional development; employment creation; technology transfer and export promotion. Secondly, investors emphasize on the unimportant form of tax aggressiveness in investment decision, they consider basic economic and institutional situations such as potential markets development; policy stance of governments and rudimentary state of the legal framework. In this case, tax aggressiveness benefits on their own cannot overcome these adverse factors on their own.

Tax aggressiveness means reduction of tax liability through firms' tax policies; which includes using financial instruments as a vehicle for tax advantage. However, it becomes legitimate when operating within the content of the law (tax avoidance) and unethical when it undermines the integrity of the tax system. It is a situation close to abusive tax avoidance, which is the 'worst case' of tax aggressiveness. Corporate taxation is a form of wealth to government but tax aggressiveness practices entails transfers of wealth from government to firm owners because it is a value maximizing activity to shareholders. Shareholders value increases with corporate tax aggressiveness activity with management having two options. Firstly, is to pay shareholders the cash flow from tax aggressiveness activities. While secondly, is to re-investment the cash flow from tax aggressiveness activities. Managers are much concerned about re-investment of the cash flow from tax aggressiveness activities to benefit from more incentives and sustainable growth (such as salary increment). The question of whether cash flow from tax aggressiveness practices increases total investment expenditure more than investment maintenance expenditure or new investment expenditure in Nigeria have become the pivot of this study to compare how cash flow from tax aggressiveness affects investment expenditure in Nigeria. The extent to which managers utilizes this cash flow from tax aggressiveness on investment expenditure becomes central question that needs answer especially Nigeria being biggest West Africa economy. Is it more on total investment expenditure; investment maintenance expenditure or new investment expenditure? This study focuses on re-investment of the cash flow from tax aggressiveness because of the issues that leads to how cash flow from tax aggressiveness affects investment expenditure? What investment expenditure are necessary to maintain new, existing and total investment? Does cash flow from tax aggressiveness practices affect new, existing and total investment expenditure in Nigeria? The main aim of the study is to determine the effects of tax aggressiveness on corporate investment in Nigeria, while the specific objectives are:

1. to determine the effect of the tax saving on corporate investment in Nigeria
2. to determine the effect of the effective tax rate on corporate investment in Nigeria
3. to find out the effect of the book tax gap on corporate investment in Nigeria
4. to ascertain the effect of the temporary tax difference on corporate investment in Nigeria

A set of null hypotheses were formulated for the study as follows:

1. The tax saving does not have a significant effect on corporate investment in Nigeria
2. The effective tax rate does not have a significant effect on corporate investment in Nigeria
3. The book tax gap does not have a significant effect on corporate investment in Nigeria
4. The temporary tax difference does not have a significant effect on corporate investment in Nigeria

The rest of the study is structured as follows: Section 2 reviews relevant empirical literature, Section 3 outlines the empirical approach and data, Section 4 discusses the results while Section 5 concludes.

Review of related Literature

A number of studies on the effects of tax aggressiveness and corporate investment expenditure have been carried out with opposing results, which is often attributable to the scope of study, changes in variables and econometric methodologies adopted. Some studies analyze corporate investment in relation to investment opportunities and investment realization to mention a few. For instance, Beatty, Riffe, and Welch, (1997) reported cash flow from tax aggressiveness on investment expenditure of United States firms prior to 1985 as firms with high taxation payments invest less than equivalent firms. They stated that with Tax Reform Act of 1986 significantly altered firms' investment behavior because of cash flow from tax aggressiveness realized. Firms take advantage of the investment tax credit and the accelerated depreciation schedules (investment expenditure necessary to maintain assets in place) in 1986. Their result found evidence that the 1986 Tax Reform Act significantly effects the investment expenditure of firms in United States. Seidman, (2010), Watrin et al (2012), Jarboui and Koubaa, (2017) Martinez (2015) concentrated on book-tax differences without capturing the effect of temporary and permanent differences in corporate taxation. Muhtar, (2015) argued that excess dividend taxes discourage investment. Dhirendra, (2018), Bank Bazaar, (2017) Gordon, (2015) Edame and Okoi, (2014) Musgrave, (1959). Brown, (1962) reported positive effect of corporate taxation on investment while Dacklay, (2015), Arnold, (2008), Clark, (1978), Kelvin, (2018), Becker et al, (2006) and Hakeen, (1966) reported negative effect of corporate taxation on investment. Chang et al, (2009) Zur, (2011) Harington, et al, (2010) Corporate finance institute, (2018) reported that deferred tax assets is value relevant, pointing out that temporary differences that leads to deferred tax liability is significant. But Burges, et al (2012), World stroke organization, (2018), Lisowsky, (2009) and Ayers, (1998) reported that discounting deferred asset liability is reversal, not related to actual tax liability, no significant relationship existing between deferred tax expense and annual returns. Osegbue et al. (2019) concluded that cash effective tax rate, long term effective tax rate, tax savings temporary and permanent tax difference are insignificant while tax book gap are significant to earnings management in Nigeria.

Richardson (2006) worked on over-investment of free cash flow of United States firms between 1988 and 2002 with 58,053 observations. The primary focus of the study is on the extent to which over-investment and the role of governance structures in mitigating over investment. The result shows a positive effect of free cash flow on new investment expenditure. They reported that majority of free cash flow is retained in the form of financial assets, because little evidence show that free cash flow is distributed to external stakeholders, thereby creating the potential for retained free cash flow to be over-invested in the future. This assume cash flow from tax aggressiveness increases new investment expenditure. Kelvin, (2018), on effects of retail inventory on annual taxes using evidence from emerging economy and evidence from New York. They reported that keeping track of inventory costs reduces tax and help achieve a profit figure. The study reported that keeping track of inventory costs reduces tax bill which will helps one arrive at a profit figure. The result indicates a positive significant effect of tax-savings on investment expenditure meaning that firms report minimum income to avoid high tax. Serena, Thomas and Gaetan (2012) on debt – equity tax bias examine the effect of private equity firms and tax aggressiveness on firm's portfolio as an additional source of economic value, taking cognizance of tax savings, cash effective tax rate, book-tax differences as independent variables on investment expenditure in Malian. They reported that debt-equity financed firms pay lower taxes and vice versa. Their result indicates a positive significant effect on tax savings and investment expenditure, which means that investors outside equity financing pay higher taxes.

Simone, Klassen and Seidman (2018) investigates the relationship between income-shifting aggressiveness and corporate investment efficiency. Their model predicts that investment increases with aggressive income shifting, though the efficiency of the investment relative to a non-tax world declines as tax motives interfere with production incentives. The result shows a positive relationship between income-shifting aggressiveness and the level of investment and a negative relationship between income-shifting aggressiveness and investment efficiency. However, they study documenting a previously under-explored consequence of tax-motivated cross jurisdictional income shifting. Armstrong, Blouin, and Larcker (2012) worked on the incentives for tax planning using 423 unique firms in United States from 2002 to 2006. The study assumed that tax director is not the primary executive charged with selecting the firm's investment activity, they reported that tax directors are directly involved in planning and investment location decisions, because they are advisor. The result shows negative effect of effective tax rate on new investment, which suggest that firms with relatively more new depreciation deductions have smaller abnormal permanent tax differences.

Thus, in this study we propose to test the role of Nigeria data for the period 2010 to 2017. The aim is to examine how re-invested cash flow from tax aggressiveness drives investment expenditure that are necessary to maintain new, existing and total investment in Nigeria. To our knowledge, this study is one of the very studies that explores the effect of cash flow from Tax aggressiveness on corporate investment expenditure in Nigeria.

Methodology and Data

The population of the study comprises 165 quoted firms in Nigeria Stock Exchange (Nigerian Stock Exchange, 2017). While the sample size consists of 119 quoted companies excluding financial services firms due to their nature of financial reporting. The study uses data on 119 non-financial firms in Nigeria from 2010 to 2017 with all variables sourced from the firms published financial statements. The reason for 2010 fiscal year is the approval of National Tax Policy (NTP) in January 2010. The NTP seeks to provide guidelines, rules, basics of tax legislation and tax administration in Nigeria tax system.To our knowledge, this study is one of the very studies that explores the effects tax aggressiveness on corporate investment to explore this path of analysis restricted only to data in Nigeria.

The indicators

In line with similar studies, the main variables are total investment ($Total_{invest}$), investment maintenance (I_{main}) and new investment (New_{invest}) which is the measures of investment expenditure; tax saving (TaxSav); effective tax rate (ETR); book tax gap (BTG); temporary tax difference (TemDiff). For robustness, control variable firm size (FirmSize) is included.

Total investment captures all the sum of all outlays on capital expenditure, acquisitions, research and development less receipts from the sale of property, plant and equipment used by Richardson 2006; Armstrong, Blouin, & Larcker, 2012.

$TI_t = CapExp_t + Acquisitions_t + R\&D_t – SalePPE_t$

Where TI_t = total investment in year t$CapExp_t$ = capital expenditure (book value of property, plant and equipment plus depreciation and amortization expenses); $Acquisitions_t$ = acquisition of property, plant and equipment; $R\&D_t$ = research and development; $SalePPE_t$ = sale of property, plant and equipment.

Investment maintenance captures investment expenditure necessary to maintain assets in place. We measure investment maintenance using similar method used by Richardson 2006, which used amortization and depreciation to proxy investment maintenance because it captures investment expenditure necessary to maintain assets in place.

New investment is the difference between total investment and investment maintenance (Richardson 2006). $New_{invest} = Total_{invest} - I_{main}$
Where $Total_{invest}$ = total investment; I_{main} = investment maintenance
Tax saving is calculated as difference between the statutory tax rate and the effective tax rate (TaxSav = 30% - ETR). Where a firm operates across a number of jurisdictions with varying statutory rates, tax rate differentials can provide a tax saving recognized in investment. (Ilaboya, Izevbekhai and Ohiokha, 2016; Ftouhi, Ayed and Zemzem, 2010; Kawor and Kportorgbi, 2014; Lisowsky, Lennox and Pittman, 2013; Atwood and Reynolds, 2008).

Effective tax rate is computed as the total tax expenses divided by the income before tax, reflecting the aggregate proportion of the accounting income payable as taxes. It captures tax aggressiveness as it relates to accounting earnings. (Salihu et al., 2013; Chen et al., 2010; Dyreng et al., 2010).

Book tax gap is calculated as differences between income reported on financial statements and income reported on tax returns (i.e book income less taxable income) (BTG = EBIT – TI). Taxable income is calculated as current tax expense divided by corporate statutory rate (30%). We used book tax gap to measure the abusive tax aggressiveness behaviour of sample- quoted firms. (Seidman, 2008; Talisman, 1999; Mills, Newberry and Trautman, 2002; Desai, 2003; Waluyo, 2016; Plesko, 2004 in Satyawati and Palupi, 2017).

Temporary tax difference is calculated as deferred tax expense divided by the corporate statutory rate (deferred tax / 30%). We used it to measure how temporary tax difference affects investment expenditure because of the nature of most methods used on firms investment due to time difference that reverses in the near future. (Seidman, 2008).

For the control variable, *firm size* is total assets measured at the start of the year. We used firm size as a control measure to tax aggressiveness because firm size drives it investment expenditure. (Welch and Wessels 2000).

Summary statistics and correlation analysis
The relative statistics of these indicators are shown in Table 1 show the large difference between the maximum and minimum values of total investment, investment maintenance, and new investment that the quoted firms have different investment expenditure. It observed that on the average over the eight years period

(2010 – 2017), the sampled quoted firms has N24,583,534 on total investment expenditure; N1,483,289 on investment expenditure necessary to maintain assets in place and N22,835,223 on new investment expenditure indicates an average of investment expenditure of quoted firms. We also observed that total investment expenditure over the period was N4,520,000,000 maximum with minimum stood at N 0.0000; investment maintenance was N73,495,000 maximum with minimum at N0.0000 while new investment was N4,520,000,000 maximum and minimum of N0.0000. This show quoted firms have different investment expenditure. We also find out that on the average; about 12% are tax saved, 14% proportion of tax on accounting income payable as tax on ETR. Book tax gap was N1, 274,891 leading to N71, 944,175 on temporary tax difference. Firm size stood at N249, 817.5. The correlation matrix in Table 2 shows that there is a weak positive association between tax saving and effective tax rate; also weak positive association between book tax gap and tax savings, and weak negative association between book tax gap and effective tax rate. This clearly shows that increase in tax savings reduces effective tax rate. In the case of temporary tax difference. We observed that, temporary tax difference was positive and weakly associated with tax savings and book tax gap, while negatively and weakly associated with effective tax rate. This clearly shows that increase in temporary tax difference increases tax savings and book tax gap; and reduce effective tax rate. Firm size was negative and weakly associated with tax savings and book tax gap, while firm size was positively and weakly associated with effective tax rate and book tax gap. It shows that increase in firm size reduces tax savings and book tax gap; and increases effective tax rate and temporary tax difference.

Table 1: Statistics summary

stats	mean	min	max	std.dev	Skewness	kurtosis
TaxSAV	0.1265	-40.784	91.1831	3.4284	18.0406	558.8113
ETR	0.1467	-90.8831	41.0840	3.4285	-18.0159	558.1975
BTG	1274891.	-36503027	2.19E+08	13979091	10.2665	125.7404
TempDIFF	71944175	-4.55E+08	3.42E+10	1.47E+09	21.7096	475.5538
FirmSIZE	249817.5	0.0000	15409608	920989.3	10.9459	162.0817
TotaLINVEST	24583534	0.0000	4.52E+09	1.94E+08	16.5722	339.3432
InvestMAIN	1483289.	0.0000	73495000	5045568.	7.6888	81.5859
NewINVEST	22835223	0.0000	4.52E+09	1.89E+08	17.5931	375.6500

TaxSAV: tax savings; ETR: effective tax rate; BTG: book tax gap; TempDIFF: temporary tax difference; FirmSIZE: firm size; TotalINVEST: total investment; InvestMAIN: investment maintenance; NewINVEST: new investment
Source: Authors' Computations

Table 2: Correlation matrix

	Taxsav~s	CurCas~R	Bookta~p	Tempor~f	Totala~t
Taxsavings	1.0000				
CurCasheff~R	-0.0999	1.0000			
Booktaxgap	0.0046	-0.0039	1.0000		
TemporaryD~f	0.0033	-0.0029	0.6662	1.0000	
FirmSIZE	-0.0019	0.0039	0.3858	0.2362	1.0000

Tax SAV: tax savings; ETR: effective tax rate; BTG: book tax gap; Temp DIFF: temporary tax difference; FirmSIZE: firm size; Total INVEST: total investment; InvestMAIN: investment maintenance; NewINVEST: new investment
Source: Authors' Computations

The model

There is an extensive literature in economics and finance that has examined firm level investment decisions (e.g., Hubbard 1998 in Richardson 2006). Expected investment expenditure on new projects will be an increasing function of growth opportunities. The underlying construct of growth opportunities refers to the present value of the firm's options to make future investments (Myers, 1977 in Richardson 2006; Armstrong, Blouin, and Larcker 2012). Since investment expenditure is influenced by taxation, which often is determined by factors such as tax saving, effective tax rate, book tax gap, temporary tax difference and firm size, there are reasons to believe in a positive effect between corporate tax aggressiveness and investment expenditure. To evaluate the effect of investment expenditure using the full and sub-samples, we used this literature to estimate expected investment expenditure according to the following regression specification:

$$Y_{it} = \alpha_0 + \alpha_1 \mathrm{K}_{it} + \alpha_2 \mathrm{L}_{it} + \alpha_3 \mathrm{P}_{it} + \alpha_4 \mathrm{Z}_{it} + \alpha_5 \mathbf{X'}_{it} + u_{it} \quad (1)$$

With Y_{it} being the corporate investment expenditure ($\mathrm{Total}_{\mathrm{invest}}$, $\mathrm{I}_{\mathrm{main}}$ and $\mathrm{New}_{\mathrm{invest}}$); $\alpha_1\mathrm{K}_{it}$, is the tax saving; $\alpha_2\mathrm{L}_{it}$, is the effective tax rate, $\alpha_3\mathrm{P}_{it}$, is the book tax gap; $\alpha_4\mathrm{Z}_{it}$ is the temporary tax difference; $\mathbf{X'}_{it}$ is the control variable (firm size); and u_{it} is the general error term.

Furthermore, the following estimation approaches are adopted: (1) the sample is split along three model delineations: total investment expenditure, investment maintenance expenditure and new investment expenditure to allow for the comparison of findings across corporate investment expenditure. (2) To systematically draw the significance of corporate tax aggressiveness on corporate investment expenditure, the study adopts the use of static models. The estimation methods are used by similar studies and given that the study uses panel data of 932 observations (*N)* across 8 years (*T*), hence, $N>T$. Similarly, the adoption of these techniques serve as robustness for one another in order to observe the consistency of the effect corporate tax aggressiveness on corporate investment expenditure. The static models are the pooled ordinary least squares (*POLS*) which do not allow for heterogeneities across the panels and the fixed effects (*FE*) and random effects *(RE)* model which recognizes panel heterogeneities.

Results and discussion

Pooled OLS results

The results for the *POLS* estimator are shown in Table 3. Columns 1, 2 and 3 are specific to the total investment expenditure, investment maintenance expenditure and new investment expenditure with firm size as the control variable. Results show the positive and statistically significant relationship (at the 1% level) between tax aggressiveness and corporate investment expenditure variables. On the tax saving, the coefficient of *TaxSAV* is positive and statistically significant for the total investment expenditure, investment maintenance expenditure and new investment expenditure regressions at the 1% and 5% level, respectively, which aligns with what was expected a priori. This validates the role tax saving plays for corporate investment expenditure. Tax saving in this sense are major consideration in driving corporate investment expenditure in Nigeria. Therefore, corporate investment expenditure will increase in Nigeria as a result of an increase in corporate tax saving.

Table 3 MAIN REGRESSION OLS results (Dep. Variable: Corporate investment expenditure)

	TotalINVEST	**INVESTmaint**	**NewINVEST**
Independent variables	**(1)**	**(2)**	**(3)**
c	-7.5200*	-3.1550***	-7.5185*
	(-3.81)	(-0.07)	(-3.80)
TaxSAV	2.0800*	2.8962**	2.0500*
	(3.00)	(1.97)	(2.95)
ETR	2.0700*	2.9097**	2.0400*
	(2.99)	(1.98)	(2.95)
BTG	-2.1875*	0.1669*	-2.3544*
	(-3.67)	(13.19)	(-3.95)
TemDIFF	0.0090***	-0.0004*	0.0094***
	(1.68)	(-3.90)	(1.76)
FirmSIZE	70.8210*	2.1644*	68.6566*
	(10.19)	(14.64)	(9.86)
R-Sqd	0.11	**0.43**	0.10
Adj-R-Sqd	0.11	**0.42**	0.10
F-Stat	24.09	**139.79**	22.63
P(f-stat)	0.0000*	**0.0000***	0.0000*
N(n)	932(119)	**932(119)**	932(119)

*Absolute values of t-statistics are reported in parentheses below the coefficient estimates. Asterisks represent *, **, *** are statistically significant at the 1%, 5% and 10% levels respectively.*

Source: *Authors' Computations*

The results obtained on *ETR* shows that coefficient is positive and statistically significant (at the 1% and 5% level) which implies that a proportionate increase in corporate investment expenditure occurs when *effective tax rate* changes by 1% on average, *ceteris paribus*. *BTG* shows negative statistically significant for the total investment expenditure and new investment expenditure regressions. In addition with positive statistically significant for the investment maintenance expenditure at the 1% level respectively. This implies that proportionate decrease in total investment expenditure and new investment expenditure occurs when *book tax gap* changes by 1%. While proportionate increase investment maintenance expenditure occurs when *book tax gap* changes by 1%. On the factors of *TemDIFF,* the coefficient is positively significant for the total investment expenditure and new investment expenditure regressions. In addition with negatively significant for the investment maintenance expenditure at the 1% and 10% level respectively. For the control variables, *FirmSIZE* shows a positive statistically significant impact on corporate investment expenditure, which implies that proportionate increase in corporate investment expenditure occurs when companies *total assets* changes in Nigeria. Across all model specifications, the *F*-statistics indicate that the regressors are jointly significant in explaining corporate investment expenditure.

Random and fixed effects results

Having controlled for panel heterogeneities, the results for the augmented model using the fixed effects (*FE*) estimators are displayed in Table 4 for the sample.

Absolute values of t-statistics are reported in parentheses below the coefficient estimates. Asterisks

Table 4 FIXED EFFECTS RESULTS(Dep. Variable: Corporate investment expenditure)

	TotalINVEST	**INVESTmaint**	**NewINVEST**
Independent variables	**(1)**	**(2)**	**(3)**
c	-3.9303	1.2044*	-4.0508
	(-1.38)	(2.59)	(-1.42)
TaxSAV	2.2717	-5.3757	2.2770
	(0.21)	(-0.03)	(0.21)
ETR	2.2138	-4.8942	2.2187
	(0.21)	(-0.02)	(0.21)
BTG	-2.3383**	0.0484*	-2.3867**
	(-2.20)	(2.79)	(-2.25)
TemDIFF	0.0080	-0.0002*	0.0083
	(1.43)	(-3.20)	(1.48)
FirmSIZE	130.3948*	1.0099*	129.3859*
	(14.45)	(6.84)	(14.32)
R-Sqd	0.23	**0.70**	0.23
Adj-R-Sqd	0.12	**0.66**	0.11
F-Stat	2.05	**16.05**	2.00
P(f-stat)	0.0000*	**0.0000***	0.0000*
Hausman Test	**0.0000***	0.0000*	**0.0000***
N(n)	932(119)	**932(119)**	932(119)

*represent *, **, *** are statistically significant at the 1%, 5% and 10% levels respectively.*

Source: *Authors' Computations*

The findings which are quite similar to those obtained using the *POLS* estimator on the sample, reveal the consistencies of both *book tax gap* and *total assets* as statistically significant. Proportionate decrease in total investment expenditure and new investment expenditure occurs when *book tax gap* changes while proportionate increase in corporate investment expenditure occurs when companies *total assets* changes in Nigeria. In addition, the effects of *tax savings* (positive) and that of *effective tax rate* (positive) are statistically not significant on total investment expenditure and new investment expenditure. On the goodness-of-fit, the model specifications show that the proportion of variation in the dependent variable explained by the regressors ranges from 23%, 70% and 23% and the *F* statistics indicate that the regressors are jointly significant in explaining corporate investment expenditure.

Conclusions

This study examines the effect of tax aggressiveness on corporate investment expenditure in Nigeria. Contribution is made to the corporate investment expenditure literature in Nigeria by using panel data of 119 non-financial quoted companies from 2010 to 2017, four tax aggressiveness indicators (tax saving, effective tax rate, book-tax differences, temporary tax differences), in addition with firm size as control variable. We report some compelling and robust findings which substantiate that tax aggressiveness has a statistically significant influence on corporate investment expenditure in Nigeria. This provides evidence that tax aggressiveness positive and statistically significant coefficients of the tax aggressiveness variables, particularly tax saving and effective tax rate which maintained a consistent positive and statistically significant relation to corporate investment expenditure across all model specifications. In other words, increase in tax saving and effective tax rate boost total investment expenditure, investment maintenance expenditure and new investment expenditure in Nigeria. Other findings are that book tax gap shows a negative impact on corporate investment expenditure. This is because managers reduces taxable income to increases investment maintenance expenditure. For the control variables, total assets boost corporate investment expenditure.

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EPISTEMOLOGY OF CRIMINAL ACTIVITIES IN ZANGON KATAF LOCAL GOVERNMENT AREA, KADUNA STATE, NIGERIA AND INTELLIGENCE-LED POLICE DISCOURSE

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Abstract
The study investigated the epistemology of criminal activities in Zangon Kataf Local Government Area, Kaduna State, Nigeria and Intelligence-Led policing discourse. In Nigeria today, criminality is increasingly worrisome, despite the efforts of government and non-governmental organizations to wipe it out. The specific objectives of this study include examining the role of the Nigeria Police in the administration of justice, to identify the inadequacies of the Police in the discharge of their functions and to proffer practical solutions for combating crimes in Nigeria. The significance of this study will help the Nigeria Police Force (NPF) to find a lasting solution to the challenges facing it in its role of combating crimes in Nigeria. Moreover, this study will be of immense benefit to the citizens of Nigeria at large as it will help them to freely speak against crime without fear or bias. Classical Theory of crime was used for this study. The researcher found out that some causes of crime are unemployment, environmental factors, genetic factors, social factors etc. Hence, the researcher recommended that clearly defined goals, results-oriented tactics and strategies, effective intelligence, active collaboration with necessary security agencies and information sharing will assist in the Police in fighting crime.
Keywords: *Intelligence-Led Policing, Nigeria Police Force and Criminal Activities.*

Introduction

Nigeria is currently being confronted by serious security challenges which include armed violence, stealing, Assault, ritual killing, violent conflict between groups, rapes, cultism or gang violence etc. These constitute immediate threats to security and development of the country (Ayo et al 2016).

Zangon Kataf is a *Local Government Area* in southern *Kaduna State*, *Nigeria*. Its Headquarters is in the town of Zonkwa. Since the onset of the British imperial regime in the Northern Region of Nigeria, the Atyap people have reported a loss of land to the Hausas. In 1922, it was reported that a large piece of land was acquired by the Emir of Zaria, Dalhatu Uthman Yero, who failed to compensate the indigenous population of the region. In 1966, the land was provided to the Hausa trading settlement in the heart of Mabatado, called "Zangon Kataf", by the emir, Muhammad Usman. The Atyap resided within the district, in the Zaria Province of the Northern Region of, initially, British Nigeria, which became independent Nigeria. It was to remain utilized as a marketplace, where the indigenous Atyap people were banned from trading pork and beer by the settlers *(https://en.wikipedia.org)*

Tensions steadily increased, flaring up in February 1992 over a proposal to move the market to a new site, away from land transferred to the Hausas. The proposal by the first Atyap head of the Zangon Kataf Local Government Area was favored by the Atyap, who could trade beer and pork on the neutral site; however, it remained opposed by the Hausa, who feared the loss of trading privileges. Over 60 people were killed in the February clashes; further violence broke out in Zango on May 15 and May 16, with 400 people killed and numerous buildings destroyed. When the news reached Kaduna, rampaging Hausa youths killed many Christians of all ethnic groups in retaliation (https://en.wikipedia.org).

The issues of the uprooting of crops on Atyap farmlands and the killing of Atyap people on their farms began the second crisis, which lasted from May 15 to 16, 1992. When rumors of events within Zangon Kataf reached Kaduna, Zaria, Ikara and other regions within the state where Hausa populations remained persecuted, rampaging Hausa and Fulani youths began killing many Christians from all ethnic groups in retaliation *(https://en.wikipedia.org)*

According to official figures, the May 1992 tragedy was said to have claimed 471 lives (250 in Kaduna, 188 in Zangon Kataf and the other 33 from Zaria, Ikara and other areas), 518 persons injured, 229 houses burnt or destroyed and 218 vehicles destroyed or burnt. Although the Zango Hausa community claimed to have lost 1,528 persons, many Hausas reportedly fled the Zangon Kataf area afterward; some subsequently returned.[1] *Africa Watch* reported on a visit to Zangon Kataf in April 1993; the organisation stated that a year ago, the then Head-of-state General Babangida reportedly visited Zangon Kataf a few days after the riot in May 1992. During this visit, he promised to compensate those who had their houses destroyed. *Africa Watch* reported that "it was clear that the government was engaged in rebuilding the Hausa community" (*https://en.wikipedia.org).*

The phenomenon of “crime” has been a major subject of private and public concern throughout human history. No society is free of crime. However, the question often asked is that even if crime is part of inevitable human behaviour, how much of it can a society tolerate? (Nnubia, & Obiora, 2018). This question is linked to man’s natural instinct for survival, the ability to respond to any threat to his life and property. Crime poses such a threat, particularly in its violent form. The recent upsurge in violent crimes in Nigeria has created enormous uncertainty in the security of lives and property of individuals and of social stability in general. The law has clothed the

Nigeria Police with enviable powers in the sphere of intelligence led policing and administration of justice, preservation of law, order and maintenance of national tranquility. The section from the 1999 Constitution provides that the Police shall be organized and administered in accordance with such provisions as may be prescribed by the Act of the National Assembly. In exercise of the constitutional powers conferred on the National Assembly, the National Assembly enacted the Police Act. In the exercise of its primary powers, the Police also act in other spheres which are necessarily incidental to the exercise of the actual powers of the police. For instance, in the exercise of the primary duty of the police under section 4 of the Police Act, the Act gives the Police the power of public prosecution. By these powers, the police can charge and prosecute any person suspected to have committed a crime before any court of law in Nigeria. In the bid to create a favourable condition for the discharge of the duty of the police; the Police Act has also given the police the power to arrest any person suspected to have committed a crime with or without warrants (section 24, cap.359,2004) The Police by the provision of the Act is also empowered to detain any person reasonably suspected to be in possession or carrying stolen property, or property that is reasonably believed to be unlawfully obtained . Section 29 For the purpose of forensic investigation, the law empowers the police to take finger prints (Abegunde, 2008).

The paper is organised as follows' the next section reviews relevant literature with regards to context justification and provide a theoretical background for the study, respectively. Next describes the sample data and empirical methodology. The last section summaries the main results, offers conclusion and recommendations.

Review of Related Literature

Conceptual Reviews

Intelligence-Led Policing

Intelligence-Led Policing (ILP) allows police departments to utilize data and information in order better evaluate crime trends and issues, thus allowing top decision makers to efficiently and effectively allocate resources and develop crime fighting strategies. Intelligence-led policing could lead to hostile confrontations between police and residents. For example, if a car theft occurs in one neighborhood, police might consider everyone walking down a street in that neighborhood a suspect and possibly unnecessarily harass them. The key elements of ILP include executive commitment and involvement; collaboration and coordination throughout all levels of the agency; tasking and coordination; collection, planning, and operation; analytic capabilities; awareness, education, and training; end-user feedback; and reassessment of the process *(https://www.policechiefmagazine.org)*

The concept of "intelligence-led policing" began to take hold in some of the nation's metropolitan police departments in the aftermath of the terrorist attacks of Sept. 11, 2001 in US. In more recent years, the practice has expanded further, with many smaller and midsized departments creating their own internal intelligence-led policing units. As part of its response to 9/11, the New York Police Department (NYPD) created a counter-terrorism unit and reorganized its intelligence division to form what is now called the NYPD Intelligence Bureau. Its mission is to "detect and disrupt criminal and terrorist activity through the use of intelligence-led policing." The LAPD created its Counterterrorism and Criminal Intelligence Bureau in 2003, a move that involved "converging community policing and counterterrorism strategies and implementing them under the guiding philosophy of intelligence-led policing."

Intelligence-led policing, on the other hand, attempts to identify potential victims and potential repeat offenders, then works in partnership with the community to provide offenders with an opportunity to change their behavior before being arrested for a more severe crime.

How Intelligence-Led Policing Works

Although today's data-driven approaches incorporate sophisticated technology and analysis, predictive policing has been in use for decades, albeit in a more rudimentary form. Police have long used information about crimes in a particular area to identify patterns and anticipate where the next crime is likely to occur. With the advancements in technology, agencies now use computers and data models designed to track patterns, along with additional factors, such as time of day, weather, geography, and "aftershock" areas those in which a crime has been successful and are ripe for repeats of the same crime (e.g., gang retaliation) to build complex models that identify the potential for future crimes. Law enforcement can then focus their resources on these hot spots.

Likewise, intelligence-led policing leverages data. The data, on which it focuses, however, are already in the law enforcement agency's system, and the analysis centers around an individual, not a geographic area. Intelligence-led policing gathers domestic incidents, arrests, criminal records, traffic stops, and gang activity, and allows law enforcement to run analytics against those data. These analytics help law enforcement identify offenders who are more likely to be repeat offenders of a particular crime or group of crimes. Law enforcement can then track those individuals, observing when they move from one class of offense to another. If an offender repeats an offense, police are alerted of that individual's history, giving them an opportunity to intervene in an effort to prevent more criminal activity.

Nigeria Police Force

The word Police generally is derived from the Greek word Polis', meaning "that part of no ecclesiastical administration having to do within the safety, health and order of the state". The Greek Politeria means the art of governing and regulating the welfare, security needs and order of the city-state in the interest of the public. According to

Ehindero, even though Police is derived from Greeks, it was the Romans who perfected the system. He further observed that the Roman Politia means the same as the Greek politeira is the symbol of power residing in the central authority.

The history of the present Nigeria police dates back to 1881. Before this period, there were some features of police organization amongst every tribal community in Nigeria. Traditional rulers, therefore, had able-bodied men attached to them with the aim of guarding them, and in some instances assist in arresting wrong doers. This practice was common amongst the majority of tribes inhibiting the geographical areas now known as Nigeria. It has also been shown that, the traditional law enforcement institutions that were in place in most communities during the pre-colonial time or period discharged their responsibilities creditably in ensuring the existence of a lawful and orderly society. It should, however, be noted that the observation of Oluyede to the effect that pre-colonial policing in Muslims areas of pre-colonial Nigeria and non-Muslim areas are different is instructive. He observed that although ‘Allah’ is regarded as Supreme Lawmaker, Islamic law was and is still enforced by human agencies such as the member s of the ‘Shurta” (Police). It is his further observation that policing in non-Muslim areas of pre-colonial Nigeria appealed to supernatural beings by the priest; Juju practices, ancestral worship are all features of pre-colonial police machinery. As stated earlier, the modern and unified Nigeria Police started in 1861. It started as a consular guard of thirty men in Lagos, in 1963, the guard became known as the “Hausa Police”. The force was later reorganized in 1879 by an Ordinance creating the constabulary of Lagos in 1894, the Niger constabulary was formed in Calabar. The Royal Niger Company formed another constabulary was formed in 1888; landmark development in the history of Nigeria police came in 1930, when the northern and southern police were merged to form the Nigeria Police Force with Lagos as the force Headquarters. Upon attainment of independence in 1960, the independent Nigeria re-organized the Nigeria police for cease Federal Force under the 1960 Constitution. The Constitution also set up two bodies, the Police Council and the Police Service Commission. The Constitution of Nigeria 1963, 1979 and 1999 also empowers the Nigeria police to operate as a single Federal Force. The Constitution of Nigeria 1999, the ground norm of the existing legal order in Nigeria clearly stipulates the existence of only one Police Force unless and until it is amended, the recent agitation for the creation of a state police cannot be achieved.

Functions of the Nigeria police force

Generally, the police are a body of people who are empowered by the state to protect lives, property, to enforce the law and reduce civil disorder. The police is usually described as a law enforcement authority. However, as will be seen shortly, the functions of the police exceed the aspect of law enforcement The Nigeria Police Force is the principal police and law enforcement agency serving Nigeria. There are certain governmental agencies that control the Nigerian Police. These are: The

Police Service Commission, the Nigeria Police Council and the ministry of police affairs, these are the various agencies in Nigeria in charge of police. The Police Service Commission appoints, promotes and disciplines all police officers except the Inspector General of Police who is the head of police in Nigeria.

The Nigeria Police Council organizes and administers the Nigeria Police Force. It also carries out other functions that are incidental to organization and administration. But the Council is not concerned with matters related to the use and operational control of the Force, or the appointment, disciplinary control and dismissal of members of the Force. The Council also has the task of the general supervision of the Nigeria Police Force. It advises the President on the appointment of the Inspector-General of Police whose duty is leading the entire police force. The Ministry of Police Affairs formulate policies that will ensure efficient and effective policing of Nigeria meaning carrying out effective police duties in the country. The functions of the Nigerian Police Force are stated in the Police Act. The Police Act provides for the organization, discipline, powers and duties of the Police in Nigeria.

There are general duties of the Police which are:

i. Prevention and detection of crime
ii. Apprehension of offenders
iii. Preservation of law and order
iv. Protection of life and property
v. Due enforcement of all laws and regulations with which they are directly charged
vi. Performance of such military duties within or outside Nigeria as may be required of them by the Police Act or any other Act.
vii. The Police in Nigeria have more specific powers which include:
viii. Conducting prosecutions before any court of law in Nigeria.
ix. Arresting, without warrant, any person who is found by the police to be committing any felony, misdemeanor or simple offence; or who the police reasonably suspects of having committed those offences or being about to commit such offences. The Police may also arrest without warrant, a person who is charged by another person with the commission of an offence.

It should be noted that where a specific offence provides that a person charged with that offence should be arrested with a warrant, then such alleged offender cannot be arrested without warrant.

The Police also have the power to search persons, premises and belongings. On search of persons, where a police officer reasonably suspects any person of having in his possession or carrying in any form, anything which he has reason to believe has been stolen or is unlawfully obtained, the police officer may detain and search such a person. The police have the power to take and record measurements,

photographs, and fingerprints of people who are in lawful custody from time to time. This is for the purpose of identification.
Another function of the Nigerian Police is that, it undertakes some of the military responsibilities which may be required of the Police Force by law as part of its functions.

Criminal Activity
Criminal Activity means any conduct that is prohibited by any criminal laws, whether federal, state or county, regardless of whether there has been an arrest or conviction and without satisfying the standard of proof for a criminal conviction. *(https://www.lawinsider.com)*

Empirical Reviews
Intelligence for all intent and purposes is not information per se; rather, it is a product of evaluated information valued for its currency and relevance rather than its details or accuracy in contrast with data which typically refers to precise or particular information or 'fact' which typically refers to verified information. Sometimes called active data or "active intelligence," these typically regard the current plans, discussions, and actions of people as these may have urgency or may otherwise be considered 'valuable' from the point of view of intelligence gathering organisations. Consequently, active intelligence is treated as a constantly mutable components, or variables within a large equation of understanding the secret, covert or otherwise private intelligence of an opponent or competitor, to answer questions or obtain advance warning of events and movements deemed to be important or otherwise relevant (Wikipaedia, 2002).

Modern realities have made intelligence and intelligence gathering denote the assemblage of credible information with quality analysis. It refers to the information that has been evaluated and from which conclusions have been drawn. It is data that will be used proactively for strategic and tactical purposes (Onovo, 2004).

Intelligence therefore include operational intelligence –used for planning and conducting campaigns and major operations, criminal intelligence used for tracking down criminals and for crime detection, competitive intelligence – used by firms to outmaneuver one another, and such other covert information gathering for the purpose of national and regional security. It will also include business security in a globalised and competitive world. Furthermore, it is needful to analyse the concept of 'Externality' and 'Foreign' which are the prime targets of intelligence activities, especially within a country with regards to criminal and business intelligence as it tend to pose some level of contradictions in the traditional meaning and focus of intelligence. However, this apparent contradiction can easily be resolved when a criminal is seen as a deviant and external to the prevailing norms and values of the society and when a competing firm approximates a "battle theatre" intelligence gathering aimed these situations clearly identifies the external factors from the deviant or competitor (Nte, 2008).

With respect to its mission, intelligence serves two purposes: first and foremost, to inform policy and second, to support operations, be they military, police or covert, with the ultimate goal of ensuring state security. The general consensus is that these two missions produce functions or roles which include; Collection, Analysis, Counter intelligence and Covert Action. These roles are common to most intelligence systems, although many others and policy makers would prefer to exclude covert action. How they are distributed between and among elements of the intelligence organisation differ from state to state depending upon different threats and resources (Bruneau, 2008).

Consequently, Godson (1986) in Bruneau (2008) asserts that: "it is difficult to imagine an effective system for collecting intelligence without the analysis that provides effective guidance or "tasking" to collectors. Counter intelligence is necessary to protect collectors from becoming known, neutralised, and exploited by hostile intelligence services. Similarly, successful programme of covert action must be grounded in effective collection, analysis and counter intelligence. The implication there from is that the nature of intelligence is such that the several elements of intelligence are parts of "single united system, whose success depends in all parts working effectively. In short, it must be "full service" intelligence system".

Indeed, because of the covert nature of intelligence gathering over time, the process has been significantly perversive in quite a lot of cases and in many countries. Before the 1970s for instance, the intelligence services of many countries such as the United Kingdom functioned on the bases of executive decrees, there was no legal control to obtain permission before acting (Lord Demings Report, 1963). It was also the same, for the United States until the mid -1970s when terrible scandals involving domestic spying on anti-Vietnam war protesters and the revelations about illegal coverts operations and assassinations carried out by the Central Intelligence Authority (CIA). According to Leigh (2007), in the communist bloc, the utmost secrecy of intelligence blended perfectly and turned the agencies into repressive tools of the state. Furthermore, intelligence covert actions included atrocious killings, toppling of un cooperative governments or those with different ideological leanings and even the sustenance of tyrannical regimes as long as its suits the national interest of the "invading" nations especially the super powers (USIS Country Plan for Nigeria 1976; Stockwell, 1978; Chinedu, 2007).

For neo-colonial and transitional democratic states like Nigeria, the situation is even more appalling as the intelligence community to a great extent is essentially an executive repressive tool. Colonial Nigeria for instance was a pure British colony completely under British control and surveillance. Intelligence activities were those that could ensure Nigeria's subservience to the economic interest of Britain (Smith, 2004).

The concept of "Intelligence-Led Policing" began to take hold in some of the nation's metropolitan police departments in the aftermath of the terrorist attacks of Sept. 11, 2001 in US. In more recent years, the practice has expanded further, with many smaller and midsized departments creating their own internal intelligence-led policing units. As part of its response to 9/11, the New York Police Department (NYPD) created a counter-terrorism unit and reorganized its intelligence division to form what is now called the NYPD Intelligence Bureau. Its mission is to "detect and disrupt criminal and terrorist activity through the use of intelligence-led policing." The LAPD created its Counterterrorism and Criminal Intelligence Bureau in 2003, a move that involved "converging community policing and counterterrorism strategies and implementing them under the guiding philosophy of intelligence-led policing."

When it comes to data-driven law enforcement, two approaches come to mind: intelligence-led policing and predictive policing. While these approaches are not mutually exclusive, there is a difference. Predictive policing uses computers to analyze the big data regarding crimes in a geographical area in an attempt to anticipate where and when a crime will occur in the near future.1 While it does not go so far as to identify who will commit the crime, it does pinpoint hot spots to help law enforcement anticipate the approximate time of day and area of town where police might anticipate another crime. Armed with this information, police can be placed more strategically to either thwart a crime in progress, or even better, prevent a crime from taking place.

According to the U.S. Department of Justice, intelligence-led policing is "a collaborative law enforcement approach combining problem-solving policing, information sharing, and police accountability, with enhanced intelligence operations." It is designed to guide policing activities toward high-frequency offenders, locations, or crimes to impact resource allocation decisions. An important component of intelligence-led policing is that it encourages and, arguably, depends on collaboration among various agencies and the community, including not only local police, but other local law enforcement, the FBI, homeland security agencies, and even probation and parole officers. In short, predictive policing is concerned with where and when crime may happen, while intelligence-led policing, which often includes predictive policing, focuses on preventing victimization.

Theoretical Framework

The Classical Theory of Crime

The classical theory of crime formed the basis of the study and this was premised on the fact that man is a rational being who calculate all he wants to do and when he wants to do them. Furthermore, he calculates his gains and loss (pleasures and pains) of every action, for this reason classical theory of crime advocated that punishment must fit the crime. In this case, if punishment gives more pain than the pleasure which the criminal act would confer on the offender the tendency of he or she having a change of mind from criminal activities is certain, if this is done, it is believed that crime will be prevented by making punishment to have deterrent effect on the offenders and this will make crime to become unattractive. This theory is relevant to this study as it offer explanation to law enforcement as to why people commit crime. It also pointed to law enforcement agent that punishment would provide pains that is far greater than the pleasure to deter people from committing crime. When crime is check through legislative means which can specify punishment that should be clearly written and not subject to judicial interpretation.

It is important also to review few causes of crime which the Police are battling to control. The classical theory was championed by Cesare Beccaria (1738-1794) and Jeremy Bentham (1748-1832). The classical theorists believed that all human are rational, have free will and are pleasure driven, seeking to satisfy themselves. As such it was a deliberate effort by an individual to commit crime to obtain pleasure and avoid pain. Thus, they advocated that punishment must fit the crime. In this case, if punishment gives more pain than the pleasure which the criminal act would confer on the offender, if this is done, they believed crime will be prevented by making punishment to have deterrent effect on the offenders and this will make crime to become unattractive.

This theory is relevant to this study as it offer explanation to law enforcement as to why people commit crime. It also pointed to law enforcement agent that punishment would provide pains that is far greater than the pleasure to deter people from committing crime. When crime is checked through legislative means which can specify punishment that should be clearly written and not subject to judicial interpretation. Though many have argued that this theory is grossly unsuitable to Nigeria context due to high level of corruption (Ugwuoke 2010:70).

Methodology

For the purpose of drawing empirical conclusion or analysis in this study, data were collected from two major sources; the primary and secondary sources. As for the primary sources data was collected through questionnaires designed for this purpose while the secondary sources of data were collected from text books, journal decided cases, newspapers, magazines, through electronic sources (Internet source).

The target population for this study is Nine thousand two hundred and sixty seven (9,267. Hence, the sample size of the study was two hundred and fifty (250) respondents from the population. From the two hundred and fifty questionnaires administered two hundred and forty (240) were properly filled and returned while six (6) were wrongly filled and four (4) were not returned at all. For the purpose of drawing empirical data and its analysis two hundred and forty (240) properly filled questionnaire was used.

Structured questionnaire of Likert format was prepared based on the research questions and hypotheses. The questionnaire is made up of two sections – Section A and Section B. Section A contains some questions on the bio-data of the respondents while Section B contains some questions on the subject matter.

The data collected in this study were presented in tables and analyzed using percentages by the researcher and inferential statistics. Specifically, descriptive statistics such as percentages were used in describing the responses of the respondents while Chi-Square (X^2) was used to test all hypotheses.
The Chi-Square formula is stated thus:

$$x^2 = \frac{\Sigma(O-E)2}{E} = \frac{\Sigma(O-E)2}{E}$$

where:
x^2 = Chi-Square
$\Sigma\,\Sigma$ = summation
O = observed frequency
E = expected frequency

Discussion And Findings
The researcher presented the data collected from the questionnaire in a tabular form and analyzes them accordingly.

Bio-Data of the Respondents
Table 1: Distribution of Respondents by Gender

Sex	No of Respondents	%
Male	142	59.17
Female	98	40.83
Total	**240**	**100**

Source: Field Survey, 2020.

Table 1 shows that 142 (59.17%) of the respondents are male while 98 (4.83%) of the respondents are female. This implies that there were more male respondents than female.

Table 2: Distribution of Respondents by Age

Age	No of Respondents	%
18 - 29	50	20.8
30 - 39	78	32.5
40 – 49	72	30
50 & above	40	16.7
Total	**240**	**100**

Source: Field Survey, 2020.

Table 2 indicates that 50 respondents (20.8%) are within the age bracket of 18-29; 78 respondents (32.5%) are between 30 - 39 years old; 72 respondents (30.%) are 40-49 years old; 40 respondents (16.7%) are 50years & above.

Table 3: Distribution of Respondents by Academic Qualification

Academic Qualification	No of Respondents	%
WAEC/GCE	52	21.7
ND/NCE	98	40.83
HND/B.SC	60	24.97
Other Qualifications	30	12.5
Total	**240**	**100**

Source: Field Survey, 2020.

From Table 3, it could be observed that 52 respondents (representing 21.7% of the respondents) are WASC/GCE holders; 98 respondents (40.83%) are ND/NCE holders; 60 respondents (24.97%) are HND/B.Sc. holders; 30 respondents (12.5%) holders; while others have additional degrees. In summary, most of the respondents (98 respondents which represent 40.83% of the respondents) are ND/NCE holders.

Table 4: Distribution of Respondents by Marital Status

Marital Status	No of Respondents	%
Single	134	55.83
Married	106	44.17
Total	**240**	**100**

Source: Field Survey, 2020.

Table 5 indicates that 134 respondents (55.83%) are single; 106 respondents (44.17%) are married; 20. In summary, most of the respondents (134 respondents which represent 55.83% of the respondents) are single.

Conclusion

This paper examines the role of intelligent led policing and its role in national security in the country focusing on Zangon Kataf Local Government, Kaduna State. It identifies some of the challenges of the intelligent led policing in Zangon Kataf Local Government, Kaduna State and Nigeria which hinder their effective and efficient performance and sources of its loopholes. Furthermore, the study explains that security has gone beyond the protection of lives and property and entire law and order through political sovereignty and monopoly of violence which state provide as posited by Thomas Hobbes in 1962 but with the collaboration of all and sundries within all-encompassing condition in which individual citizens live in freedom, peace and safety, participate fully in the process of governance. Enjoy the protection of fundamental right, have access to their health and will being. The quality of training and welfare, logistics and some other materials given to police personnel has significant impact on their performance. Even with that the study believes that if the little resource at the disposal of the police is judiciously put to proper use the rate of crime in the society will be as high as we have them.

Recommendations

Based on the field experience and research hypotheses, this study recommended the following:

i. The police should at least make judicious use of the available resources given to create a secure environment.
ii. The government and the police authorities should provide adequate logistics means that will contribute to the effective and efficiency delivery of the Police Service.
iii. The government should make priority to meaningfully engage the youth in the county thereby reducing the rate of unemployment which is one of the causes of crime.
iv. Police should be funded adequately and remunerated well as this will encourage their performance on the job.
v. Government should create and implement policies that will reduce the rate of poverty among its people.

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THE ASSESSMENT OF THE LEVEL OF SATISFACTION AMONGST THE USERS OF AUTOMATED TELLER MACHINES IN AWKA METROPOLIS

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Abstract
This study assessed the level of satisfaction among ATM users in Awka Metropolis. The examined aspects of satisfaction efficiency and ease of use all viewed from the perspective of the customers. The Survey Research Design was adopted for the study. The study used a sample of 100 bank customers in Awka South LGA. The study used Primary data source through the use research questionnaire to obtain data from the respondents. The data obtained from the respondents were analyzed using descriptive methods such as means and percentages. The findings revealed that bank customers agreed that ATMs in Awka were easy to use and efficient. The researcher recommended among other things that commercial banks should develop a working system that ensures that there are always cash in the ATM machine.
Keywords: *Assessment, Satisfaction, efficiency, customer's perception, ATM.*

Introduction

The need to reduce crowd in the banking halls and provide more efficient banking services anywhere, anytime led to the adoption of electronic banking services. One of the e-banking services that stands out especially in Nigeria is the Automated Teller Machines (ATMs). Odunsina (2014) describes the Automated Teller Machine (ATM) as a product of technological development developed to enhance quick service delivery as well as diversified financial services such as cash deposits, withdrawals, funds transfer, transactions such as payment for utilities credit card bills, and other financial enquiries. Automated Teller Machine (ATM) is the first well known machines to provide electronic access to customers. With the advent of ATM, banks are able to serve customers outside the banking hall (Odunsina, 2014). ATM offers customers the convenience of banking in many more locations than ever before (Ikechi, Robinson and Emenike, 2018).

The ATM is a computerized technology infrastructure that provides clients of financial institutions with access to financial transactions in a public space without the need for human personnel (Ali and Kalu, 2016). Characteristically, a user inserts into the device a special plastic card that is encoded with information on a magnetic strip. The strip contains an identification code that is transmitted to the bank's central computer by modem. To prevent unauthorized transactions, a personal identification number (PIN) must also be keyed in by the user with the aid of a keypad. However, after this operation, the computer permits the machine to complete the transaction The ATM card can also be regarded as Plastic Money; it is not only safe but convenient. The ease of settlement of bills has made it acceptable and important throughout the country. Virtually all banks in Nigeria have introduced ATM because they want to remain relevant in the sector. ATM was conventionally introduced as a means of satisfying customers in 1989. It was installed by the defunct Societe Generale Bank of Nigeria (SGBN) in the same year. Since its introduction, many Nigerian banks have installed ATM in response to the changing nature of modern banking operation. Solomon and Ajagbe (2014) stressed that banks have formed national and global linkages that enable them universally serve their customers better. These linkages are multiplied when banks share their ATMs by allowing customers of other banks access their account through other partner bank's automated teller machines (Solomon and Ajagbe, 2014).

Customer satisfaction derived from ATM use is therefore the feeling developed from an evaluation of the ATMs service experience whether the ATM performed relatively well or poorly against expectations. The evaluative judgment about satisfaction with ATM banking is therefore conceived to fall somewhere on a bipolar continuum where at the lower end it signifies low levels of satisfaction (expectations exceed performance perceptions) and at the higher end it signifies a higher level of satisfaction (performance perceptions exceed expectations). This evaluative judgment occurs at a particular time based on usage experience of ATM banking which occurred at a particular time or on accumulated experience of ATM use.

When ATM users perceive that their positive expectations are met or exceeded, they are satisfied with the service. Similarly, when their negative expectations are unrealized, they are satisfied with the ATMs service. On the other hand, if positive expectations are not met or if negative expectations materialize, ATM users would be dissatisfied with their ATM use. At such, satisfaction refers to the consumer's fulfilment response. It is a confirmation by the user, that a product or service feature, or the product or service itself, provides a pleasurable level of consumption-related fulfillment

The numerous problems associated with the use of ATMs such as; poor network, card seizures, high charges, unpaid debts and the issue of some bank customers who still prefer to operate their accounts without the use of ATMs are the major problems that necessitated this study.

The researcher therefore, examined the following the specific objectives.

1. To determine the bank customers' perception of ease of use of ATMs in Awka metropolis.
2. To ascertain the customers' perception on the efficiency of the ATMs used in Awka metropolis.

From the above stated objectives of the study, the researcher formulated the following research questions:

1. What is the perceived ease of use of ATMs of bank customers in Awka Metropolis?
2. What is the perception of bank customers on the efficiency of the ATMs used in Awka Metropolis?

The paper is organised as follows' the next section reviews relevant literature with regards to context justification and provide a theoretical background for the study, respectively. Next describes the sample data and empirical methodology. The last section summaries the main results, offers conclusion and recommendations.

Conceptual Review

Concepts of Automated Teller Machines (ATMs)
According to Ikechi, Robinson and Emelike (2018), The Automated Teller Machine (ATM) is a self-service machine that dispenses cash and performs some human teller functions. Automated Teller Machine (ATM), also known as an automated banking machine (ABM) or Cash Machine and by several other names, is a computerized telecommunications device that provides the services of a cashier, human clerk or bank teller. On most modern ATMs, the customer is identified by inserting a plastic ATM card with a magnetic stripe or a plastic smart card with a chip that contains a unique card number and some security information such as an expiration date or CVV. Authentication is provided by the customer entering a personal identification number (PIN). Using an ATM, customers can access their bank accounts in order to make cash withdrawals, credit card cash advances, and check their account balances as well as purchase prepaid cell phone credit (Ali & Kalu, 2016).

The major types of electronic cards in Nigeria include debit cards and credit cards. Debit cards are linked to bank customer accounts and offer immediate confirmation of payment while credit cards can be used for accessing local and international networks and were widely accepted in most countries, the underlying infrastructure and operational rules are often provided by global trusted service provider such as Visa and Master card, in addition to local lines. Debit cards are the dominant card mechanism in Nigeria (Ali & Kalu, 2016).

Perceive Ease of Use

Perceived ease of usefulness is the extent to which a person believes that using a particular system will be free of effort (Sun, Wang & Cao, 2009). Studies validated that when individuals think employing a certain technology is easy to use, they will be inclined to work with it (Davis, 1986; Liu, Chen, Sun, Wible and Kuo, 2010). Perceived Ease of Use that influence a person's intention to make use of a technology. Connecting this fact to social media, it is assumed that if ATMs are easy to handle, managers will make use of it. As in the case of PU, PEU has an influence on a person's attitude towards using their technology system.

Perceived Efficiency of ATMs

The concept of efficiency of a production entity was introduced by Farell (1957) as a measure of input- output relationship. Efficiency in the banking industry is a reflection of how banks deliver valuable financial services through various combinations or bundles of inputs (Kablan, 2007). The determination of input and output relationship is tied to the intermediation role performed by banks in the economic system. Banks are financial intermediaries because they engage in the transfer of funds from surplus units to deficit units, i.e., from savers to borrowers. The inputs are cash deposits, tangible assets, employees, information technology and time; the transformation process involves all activities related to intermediation; whereas customer satisfaction, market share, corporate image, profitability and overall efficiency are measures of banking output.

Theoretical Review

This study is anchored on **Technology Acceptance Model (TAM),** TAM was propounded by Davis (1986). It replaced the theory of reasoned action's attitude toward behavior with two technology acceptance measures which are: perceived usefulness and perceived ease of use. TAM didn't include the theory of reasoned action's subjective norms in its structure. It was developed after the introduction of information systems into organizations. It is developed in information technology field while the theory of reasoned action and theory of planned behaviour developed in the psychology field, so that it is less generalized than Theory of Reasoned Action (TRA) and Theory of planned behaviour (TPB) (Davis, 1986). The development for TAM comes through three phases: adoption, validation, and extension. In the adoption phase, it was tested and adopted through a huge number of information system applications. In the validation phase, researchers noted that TAM uses accurate measurement of users' acceptance behavior in different technologies. The third phase, the extension, where there are many researches introducing some new variables and relationships between the TAM's constructs.

TAM was later developed in information technology field. It had been extended from the previous works of Davis (1986) by Venkatesh and Davis (2000) in order to explain perceived usefulness and perceived ease of use from the social influence and cognitive instrumental processes' view-points. Social influence processes refer to:

subjective norm, voluntariness, and image, while cognitive instrumental processes refer to: job relevance, output quality, result demonstrability, and perceived ease of use. Unlike the earlier version of TAM, Venkatesh and Davis inserted subjective norm as an additional construct by adopting from theory of reasoned action and theory of planned behaviour models. Subjective norm has direct relations with perceived usefulness and intention of use. Its relation with perceived usefulness is moderated by the user experience, while its relation with intention of use is moderated by the user experience and voluntariness of use. Extending TAM to the later model by including some constructs from older theories in addition to some moderators to perceived usefulness and perceived ease of use will enhance the performance to the model. As an example, the existence of experience moderator will show the increase in the level of users' experience in technology over the time, and this will cause a tangible change in technology acceptance to them.

Empirical Reviews

Bashir (2014) investigated the perceived customer satisfaction towards introduction of automated teller machine (ATM) in Nigerian banks. The researcher distributed 150 questionnaires across different banks customers in Zamfara State, 136 questionnaires were returned filled out of which 106 contained valid responses. Descriptive statistics were used to analyze three research questions of the study. This covered perceived ease of use, perceived accessibility and perceived security in order to measure customer satisfaction in relation to ATM service quality. The result indicated that the customers with agreed responses on perceived ease of use and perceived accessibility has higher mean and standard deviation, while the perceived security responses have higher mean and standard deviation of disagreed responses. Matimbwa (2018) examined the factors that determine customer satisfaction with ATM services offered by CDRB Bank in Tanzania specifically Iringa Municipality. A quantitative study described the relationship between social economic factors, various aspects of ATM services and customer satisfaction was applied to 100 respondents drawn from 340 CRDB customers who are also holders of ATM cards. Results reveal customers usually use basic ATM services such as balance inquiry and withdrawal. The relationship between overall customer satisfaction and convenience, efficient operation, security, reliability, responsiveness and cost were significant at $p<0.01$. Privacy was found to have a negative significant relationship with overall customer satisfaction at $P<0.05$.

Odusina (2014) investigated ATM usage and customers' satisfaction in Nigeria. It was discovered that despite the increasing number of ATM installations in Nigeria customers' needs are not satisfactorily met as customers are always seen on queue in large numbers at various ATM designated centers as well as poor service delivery of some of these machines. The research engages comparative analysis of three banks in Ogun State, Metropolis of Nigeria which includes First Bank, Guaranty

Trust Bank and Skye Bank. However, questionnaires were distributed to the respondents. A total of 200 respondents answered the questionnaire cutting across the three banks, the chi-square statistical tool was used to analyze the data and the results showed a positive and significant relationship between ATM Usage and Customers' Satisfaction.

Alabar (2012), conducted research on 'Electronic Banking Services and Customers Satisfaction in the Nigerian Banking Industry. He sampled 400 respondents of some selected banks (FBN, UBA, Access, Diamond, GTB and Ecobank) across the six geopolitical zones of Nigeria, Abuja inclusive. He found out that Electronic Banking Services has significant influence on customers' satisfaction after testing his hypothesis using regression analysis.

Ogunniyi, Onuaoha and Izogo (2012), studied the 'Analysis of the Negative Effects of the ATM as a channel for delivering banking services in Nigeria'. The authors sampled 600 respondents from Anambra and Lagos states in Nigeria. The reason according to the authors was because the two states constitute different people from different parts of Nigeria. Chi-square was used to test the hypothesis, and result showed that ATM should not be installed indiscriminately everywhere and that ATM has increased the rate of crime in Nigeria.

Mwatsika (2016) examined the factors influencing customer satisfaction with ATM banking. 353 ATM card users rated the performance of ATM banking in 25 service quality attributes and further rated their perceived satisfaction with ATM banking. The regression analyses of the performance of the 25 ATM banking attributes and customers' satisfaction first reveal that the 25 attributes adopted from empirical studies provide a perfect model for predicting customer satisfaction. Secondly, reliability and responsiveness are the key service quality dimensions of ATM banking and thirdly, the analyses revealed 12 key attributes that influence customers' satisfaction with ATM banking and these are: ATM fees charged, ATMs not out of order, cleanliness of ATMs and ATM stations, accuracy of ATM transactions, ease of access to ATMs, readable slips, convenient location, employee accessibility to solve ATM problems, privacy at ATM stations, employee speed in solving ATM issues, ease of application process for ATM cards and cash availability in ATMs.

Akinmayowa and Ogbeide (2014) investigated the dimensions of ATM service quality and its effect on customer satisfaction. Questionnaire was developed and used to collect information from the study sample. The structured questionnaire was administered to three hundred and fifty (350) respondents of which three hundred and three (303) were found usable, giving 87% response rate. Data collected were analyzed using SPSS 20.5. Regression results indicate that convenience, efficient operation, security and privacy, reliability and responsiveness are significant dimensions of ATM service quality and that ATM service quality has a significant positive relationship with customer satisfaction. Findings from their study are relevant in improving ATM service quality by banks' management to stimulate broad-based customers' satisfaction.

Ikechi et al. (2018) the effect of ATM service quality on customer satisfaction. The major problem of the study was how to operationalize the two major constructs, service quality and customer satisfaction, with respect to ATM, given diverse views of several authors on this issue. The major hypothesis of this study is that 'there is no significant difference between customers' expectation of ATM service quality and its performance. A twenty-two item, five-point Likert scale, ranging from strongly disagree to strongly agree and grouped under the RATER model was used to obtain data from the respondents. Four hundred copies of questionnaire were used for the analysis. T-test independent statistics and regression analysis were used to test the hypotheses. The independent t-test conducted to test the first hypothesis showed that the performance of ATM is not significantly different from customers' expectation of ATM services quality. This shows that there is customer satisfaction as a result of customers' expectations being met. This corroborates the fact that customers in Nigeria use ATMs as a result of the satisfaction they derive, despite the challenges they face.

Ugwuonah, Ifeanacho, Egbo and Chuba (2009) assessed customer perception of bank ATM services in Nigeria. The data for the study were collected through survey instrument developed and administered to 300 bank customers, selected across four Nigerian banks in Nigeria. They were analyzed using descriptive and inferential statistics, which include simple frequency distribution, tables of means and analysis of variance (ANOVA). Results shows that ATM services were more patronized by the younger bank customers than the older ones. Major means through which customers become aware of ATM transactions include the efforts of bank staff (50.9%) and consumers' friends (31.4%). Customers were most satisfied with correctness of their account and the time it takes to complete an ATM transaction but least satisfied with service charge and waiting time before transaction.

Methodology

The study used Survey research design in which questionnaires, interviews, observations to obtain data from primary source. The study uses a sample of 100 bank customers in Awka South LGA. The respondents are selected using the Random Sampling Technique. The Cluster Sampling method was adopted in arriving at the selected sample size. Four clusters were selected to cover major location where a significant number of ATMs were stationed. The first cluster was the banks segment in Nnamdi Azikiwe University which comprises of seven (7); United Bank of Africa (UBA), First Bank Plc, Heritage Bank Plc, Access Bank Plc, Zenith Bank Plc., Fidelity Bank Plc and Guaranteed trust Bank. The second cluster is the UNIZIK permanent site where ATMs of UBA and Sterling bank are situated. The third cluster is at Regina junction where Access Bank Plc, Zenith Bank Plc and Fidelity bank Plc have their branches with operational ATMs. The Fourth cluster is cited at the Eke Awka market where Sterling Bank Plc, UBA, First Bank, Heritage Bank Plc and a host of others. Twenty-five (25) questionnaires were randomly distributed to ATM users at the ATM centers in each of these clusters making it a total of 100 respondents.

Descriptive Statistics

As stated in the previous chapter, the criteria for analysis of the grand mean are as follows; 5.00 – 4.21 = Strongly Agree; 4.20 – 3.41 = Agree; 3.40 – 2.61 = Undecided; 2.60 – 1.81 = Disagree; 1.80 – 1.00 = Strongly Disagree

Descriptive statistics on the Perceived Satisfaction from ATM use.

Table 1: Descriptive Statistics

	N	Minimum	Maximum	Sum	Mean	Std. Deviation
PEU	100	6	18	1313	13.13	2.485
PEF	100	9	20	1462	14.62	2.658
Valid N (listwise)	100					

Source: *SPSS 22.0 Descriptive Statistic Output, 2021*

Table 4.2 shows the minimum, maximum, sum, mean and standard deviation of Perceived Ease of Use (PEU) and Perceived Efficiency (PEF).

Research Question One:

What is the perceived ease of use of ATMs by bank customers in Awka Metropolis?

Table 2: Grand Mean for Customer's Perception on Ease of Use

Variable	N	Sum	Mean Score	Number of Questionnaire Items	Grand Mean	Remark
Ease of Use	100	1648	16.48	4	4.12	Agreed

Source: *Author's computation from Descriptive Statistics Output, 2021*

As shown in table 2, the grand mean of 4.12 falls within 4.20 to 3.41 which is the range for Agreed. Therefore, on the average, bank customers in Awka Metropolis agree that ATMs in Awka Metropolis are easy to use. This suggests that bank customers in Awka metropolis are satisfied with the performance of the ATMs used therein in terms of ease of use. This indicates that the bank customers that use ATMs do not find it stressful or difficult to use and that it did not require complex procedures.

Research Question Two

What is the perception of bank customers on the efficiency of the ATMs used in Awka Metropolis?

Table 3: Grand Mean for Customer's Perception on Efficiency

Variable	N	Sum	Mean Score	Number of Questionnaire Items	Grand Mean	Remark
Efficiency	100	1462	14.62	4	3.65	Agreed

Source: *Author's computation from Descriptive Statistics Output, 2021*

As shown in table 3, the grand mean of 3.65 falls within 4.20 to 3.41 which is the range for Agreed. Therefore, on the average, bank customers in Awka Metropolis agree that the ATMs used in Awka Metropolis are efficient. This implies that bank customers in Awka metropolis are satisfied with the performance of the ATMs used therein in terms of efficiency. This shows an agreement among the respondents that it is faster and less costly to withdraw or transfer funds using ATMs in Awka Metropolis. They also agree that there are less errors associated with the use of ATMs in Awka Metropolis.

Discussion of the Findings

The study assessed the level of customer satisfaction of ATMs users in Awka Metropolis, Anambra state. Customer satisfaction was measured in terms of ease of use and efficiency. The data was retrieved from 100 respondents using a questionnaire developed by the researcher. The grand mean was used to analyze the data and the findings revealed that customers were satisfied with the ease of using ATMs in Awka Metropolis. The bank customers agreed that these ATMs were not difficult to operate and did not require complex procedures. This finding agrees with the findings of Bashir (2014) who found that customers agreed to the notion that ATMs are easy to use. According to the Technology Acceptance Model, this is expected to culminate into improved adoption and use of the ATMs

The findings also revealed that bank customers agreed that ATMs in Awka were efficient. Indicating that the bank customers in Awka perceive that ATMs in Awka metropolis are less costly and time consuming. Thus, they are satisfied with the efficiency of the ATMs. Elements of efficiency such as accuracy of ATM transactions, speed and cost in the study of Mwatsika (2016) were significant predictors of satisfaction. However, this finding is goes against the findings of Ugwuonah et al. (2009) who found that customers were most dissatisfied with the service charge and waiting time before transactions. The findings of Akinmayowa and Ogbiede (2014) revealed that efficiency is a key determinant of ATM service quality. Based on the Technology Acceptance Model, satisfaction translates into improved use and this was the case in this study.

Conclusion and Recommendations

In accordance with the findings, the researcher therefore concludes that the ATMs in Awka Metropolis are easy to use and their services efficient.

The following recommendations are put forward by the researcher:

1. Operators of banks should ensure even distribution of ATMs in all corners of Awka. There should be more strategic planting of ATMs in major shopping malls, hotels, filling stations and other popular places. This would increase the accessibility of ATMs in Awka and hence improve the use of ATMs in Awka Metropolis.
2. Banks should constantly seek better ways to improve the ATM services rendered by periodically getting feedback from customers on their level of satisfaction with the use of these ATMs

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EFFECTS OF DEBT SERVICING ON ECONOMIC DEVELOPMENT IN NIGERIA

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Abstract
This study examined the effect debt servicing on economic development in Nigeria. The objective is to determine the effect of external and domestic debt servicing on per capita income of Nigerians. Secondary data were sourced from Central Bank of Nigeria (CBN) statistical bulletin and Debt Management Office (DMO) from 2001 to 2020 (period of 20 years). The statistical tool used for data analysis was multiple regression method. The result of test of the hypothesis revealed that debt (external and domestic) servicing has an insignificant effect on per capital income in Nigeria in the short-run, while in the long-run debt (external and domestic) servicing has a significant effect on per capital income in Nigeria. This proves the point that debt as a means to finance fiscal policies of the government are better used for capital expenditure which are probable to affect long term economic plans like infrastructure-financing that spurs productive capacity of citizens and their income in the long run. Based on the finding, the study recommends that, the Nigerian government should ensure that more debt finance should be channeled towards infrastructure development in order to stimulate more short term impacts of the borrowings on the income of Nigerians against the backdrop of short term burden, debt servicing payments pose on per capital income, since it leaves little funding available for recurrent expenditures that are short term stimulants of economic growth and income of citizens
Keywords: *External debt, domestic debt, Debt servicing, Per capita income, Economic development.*

Introduction

The amount of capital available in most developing countries treasury is grossly inadequate to meet their economic growth needs mainly due to their low productivity, low savings and high consumption pattern. Governments therefore resort to borrowing from outside the country to bridge the resource gap (Ayadi & Ayadi, 2008). Debt servicing is the cost of meeting interest payments and regular contractual repayments of principal on a loan along with any administration charges borne by the borrower (Lowes & Davies, 2005). The Debt Management Office (DMO) revelation shows that the total public debt stock rose from N42.84 trillion recorded in second quarter to N44.06 trillion in third quarter of 2022, indicated a 2.85% increase quarter-on-quarter, while the country acquired a N1.22 trillion debt within three months. In a breakdown, the DMO said the total public debt stock consists of domestic debt of N26.92 trillion and external debt of N17.15 trillion. Total public debt stock which comprises the total domestic and external debt stock of the Federal Government of Nigeria, all States' governments and the Federal Capital Territory stood at N44.06 trillion (DMO, 2023).The resort to borrowing by the state governments stems from their inability to generate enough revenue internally, a situation that was made worse by shocks from COVID-19 pandemic, insecurity, and of course climate change. Most of the states still depend on federal allocations to fund their budgets, as their internally generated revenue remains perennially weak. Unfortunately, with the dwindling revenue of the Federal Government, the situation is getting worse by the day.

One of the key macroeconomic objectives of a nation is the achievement of sustainable economic growth. To achieve this goal, every Government requires a substantial amount of capital finance through investment expenditures on infrastructural and productive capacity development (Usman *et al.,* 2011). Consequently, this facilitates the growth of their gross domestic product, which if persistent should culminate in economic development, a status vigorously pursued by all less developed countries (LDCs), Nigeria inclusive. Countries borrow to promote economic growth and development, by creating conducive environment for people to invest in various sectors of their economies (Usman *et al.,* 2011). Similarly, Were (2001) argues that the specific reasons why countries may borrow include: to be able to finance their reoccurring budget deficit, as a means of deepening their financial markets, to enable them fund the increasing government expenditures, to enhance their narrow revenue sources and low productivity which results in poor economic growth. Public debt is used as a vital tool by the government to control exchange rate, inflation, among others. Since it forms a major part of the total credit supply of the economy. The appropriateness of public borrowing depends on the purpose for which the fund will be used and the conditions the funds are subjected to. Spilioti (2015) posits that government sometimes borrows internally to fund capital expenditure programmes. This study used external and domestic debt to form part of the model. There are many publications issued on GDP per capita and its relationships with population, land area, transparency score, transparency ranking etc. The publications have been scanned in a way to see if the findings of this study are in conformity with the extant literature in this field. GDP per capita being the (dependent variable) in this study and its relationship with external debt, domestic debt and total debt (the independent variables) were analyzed to see if it would be a supporting study article in this field.

The oil boom era of 1970s coincided with the formulation of Second Development plan of 1970-1974. The oil boom provided much needed financial resources to fully implement the development plan. This period further ushered in large scale public expenditure by different tiers of government in Nigeria. During this period the Nigeria economy witnessed a tremendous increase in public expenditure in the provision of basic and social infrastructure. But with the collapse of oil prices in 1980s and with attendant consequences on public expenditure, Nigeria faced serious financial challenges and downward trend in government revenue. This situation is so serious that the government has to resort to external borrowing in order to finance public expenditure (Nworji *et al.,* 2012). This structural deficiency already associated with the economy in terms of the pattern and trends of production, consumption and exchange of the Nigerian currency, serves as a barrier for the country's development in most of the vital sectors of the economy. In the efforts to sustain the level of consumption and investment trends, massive importation of commodities continues unabated and far exceeds exports and to ensure fiscal balances, government have to resort to external debts. There has been increased concern regarding prudential use of borrowed fund and the management of public debt. The country's debt profile is also growing at an exponential rate without a concomitant report that gives detail on how these funds were expended. To capture the contemporary Nigerian economic situation where public expenditure is financed greatly by debt, there is need to look beyond just the GDP as a measure for economic development but to also explore the debt servicing expenditure, so as to ascertain the effect of debt servicing expenditure on economic development in Nigeria with a cogent look at the debt profile and how it has influenced the Nigerian economic development. To achieve this, the study will modify the already existing model explored by previous authors by the use of per capita income as a proxy for economic development.

Predicated on these issues, the researchers formulated the following hypothesis in its null form to guide the investigation:

***Ho**:* Debt servicing (External debt and Domestic debt) has no significant effect on per capita income in Nigeria.

The paper is organised as follows' the next section reviews relevant literature with regards to context justification and provide a theoretical background for the study, respectively. Next describes the sample data and empirical methodology. The last section summaries the main results, offers conclusion and recommendations.

Review of related literature

Conceptual Reviews

Public expenditure

Public sector expenditures are the costs that are usually incurred by the government for the provision and maintenance of itself as an institution, the economy and society. The explosion of empirical studies on the endogenous models led to the division of public expenditure into productive and consumption items with cogent look at public sector performance (Barro, 1990). The productive expenditure is assumed to be positively correlated with economic growth while the consumption expenditure is assumed to be negatively related to growth. However, there is no consensus yet in the literature about which public expenditure is productive or unproductive (Musgrave, 1997).After independence in 1960, Nigeria government encouraged both local and foreign investors to be actively involved in the development process in Nigeria through the massive provision of basic social infrastructures, so as to kick-start the development of the country (Ismail & Imoughele, 2015). The oil boom period witnessed a tremendous increase in public expenditure in the provision of basic and social infrastructure. In the efforts to sustain the level of consumption and investment trends, massive importation of commodities continues unabated and far exceeds exports and to ensure fiscal balances, government have to resort to external debts. Thus, government's expenditures continue to rise far more than revenue and this resulted to overvaluation of domestic currency and unemployment becomes more pronounced. Public expenditure experienced an upsurge in the last three decades which can be largely be attributed to huge receipts from the production and sale of crude-oil and with the need to provide basic infrastructure like roads, power, education, health and security. The statistics made available from central bank of Nigeria shows that total expenditure (both capital and recurrent) and its components have moved N14,968 million in 1980 to N60,268.20million in 1990 and rose to N3,452,990million in 2009. In the same vein, the composition of recurrent expenditure shows that expenditure on its various components further showed that public expenditure have increased over the years.

Per capita income and economic growth

Per capita income measures the level of total output in a nation in respect to its total population. This measures the individual income capacity of a nation. Since the independence of Nigeria in 1960, the average growth rate of its per capita GDP has been 1.7 percent per year. The stability of the country's economic growth is an indication that the country is very close to its long-run steady balanced growth path. This evidently shows the absence of trends in its capital-output ratio and its real interest rates. The average real GDP per capita was about US$ 1222 between 1950 and 1959. The amount rose to US$1477 under the regime of the country's first president. The GDP per capita reached a peak of about US$1804 on average between 1976 and 1979 during the military period of Olusegun Obasanjo. After the Obasanjo's military regime, the declining trend of average real GDP per capita was observed. Prior to the adoption of 1986 Structural Adjustment Programme (SAP) in the country, the average per capita was almost US$ 1544 between 1960 and 1985. However, a decline in real GDP per capita was experienced after the SAP era. The real GDP per capita on average stood at US$1446 when the country was under the military regime. Since the adoption of a democratic system in the country, there was an improvement in the real GDP per capita. This reflects the positive effect of democracy on the economic growth identified in the literature. Under normal circumstances one can expect that, ceteris paribus, the higher the population the lower the GDP per capita (Inimino, Tubotamuno & Shaibu, 2017).

GDP per person is an informative indicator of welfare across a broad range of countries. There are economically important differences between GDP per person and consumption equivalent of welfare (Fatima, Zina & Abdelaziz, 2014). One might expect that the higher the economic growth rate the higher the GDP per capita since growth is an economic catalyst for higher GDP (Edame & Nwankwo, 2016). However, it is noteworthy that we used both GDP per capita and GDP growth in our models to estimate the country's income inequality. This is because it is believed that GDP growth and GDP per capita can explain the country's economy from different perspectives (Chude & Chude, 2013). The average growth rate per capita real gross domestic product (GDP) from 1960 to 1985 is not significantly related to the 1960 value of real per capita GDP; the correlation is 0.09 (Barro, 1991).

The Nigerian economic growth road map

Prior to the Nigeria independence, the British ruled the country for almost 100 years in order to exploit abundant natural resources needed to sustain its empire. The colonial authorities provided basic infrastructure and services required to boost the exportation of raw materials to Britain (Oyinbo, Zakari & Rekwot, 2013). Owing to the interest of the colonialists, agriculture and trade were used as the drivers of the colonial economy. They put in places several measures to stimulate the production of industrial raw materials such as palm oil and kernels, cocoa, cotton, groundnut and rubber. Oyinbo *et al.,* (2013), observed that the rise in export demand triggered the production of other major agricultural products such as cocoa, groundnut, cotton, and rubber. During this colonial era, the main source of the foreign exchange earnings was the trade in the major agricultural commodities. The promotion of major agricultural goods for export led to the problem of food insecurity as the production of food crops was handled by farmers who generally worked on small plots of land with inefficient traditional technologies. Another important economic activity during the colonial era was the exploitation of mineral resources like coal, tin, columbine, petroleum and gold. The British colonialists managed the gold mining activities while other minerals were left to the private foreign companies. Their economic interest prevented the promotion of industrial activities especially manufacturing with the aim of protecting the market for the products from their home country. The stability of the country's economic growth is an indication that the country is very close to its long-run steady balanced growth path. The real GDP per capita on average stood at US$1446 when the country was under the military regime. Since the adoption of a democratic system in the country, there was an improvement in the real GDP per capita. Also, the highest annual growth rate of Nigeria's GDP per capita was observed between 1999 and 2007. The least growth rate in the country was attributed to the period before the democratic system of government (Dauda, 2011).

Economic development plan in Nigeria

Development planning in Nigeria is broadly grouped in three periods. These are the period of Fixed-Term Planning (1962-1985), the Era of Rolling Plan (1990-1998) and the New Democratic Dispensation (1999 till date). The fixed term planning is subdivided into four successful plans namely the First National Development Plan (1962-1968); the Second National Development Plan (1970-1974); the Third National Development Plan (1975-1980); and the Fourth National Development Plan (1981-1985). The first plan was extended to 1969-70 due to the civil war and made a provision of N2.2 billion for capital expenditure. During this plan, the National Manpower Board was established as employment promotion scheme in 1962. The second plan had a capital expenditure budget of about N3billion, all stakeholders were engaged in this era. The third plan started with a capital expenditure of N30 billion and later revised to N43.3 billion. The actual amount spent by the government was N29.43billion with the goal of improving people's welfare. Under this plan, the local governments were involved in its design and formulation. The first rolling plan (1990-1992) was to evaluate the achievement made in implementing SAP and address the challenges confronting the economy. The key priority was to strengthen the National Directorate of Employment. The second rolling plan (1993-1995) aimed to address the observable lapses and inefficiencies in the operation of monetary and credit instrument, low level of capacity utilization of industries and the rising trends of unemployment. The 1994/96 and the 1997/99 Rolling plans aimed at generating employment as its key priority; and building a strong, virile and broad-based economy with adequate capacity to absorb externally generated shocks. All in all, the study presents the facts in relation to the economic growth in Nigeria over time with the aim of providing answers to the research question on what are the growth patterns experienced by the country? Second, it examines the extent by which Nigeria lags in catching up with other countries in a developing region, as well as identifies the drivers that hinder or enhance economic growth. Third, it also considers the influence of the political regimes witnessed in the country has on the level of its economic performance.

Public debt and economic growth

Public debt is defined as the accumulated total of government borrowing from either the private sector of the country or from abroad (Mayo, 1996). Public debt can be used to regulate the economy through variations in the volume, composition, and yield rates of such debt, (Stella, 2015). A long-term maturity composition of public debt will reduce total liquidity in the economy while in opposite direction, a short-term maturity will increase liquidity. Public debt is used as a vital tool by the government to control exchange rate, inflation, etc. since it forms a major part of the total credit supply of the economy. Public debt is a vital alternative source of borrowing. The appropriateness of public borrowing depends on the purpose for which the fund will be used and the conditions the funds are subjected to. One of the key macroeconomic objectives of a nation is the achievement of sustainable economic growth. To achieve this goal, every Government requires a substantial amount of capital finance through investment expenditures on infrastructural and productive capacity development (Usman *et al.,* 2011). Consequently, this facilitates the growth of their gross domestic product, which if persistent should culminate in economic development, a status vigorously pursued by all less developed countries (LDCs), Nigeria inclusive. However, Ayadi & Ayadi (2008) noted that the amount of capital available in most developing countries treasury is grossly inadequate to meet their economic growth needs mainly due to their low productivity, low savings and high consumption pattern. Governments therefore resort to borrowing from outside the country to bridge the resource gap.

Countries borrow to promote economic growth and development, by creating conducive environment for people to invest in various sectors of their economies (Usman *et al.,* 2011). Similarly, Were (2001) argued that the specific reasons why countries may borrow include: to be able to finance their reoccurring budget deficit, as a means of deepening their financial markets, to enable them fund the increasing government expenditures, to enhance their narrow revenue sources and low productivity which results in poor economic growth. A lot of empirical studies support that there is a negative relationship between public debt and economic growth in advanced and emerging economies. According to their empirical results this correlation is particularly strong when public debt reaches 100 percent of GDP (Kuman & Woo, 2010). For developing countries the empirical evidence, particularly for economies belonging to the West Africa, is very limited, and most of them examined the impact of fiscal variables (such as government debt, taxes) on long term interest rates and spreads only as an indirect approach affecting economic growth. Among the studies that examined the impact of debt on GDP growth, is that of Were (2001) which makes an evaluation of the effect of taxes on capital stock, and reached the conclusion that public external and internal debt reduces the available lifetime consumption of tax payers as well as their savings, and thus the capital stock.

Theoretical framework

Wiseman-Peacock hypothesis

This hypothesis was propounded by Wiseman and Peacock (1961) resulting from their study of public expenditure in the United Kingdom for the period 1890-1955. They argued that public expenditure does not increase in smooth and continuous manner, but in jerks or stepwise fashion, favoring a post-ante analysis of direction of causality on the budgets of government. They submitted that some social or additional instability happens making the call for public expenditure to be increased, which the current public revenue will not be enough to meet. The effect of each social disturbance or crisis is to shift the electorate's perception of tolerable taxation to new heights with willingness to tolerable greater tax burden, which finances an expanded scope of government. However, Ezirim (2005) submitted that latter in the study period, and up to the time of Wiseman-Peacock study in 1961, the pressure increased and caused an upsurge in public expenditure in such a way that the resulting effect was the apparent exposure of the inadequacy of the present revenue to every economic watch and analysis. The development was a kind of revenue-expenditure spiral, which, in turn, affected economic activities in a country. They observed that government likes to spend money, while citizens do not like to pay taxes, and concluded that government needs to pay more attention to the wishes of their citizens. In their presentation, the individual voter is conceived as "a free rider" who likes to enjoy the benefits of public goods and services without willing to pay for them through taxes. However, as the economy grows, tax revenue also grows at constant rate, thereby enable public expenditure to grow proportionally with GNP (Agiobenebo, 2003).

The endogenous growth theory

Chude and Chude (2013) submitted that the major improvement in the endogenous growth theory over the previous models is that it looks at the determinants of technology. That is, it explicitly tries to model technology rather than assuming it to be exogenous. This is a statistical explanation of technological improvement that incorporated a new idea of human capital, knowledge and skills that enable workers to be more productive. More often than not, economic growth comes from technological progress, which is fundamentally the ability of economic agents to utilize their productive resources more effectively over time, through the process of learning. This is because human capital development has a high rates or increasing rates of return. Therefore, the rate of growth depends to a large extent on what (the type of capital) a country invests in. Thus, to achieve economic growth, public expenditure in human capital development especially expenditure on education must be increased. At the same time, the theory predicts positive externalities and spillover effects from development of a high valued-added knowledge economy, which is able to develop and maintain a competitive advantage in growth industries in the overall economy.

Empirical review

Omodero (2019) assessed the impact of government general spending on human development in Nigeria from 2003 to 2017. The purpose of the study was to determine the response of human development index (HDI) to recurrent and capital government expenditures. In order to achieve that objective, the multiple linear regression analysis was employed, while Ordinary Least Square method was used to analyze the model. The study results indicated that government's capital expenditure and inflation have insignificant negative influence on HDI, corruption does not have any impact on HDI but government recurrent expenditure has strong and significant positive impact on HDI. The study concludes that resources on recurrent expenses should be reduced while more money should be invested in capital projects for human capital development in Nigeria.

Panagiotis (2018) investigated the relationship between economic growth and several factors (investment, private and government consumption, trade openness, population and government debt) in Greece, where imbalances persist several years after the financial crisis using a time series analysis and multiple regression. The results of his study revealed a long-run relationship between variables. Investment as private and government consumption and trade openness affect growth positively. On the other hand, there is a negative long-run effect of government debt and population on economic growth. Furthermore, the study addressed the issue of break effects between government debt and economic growth. The results indicate that the relationship between debt and growth depends on the debt breaks. Specifically, at debt levels before 2000, increases in the government debt-to-GDP ratio are associated with insignificant effects on economic growth. However, as government debt rises after 2000, the effect on economic growth diminishes rapidly and the growth impacts become negative. The challenge for policy makers in Greece is to halt the rising of government debt by keeping a sustainable growth path. It was recommended that fiscal discipline should be combined with the implementation of coherent, consistent and sequential growth-enhancing structural reforms.

Mittahu and Roshi (2017) in their study examined the relationship between public spending and economic growth in Nigeria. They explored the relationship between government expenditure and economic growth with the view to establishing a stable relationship. They employed an ARDL model in order to provide the framework for estimating the existence or otherwise of the equilibrium relationship among the examined variables. The empirical findings from their work revealed the existence of positive and significant relationship between public spending on economic growth in Nigeria. They posited that, government expenditures are considered to be highly important in creating opportunities and widening the productive base. As a result of their findings, they opined that government as an institution that provide welfare to the populace has a major role to play in deciding where priority spending should be allocated in order to enhance the developmental process and provide sustainable growth in the growing economy.

Bonmwa, and Ishmael (2017) in their work examined the impact of government expenditure on economic growth in Nigeria for the period 1981–2016. They split government expenditure into recurrent and capital expenditures which were tested using two separate models. The stationarity of the variables were tested to determine the stochastic properties of the series. Also, the co-integration result indicates that the two models each have one co integrating equation. An ordinary least square technique with error correction specifications was used to analyze the data. The result for the 'model 1'indicates that the coefficients of social and economic services were negative while administration was positive and significant. The result for the 'model 2' indicates that coefficients of administration and social services were negative and insignificant, while economic services were positive but insignificant. The study then concluded that government expenditure has not translated into meaningful economic growth. On this basis, they recommended that government should increase her budgetary allocation to capital projects and ensure effective utilization of such funds. Also, it should increase social services capital expenditure allocation bearing in mind its multiplier effects on long-run economic growth.

Kalu, Ukai, Chucku and Amadi (2016) examined the impact of Debt Service Payment (DSP) on economic growth for the period 1981 to 2013 using empirical evidence from Nigeria. The ordinary least square regression method and the Granger Causality Test were used as principal methods of estimation in addition to other descriptive statistical tools adopted. DSP proved to be a positive and significant function of economic growth while the causality tests showed a bidirectional causality running for DSP to GDP and a feedback from GDP to DSP. This goes to show that Debt weight evidenced by the quantum of servicing payment by the government limits growth in Nigeria and other economies alike.

Mbah, Agu, and Umunna (2016) investigated the impact of external debt on economic growth in Nigeria by using the ARDL bound testing approach to co-integration and error correction models for the period 1970 – 2013, in order to investigate the existence of long-run equilibrium relationship among the variables. The result of their study indicates a long-run relationship among the variables. External debt impacts negatively and significant on output. The finding also established unidirectional causality between external debt and economic growth. Consequently, the study recommends that government should embark on prudent borrowing and encourage export-oriented growth.

Mohsen, Mohsen and Sadeq (2016) examined the nonlinear relationship between inflation and government spending using quarterly data over the period of 1990-2013, by using Smooth Transition Regression Model. Results suggested a two regime model by using inflation, government expenditure growth, GDP growth and liquidity growth. Lag of liquidity was recognized as transition variable. This study showed that in regime of tight money or low growth of liquidity, government expenditure is not inflationary. In regime of low growth of liquidity, this variable has low inflationary impact and probably stimulates economic growth. Inflationary expectations in first regime are more effective in causing short run inflation. In expansionary regime, increase of money supply has more effects on inflation rather than production. So monetary and fiscal policies could be used to control inflation and stimulate aggregate demand in low regime. Also in easy money regime, monetary and fiscal discipline can be useful for deflation.

Nwanne and Eze (2015) investigated the relationship between external public debt servicing and receipt and exchange rate fluctuations in Nigeria from 1981 to 2013. The variables used in the study included external public debt receipts, external public debt servicing, and exchange rate. The theoretical models adopted in the study were the monetary model of exchange rate determination and the monetary approach to international capital movements. The strategies for accomplishing stated objectives were specified to include the use of Ordinary Least Square (OLS) multiple regression and co-integration test, which would have helped in determining the short-run and long-run relationships, respectively, between the specified variables, based on secondary data sourced from Central Bank of Nigeria (CBN) and Debt Management Office (DMO) statistical publications for the period under review. The findings of the study showed that external debt receipts and external debt servicing have positive short and long-run relationships with naira exchange rate fluctuations. Adesola (2009) in his study reviewed and analyzed the effect of external debt service payment practices on sustainable economic growth and development with particular emphasis on Nigeria. They used debt payment to Multilateral Financial creditors, Paris club creditors, London club creditors, Promissory notes holders and other creditors (Non-Paris Creditors) as variables to statistically determine whether they have inverse relationship with gross domestic product (GDP) and gross fixed capital formation at current market prices (GFCF). Data pertaining to 1981 through 2004 were used with the ordinary least square multiple regression method. They found that debt payment to London club creditors, Paris club creditors, promissory notes holders and other creditors have significant impact on the GDP and GFCF. Debt payment to Paris club creditors and debt payment to promissory notes holders are positively related to GDP and GFCF, while debt payment to London club creditors and other creditors shows a negative significant relation to GDP and GFCF. They therefore recommended among others that government should ensure that any loan deal with either London club or other creditors should be deal that will open Nigeria to greater trade and investment and can stimulate the private sector, since debt payment to these two creditors impact negatively on our economic growth.

There is another set of empirical studies that examined in more detail the impact of different levels of public debt on economic growth and found out that negative relationship exists only after a certain debt-GDP ratio. Smyth and Hsing (1995) indicate that the optimal debt ratio is 38.4% for debt held by the public sector and 48.9% for total debt. Pattillo *et al.,* (2002) using a large panel data set of 93 developing countries for the period 1969-1998, support that the negative impact of external debt on per-capital GDP growth exists only when the net present value of debt levels are above 35%-40% of GDP. In the same line, Clements *et al.,* (2003) based on a panel of 55 low-income countries data over the period 1970-1999, revealed that the turning point in the net present value of external debt is at 20%-25% of GDP. Kumar and Woo (2010) examined the impact of high public debt on long-run economic growth, based on a panel of advanced and emerging economies' data for a period of almost four decades. The empirical results suggest that on average, a 10% point increase in the initial debt – to GDP ratio is associated with a slowdown in annual real per capita GDP growth of around 0.2% points per year.

Anyanwu and Erhijakpor (2004) studied the impact of debt on economic growth of Nigeria over the period 1970–2003. The study reported that debt has a significant negative impact on economic growth. El-Mahdy and Torayeh (2009) investigated the debt and growth relationship for Egypt's economy using data spanning 1981–2006 and the study revealed a robust negative relationship between debt and growth. Ogunmuyiwa (2011) evaluated the effect of debt on Nigeria's economic growth from 1970–2007. The results revealed a weak and insignificant relationship between debt and growth. Shah and Shahida (2012) investigated the effect of the public debt on economic growth of Bangladesh for the period 1980–2012 and found no impact of debt on economic growth.

It is crystal clear that most of the above empirical reviews were either on public expenditure or public debt and economic growth and no attempts were made by any of the previous researchers to investigate the effect of debt servicing on economic development. This study is set out to close that gap by examining the effect of debt servicing on per capita income (as proxy) for economic development.

Methodology

The study made use of the ex-post facto research design, which involves ascertaining the impact of past factors on the present happening or event using already existing data that cannot be manipulated. This study covers a period of 21 years from 2000 to 2020 and defined sample technique used is 21. Data for this study were obtained from secondary sources extracted from the website of the Central Bank of Nigeria. The variables used in the study are: the Dependent and the Independent variables.

Dependent variable is Per capita Income and independent variables include: External debt, Domestic debt and Total debt servicing in Nigeria for the period under review.

Model specification

$PCI = \alpha + \beta_1 EDBT_{it} + \beta_2 DDBT_{it} + U_{it}$ ....***Model 1***

α = Constant
PCI = Per Capita Income
EDBT = External Debt servicing
DDBT = Domestic Debt servicing
it= Cross sectional data($_i$) Time ($_t$)
U = Error term used in the model.

$\beta_1 + \beta_2 + \beta_3$= Beta coefficient of the independent variable.

Decision Rule

Accept the null hypothesis if the calculated value is greater than the significant level of 0.05.

4.1 Data presentation and analysis

Data Analysis

Table 1: Descriptive Statistics of the Series

	PCI	EDBT	DDBT
Mean	1890.873	812.28	42.76571
Maximum	3222.693	2804.12	147.86
Minimum	567.9307	124.5	6.55
Std. Dev.	793.4361	790.3133	41.62916
Probability	0.1341	0.2904	0.2916
Observations	21	21	21

Source: Author's Computation, 2023

Table 1 shows the data used for analysis in their raw forms. The number of observations used for the study is 21 years. This represents data from 2000 to 2020 used for the analysis.

For PCI, the data reveal a mean value of \$1890.873 with a deviation of \$793.4361. PCI has a maximum and minimum values of \$3222.693 and \$567.9307. EDBT data reveal a mean value of 812.28 billion Naira with a deviation of 790.3133 billion Naira. EDBT has a maximum and minimum values of 2.80412 trillion Naira and 124.5 billion Naira. Lastly, the DDBT data reveal a mean value of 42.76571 billion Naira with a deviation of 41.62916 billion Naira. DDBT has maximum and minimum values of 147.86 billion Naira and 6.55 billion Naira. The maximum, minimum, means, and deviations of the variables reflects the characteristics of the data for each variable and the ensuing level of fluctuation.

As shown in table 1, EDEBT, DDBT and PCI all have the combined Kurtosis and Skewness probability values greater than 0.05 and are accordingly shown to be normally distributed. This is ensured after the data are transformed from their N'Billion forms into their logged forms to ensure normality and stationarity of the data.

Stationarity test

Unit Root Test

Table 2. Unit root tests using Augmented Dickey Fuller Criterion

Variables	T. Stat	5% Critical value	Order of Integration
PCI	0.953	-1.950	*I*(1)
EDBT	2.407	-1.950	*I*(1)
DDBT	2.295	-1.950	*I*(1)
Cointegration	19.1692	29.68	*No Cointegration*

Source: Author's Computation, 2023

The unit root result in Table 2 indicates that all of the variables (PCI, EDBT, and DDBT) are stationary at level as their ADF Trace Statistics values became greater than the critical values at 5%. Since they all became stationary after suppressing the constants, there is need to conduct co-integration test to ascertain the collective stationarity of the variables and to see if there is need for both VAR and VECM test.

From the table above, the results revealed that there is no co-integrating equation with the combination of PCI EDBT and DDBT. This means that, the combination of the variable doesn't have a similar trend in the long run but in the short run a similar trend exist between the trends of the variable. As a result, the study will carry out both the VAR and VECM model to compare the short run trend against the long trend of the variables.

Table 3. Lag Order Selection Criteria

Lag	Logl
VAR	1
VECM	1

Source: Author's Computation, 2023

Table 3 indicates that the appropriate lag length for both the short run (VAR) and the long run (VECM) is one as indicated by the Schwarz information criteria producing the minimum values among the competing lag length criteria. As a result, this study adopts a one-period lag approach as suggested by the Stata software.

Table 4. VARmodel Test

VAR	Coef	Z	Prob.	R-sq	Chi2	Prob.
PCI		13.88	0.0000	0.9395	310.7864	0.0000
EDBT	-16.78242	-0.25	0.803			
DDBT	16.74307	0.25	0.804			
Const	21.86135	0.25	0.800			

Source: Author's Computation, 2023

The VAR results presented in tables 4 show that, each of the debt service variable (EDBT and DDBT) in the model is insignificant in explaining changes in PCI in the short run within the period of the study. This implies that the debt service cost incurred by Nigeria is meant to cause infrastructural changes than the income of citizens in the short run. This is further confirmed by the direct relationship that exists between the constant term and the PCI indicating that EDBT and DDBT rather influence long term infrastructural changes than short term changes in PCI. Regardless, the chi2value of 310.7864 with a probability value of 0.000 confirms the collective significance and fitness of the model in explaining variations in PCI if infrastructure is considered as a factor for causing a change in PCI. A confirmation is the R-sq indicating that EDBT and DDBT are responsible for 93.95 per cent variation in real PCI while the remaining 9.05 per cent variation is accounted for by infrastructural development(a significant long-term factor) not included in the model.

Table 5. The vector error correction model

VECM	Coef	Z	Prob.	R-sq	Chi2	Prob.
PCI		-3.98	0.0000	0.5661	10.74107	0.0047
EDBT	3586.089	2.93	0.003			
DDBT	-3585.705	-2.93	0.003			
Const	-4589.576			Lagrange		0.72284

Source: Author's Computation, 2023

In comparison with the VAR model, the VECM results presented in tables 5 show that; there is significant adjustment in the long run effect of EDBT and DDBT against PCI with a Probability value of 0.0047.This is also reflected in each of the debt service variable (EDBT and DDBT) result which indicates that both EDBT and DDBT are significant in explaining long run changes in PCI. Although while EDBT explains a positive significant long-run effect on PCI, DDBT explains a negative significant long-run effect on PCI. This implies that the domestic debt incurred by Nigeria is not channeled to infrastructural development which would have caused positive changes to the income of citizens in the long run. Also, the chi2 value of 10.74107 with a probability value of 0.0047 confirms the collective significance and fitness of the impose VECM in explaining variations in PCI with consideration to long runtime factors for debt investment into infrastructural development. A confirmation is the R-sq indicating that EDBT and DDBT are responsible for only56.61 per cent variation in PCI in the long run while the remaining 43.39 per cent variation might be accounted for by improved infrastructures (a significant long-term factor) which might enable private production and improved PCI; although it is not included in the model.

The result shows that there is no serial correlation (autocorrelation) among the residuals of the model. This is revealed using the probability value of the Lagrange test which is 0.05<0.0047.

Test of Hypothesis

Ho: Debt servicing (External debt and Domestic debt) has no significant effect on per capita income in Nigeria.

From table 6, the VECM z-stat values for EDBT revealed calculated z value of 2.93 and a p-value of 0.05<0.003 while DDBT revealed calculated z value of -2.93 and a p-value of 0.05<0.003. Thus, the study rejects the null hypothesis and concludes that, debt (external and domestic) servicing have a significant effect on per capital income in Nigeria.

Discussion of result

From the hypotheses tested, the result revealed that debt (external and domestic) servicing has an insignificant effect on per capital income in Nigeria in the short-run while in the long-run debt (external and domestic) servicing has a significant effect on per capital income in Nigeria. This proves the point that debt as a means to finance fiscal policies of the government are used for capital expenditure which are probable to affect long term economic plans like infrastructure-financing that spurs productive capacity of citizens and their income in the long run. This conforms to the Wiseman and Peacock (1961) hypothesis of public expenditure on capital items in the budget. They argued that public expenditure does not increase in tandem to economic development in a smooth and continuous manner, but in jerks or stepwise fashion in the long run which favors a post-ante analysis of direction of causality on the budgets of government. In the case of this study, the VECM model has proved that, the Nigerian expenditure on public debt servicing has a post-ante long run effect on per capital income rather than a short run effect. This is a similar argument held by Kalu et al. (2016) who examined the impact of Debt Service Payment on economic growth in Nigeria. Using an ordinary least square regression method, they found that, debt servicing has a positive and significant effect on economic growth in Nigeria.

Conclusion and Recommendation

In conclusion, the study proved through a comparative test of short run and long run analysis that, debt servicing expenditures in the long run positively affects the per capital income of Nigerian. This is against the short run case where debt servicing has no significant effect on per capita income of Nigeria.

In consonance with this study's conclusion, the study recommends that, the Nigerian government should ensure that more debt finance are channeled towards infrastructure development in order to stipulate more short term impacts of the borrowings on the income of Nigerians against the backdrop of short term burden debt servicing payments pose on per capital income since it leaves little funding available for recurrent expenditures that are short term stimulants of economic growth and income of citizens.

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EFFECTS OF FINANCE COST ON THE PROFITABILITY OF LISTED MINING FIRMS IN NIGERIA

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Abstract
This study focused on the effect of finance costs on the profitability of listed mining firms in Nigeria. The study was prompted because of the burden of debt via interest cost in discouraging investment in the Nigerian mining industry. Thus, the study determined the effect of the finance cost ratio (FCR) on the return on asset (ROA) of listed mining firms in Nigeria and the effect of the interest coverage ratio (ICR) on the return on equity (ROE) of listed mining firms in Nigeria. The study answered four research questions and tested four hypotheses. Secondary data was used for the execution of this research work with an ex-post facto research design. Data extracted from the financial statement of a listed mining firm in the Nigeria Exchange Group (NGX) were analyzed using the regression analysis statistical tool with the aid of Statistical Package for Social Science (SPSS) Version 22.0. The result of the analyses carried out show that the financial cost ratio (FCR) has a positive and significant effect on the return on asset (ROA) of listed mining firms in Nigeria. It also revealed that the interest coverage ratio (ICR) has a negative and non-significant effect on return on equity (ROE). It was therefore recommended amongst others that companies should use their internal financing resources as far as possible to mitigate the effect of excessive interest cost on the profitability of the firms and that government should create a good business environment by regulating the levels of interest rates and thus making it easy for mining firms to access debt finance with lower cost implications.
Keywords: *Profitability, Return on Equity, Return on Asset, Finance Cost, Mining, Royalty, Exploration.*

Introduction

In our present-day economy, finance is defined as the provision of money at the time when needed. Every entity, whether big, medium, or small needs finance to carry on its operations to achieve its strategic objectives. As Africa's mining sector plays host to numerous international players developing local projects, the arrays of funding options are plentiful – be they the tried-and-tested traditional models or the more recent innovative models, such as streaming and royalty transactions. Mining is the production section of the extractive industry which requires huge investment and is capital intensive. The investors sometimes may not have the required capital, so they resort to borrowing. It is a universal knowledge and concept that borrowing has a cost implication for the borrower. Mining activities before 2007 in Nigeria were carried out in accordance with the provisions of the Federal Minerals and Mining Act (FMMA) of 1999. In 2007, the Nigerian Mining and Minerals

Act (NMMA) was enacted, repealing the FMMA of 1999, to regulate the exploration and exploitation of minerals in Nigeria. The sector has immense revenue generation capacity for the country, considering the untapped value potential yet to be unlocked and utilized (Adewole, 2021).

The sector is poised for robust near- and mid-term growth as investors move to make the most of the opportunities in iron ore, gold, zinc, limestone, bitumen, barite, and lead mining. Efforts are also being channeled by the government into the mining of metals such as titanium, tungsten, lithium, and cobalt, which have various applications in industries such as aerospace, telecommunications, and electric vehicle manufacturing. It is no news that the mining sector forms a significant part of the gross domestic product of certain economies in West Africa and Africa as a whole.

Debt financing has grown rapidly in recent years. Debt financing is one of the common ways for a company to increase its capital to run its business. Manufacturing firms usually opt for debt financing, which has consequences related explicitly to the firm's profitability. Therefore, it is the most crucial decision for the management because, in any corporate firm, it is the management's job to make capital-structure decisions that ensure a balanced proportion of both equity and debt. In doing so, policymakers must consider the relevant costs and benefits of these capital instruments (Ahmed & Wang, 2011). Bank lending is the most common source of external finance for many corporate entities which are often heavily reliant on traditional debt to fulfill their start-up, cash flow, and investment expansion needs. While it is commonly used by entities to remediate short and long-term liquidity traps, however, traditional bank finance poses challenges to emerging and growing organizations, to newer, innovative, and fast-growing companies, with a higher risk-return profile (Lucia, 2015). Decisions about the financing of capital projects are the main decision-making domain in a company, and it is a significant phase in a company's growth. One of the main concerns of companies that are experiencing growth in their life cycle is the methods to acquire financial resources or invest their surplus. The necessity to acquire financial resources is first because the value of companies' assets decreases because of some external factors such as exchange rate, inflation, and bank interest, and secondly, because operational mechanisms of companies cause that company to need money in the form of financial resources, to purchase new assets, increase company`s capacity, employ new employees, and purchase raw materials (Razaghi, 2007).

The mining industry is a high-risk business entity that is prone to several causative factors as regards profitability and continuous survival of the business. Whatever debt finance acquires for expansion, growth, or acquisition of assets poses an obligation that reduces the profitability of the entity in terms of finance cost

obligation. The dismal performance of the Nigerian mining sector could be attributed to the inadequacy of financial support and the high cost of capital for the mining sector, which ultimately has contributed to the reduction in capacity utilization of the mining sector in the country. The insignificant contribution of the sector to the gross domestic product could be because of continued deterioration in infrastructural facilities as well as lack of access to low-cost finance characterized by rising lending rates. Also, the debt overhang has discouraged investment in the mining sector, through its implied credit constraints in international capital markets because of flawed interest rate policies by successive monetary authorities in Nigeria. Few studies have been carried out in the area of debt financing cost and profitability of firms (e.g., Dada, 2014; Samadi, 2011). Therefore, the present study is on the effect of finance cost on the profitability of listed mining firms in Nigeria. This noted gap motivated the study.
However, the study deems it fit to determine the effect of finance cost on the profitability of listed mining firms in Nigeria. The specific objectives are:

1. To determine the effect of the financial cost ratio on the return on assets of listed mining firms in Nigeria.
2. To establish the effect of interest coverage ratio on the return on equity of listed mining firms in Nigeria.
3. To ascertain the effect of the financial cost ratio on the return on equity of listed mining firms in Nigeria.
4. To assess the effect of interest coverage ratio on return on asset of listed mining firms in Nigeria.

Predicated on these objectives, the researchers formulated the following hypothesis to guide the study:

Ho1: Financial cost ratio has no significant effect on the return on assets of listed mining firms in Nigeria.

Ho2: Interest Coverage Ratio has no significant effect on the return on equity of listed mining firms in Nigeria.

Ho3: Financial cost ratio has no significant effect on the return on equity of mining firms in Nigeria.

Ho4: The interest coverage ratio has no significant effect on the return on assets of mortgage banks in Nigeria.

The paper is organised as follows' the next section reviews relevant literature with regards to context justification and provide a theoretical background for the study, respectively. Next describes the sample data and empirical methodology. The last section summaries the main results, offers conclusion and recommendations.

Reviews of related Literature

Conceptual Review

Finance Cost

According to International Accounting Standard 23, borrowing cost defines finance costs as "interest and other costs that an entity incurs in connection with the borrowing of funds". Finance costs are also known as "financing costs" and "borrowing costs". Finance cost is the cost, interest, and other charges involved in the borrowing of money to build or purchase assets. Companies finance their operations either through equity financing or through borrowings and loans. These funds do not come for free. The providers of funds want rewards for their funds. The equity providers want dividends and capital gains. The providers of loans seek interest payments. Interest cost is the price of obtaining loans and borrowings. The total expenses associated with securing funds for a project or business arrangement may include interest payments, financing fees charged by intermediary financial institutions, and fees or salaries of any personnel required to complete the financing process. This cost includes interest on loans and overdraft charges. The financing decision is concerned with the raising of funds that finance assets.

An interest expense is an accounting item that is incurred due to servicing debt. Interest expenses are often given favourable tax treatment (Kagan, 2020). For companies, the greater the interest expense the greater the potential impact on profitability. Coverage ratios can be used to dig deeper (Kagan, 2020). Finance cost can be measured under the solvency ratio because it is a key metric used to measure an enterprise's ability to meet its long-term debt obligations and is often used by prospective business lenders. Solvency Ratio is the ratio used to assess a company's ability to meet its debt obligations (Munawir, 2007). Finance cost can be measured with interest coverage ratio and financial coverage ratio as seen below. A proper balancing of debt and equity is imperative to ensure a trade-off between risk and return to the shareholders (Khadka, 2006). Thus, this financing decision in turn leads to value maximization.

Interest Coverage Ratio (ICR)

Pandey (2010) says that the interest coverage ratio or the times-interest-earned is used to test the firms' debt-servicing capacity. The interest coverage ratio is computed by dividing earnings before interest and taxes (EBIT) by interest charges. The interest coverage ratio shows the number of times the interest charges are covered by funds that are ordinarily available for their payment. Since taxes are computed after interest, interest coverage is calculated in relation to before-tax earnings. This ratio indicates the extent to which earnings may fall without causing any embarrassment to the firm regarding the payment of the interest charges. A higher ratio is desirable, but too high a ratio indicates that the firm is very conservative in using debt and that it is not using credit to the best advantage of shareholders. A lower ratio indicates excessive use of debt or inefficient operations. The firm should make efforts to improve operating efficiency or relieve debt to have a comfortable coverage ratio. Emekekwue (2008) says that the interest coverage ratio measures the number of times that a firm can earn the interest it hopes to pay.

Financial Costs Ratio

The financial cost ratio is also known as the interest expenses ratio (Akabom & Ejabu, 2018), it informs about the share of financial costs (expenses) in the value of revenues from sales, thus it indicates which part of revenues from sales is used for covering the financial expenses (mainly interest). The value of this ratio depends on the debt level and the credit's interest rate. High ratio values suggest excessive financial expenses with respect to the level of revenues from sales. When assessing the changes in the ratio's value over time (over a few periods): the increase in the ratio's value is assessed negatively and interpreted as an increased negative impact of financial expenses on revenues from sales, the decrease of the ratio's value is assessed positively and interpreted as a reduced negative impact of financial expenses on revenues from sales. Akabom and Ejabu (2018) in their study show that interest expenses on loan repayment of multinational companies significantly affect the performance of the firms.

Profitability

It is hardly a surprise that existing and future shareholders in the mining industry are predominantly concerned about returns on their investments. Regardless of whether investors are seeking a capital appreciation of their stock portfolio or plan to grow their money through dividend payments, or a combination of both, they typically make money when a company does. Mining companies that provide a competitive and sustainable rate of return to their shareholders are highly sought-after targets for investors. Horrigan, (2013), explains that the profitability ratios group, also known as performance ratios, assesses the company's ability to earn profits on sales, assets, and equity, it measures the return earned on a company's capital and the financial cushion relative to each unit of sales, These are critical to determining the attractiveness of investing in company shares and investors in using these ratios widely, much like the operational performance ratios, these ratios give users a good understanding of how well the company utilized its resources(assets) in generating profit and shareholder value. The profitability ratios show the return on assets, return on equity, return on investment, and return on capital employed. A potential investor will invest by analyzing these ratios, so the management strives to improve the operating performance (Niresh, 2012).

Profitability is an indicator of management performance demonstrated by the profit generated for managing the company's assets (Brigham, 2010). Profitability can be measured using the profitability ratio which will show how effectively the company is operating to produce a profit for the company through ratios such as ROA (Return on Assets), ROE (Return on Equity), and NPM (Net Profit Margin) (Brigham & Houston, 2010).

1 Return on Assets (ROA) is one of the profitability ratios. In the analysis of financial statements, this ratio is most often highlighted, because it can indicate a company's success to create profits. ROA can measure the company's ability to generate profits in the past to then be projected in the future. Assets in question are overall company properties, obtained from the capital itself or from foreign capital that has been converted into company assets used for corporate sustainability. According to Brigham & Houston (2001), return on asset (ROA) is calculated by comparing available net profit for common shareholders to total assets. Emekekwue (2008) also states that return on assets is a ratio that seeks to measure the amount of profit generated from the entire assets of the firm. This ratio is the best measure used to make comparisons of a company with the industry within which it operates.

2 ROE is seen as a tool most used by investors in making investment decisions. According Mahbuba and Farzana (2013) state that the Return on Equity (ROE), is one of the profitability ratios that is used to determine the amount of return given by the company for every unit of capital from the owners. Return on Equity (ROE) is the rate of return that is achieved by the firm for each currency unit that further becomes the company's capital. According to Brigham & Houston (2001), the notion of ROE is the net ratio of ordinary equity that measures the rate of return on ordinary shareholder investment. This Return on Equity Ratio shows the efficient use of own capital. If this ratio is higher, the better. That means the bank's position will be stronger, and vice versa. Return on Equity is calculated by dividing net income by shareholder equity. In this context, how large the banks provide yield every year per one currency that investing by the investors (Tang, 2016). ROE is a measure of the return achieved by investors from their investment in a company. The higher results lead to better stock returns. According to Berggrun et al. (2020), profitability affects stock returns. Return on Equity (ROE) is a measure of a company's ability to generate profits using its own capital. It is one of the financial ratios which is calculated by dividing profit after tax on equity (Vakilifard, 2010). This ratio is provided to show the profitability power of the company toward the book capital of shareholders (Weigand & Baker, 2009).

Relationship between finance cost and profitability

The amount of interest expense for companies that have debt depends on the broad level of interest rates in the economy. Interest expense will be on the higher side during periods of rampant inflation since most firms will have incurred debt that carries a higher interest rate. On the other hand, during periods of muted inflation, interest expense will be on the lower side. The amount of interest expense has a direct bearing on profitability, especially for companies with a huge debt load. Heavily indebted companies may have a hard time serving their debt loads during economic downturns. At such times, investors and analysts pay particularly close attention to solvency ratios such as debt to equity and interest coverage. An interest expense is an accounting item that is incurred due to servicing debt. Interest expenses are often given favourable tax treatment. For companies, the greater the interest expense the greater the potential impact on profitability. Coverage ratios can be used to dig deeper. Bhaduri (2002), explains that cash flow under the control of management can be reduced through both interest payments on borrowed funds and the ability to issue debt. When interest payment is made on borrowed funds, cash flow is reduced, and less cash will be left for managers to expend on fruitless commitments.

A conceptual framework showing the relationship between finance cost and profitability of listed mining firms in Nigeria.

Independent Variable **Dependent Variable**

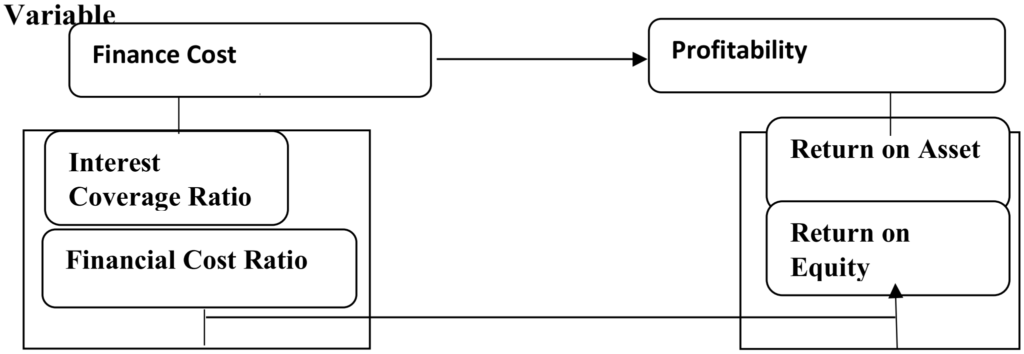

Figure 1. Conceptual framework

Theoretical Framework

The Market Timing Theory

Is a theory of how firms decide to finance their investments either with equity or debt instruments considering the financial market. In other words, companies generally chose the form of financing which at a point in time seems to be more valued by the financial markets and in the interest of the investors. Abor (2007) emphasized that firms will prefer to issue equity when the cost of equity is relatively low and prefers to issue debt when they perceive the relative cost of equity as high. The market timing theory states that low-levered companies are those that raise funds when their market valuations are high while high-levered companies are those that raise funds when their market valuation is low. Mining firms as capital-intensive companies are highly leveraged in nature. This work is anchored on market timing theory that a company can choose between debt and equity sources of capital after taking into consideration the fund that will benefit the overall strategic decision of the firm. Pandy (2010) states that a mix of debt and equity can increase the value of the firm by reducing the weighted average cost of capital (WACC) up to a certain level of debt. He posited that financial leverage is very critical to the survival and performance of corporate entities. It also entails that debt funds are cheaper than equity funds which imply that the cost of debt and the increased cost of capital, with a weighted basis, will be less than the cost of equity that existed on equity before debt financing. Therefore, this work is anchored on this theory because it serves as the foundation for investigating the effect of Finance cost on the profitability of listed mining firms in the Nigeria Stock Exchange. The theory is very pertinent as it is the basis on which finance cost stands since firms trading on the debt run less risk due to tax shield than those trading on equity financing.

Empirical Review

Hossain et al. (2019) studied the empirical analysis of the relationship between capital structure and a firm's financial performance in a developing country like Bangladesh. The investigation has been conducted by using a panel data procedure for a sample of Dhaka stock market enlisted all IT firms during the year 2013-2017. This research works was performed using three performance measures including return on equity, return on asset, and earnings per share as dependent variables, where the capital structure is considered as debt ratio (DR), equity ratio (ER), long-term debt ratio (LTDR), short-term debt ratio (STDR) and used as independent variables. However, descriptive statistics, correlation, pooled ordinary least square analysis, fixed effect, and Random effect model have been analyzed to find the relationship between capital structure and financial performance. The study revealed that capital structure has a positively significant impact on return on assets (ROA).
Ji (2019) examined the usefulness of the cash-based interest coverage ratio (CICR). It also verified the usefulness of the accrual-based interest coverage ratio (AICR), which is used as a criterion for exiting insolvent companies. The research model for the hypothesis test of this study is based on the Ohlson model, which has been used for the test of stock value relevance in many previous studies. As a result of the empirical analysis, the CICR is used as useful information by investors in the capital market. This study suggests that supervisors and financial institutions can make rational decision-making if they consider AICR and CICR as criteria for exiting insolvent companies. The contribution of this study was to suggest that the CICR can be a useful indicator for determining whether a company is insolvent due to its relatively low forecast error and high predictability.

In the work of Ivo and Anyanwaokoro (2019), they evaluated the effect of leverage financing on the performance of quoted cement manufacturing firms in Nigeria for the period 2006-2017. Purposive sampling techniques were used in selecting the four (4) cement manufacturing firms in Nigeria out of the eight (8) cement manufacturing firms quoted in the Nigerian Stock Exchange (NSE). The analytical tool adopted was ordinary least square (OLS) simple and multiple regressions. The findings of the study showed that Debt Ratio and Debt to Equity Ratio have a negative insignificant effect on the Return on Assets (ROA) of quoted cement manufacturing firms in Nigeria. On the other hand Interest Coverage Ratio (ICR) has a positive and insignificant effect on the return on assets of quoted cement firms in Nigeria. This implies that an increase in Debt Ratio and Debt to Equity Ratio decreases ROA, while the increase in ICR increases the ROA of cement manufacturing firms.

Uremadu and Onyekachi, (2019) studied the effect of capital structure on corporate performance in Nigeria. The study employed return on asset, long-term debt-to-asset ratio, and total debt-to-equity ratio with a special focus on the consumer goods industrial sector of the economy with multiple regression analysis. The results from the research found a negative and insignificant impact of capital structure on the corporate performance of the consumer goods firm sector of Nigeria.

Aziz and Abbas, (2019) examine the association of different debt financing on firm’s performance in 14 sectors of Pakistan. Secondary data is collected from about 14 different sectors in Pakistan Stock Exchange, for the period of 9 years (2006 to 2014). The results of the study indicated that debt financing has a negative but also significant impact on firm performance in Pakistan. This study's findings recommend that companies should more rely on their internal source of finance because it is the cheap and reliable source of finance in the Pakistani context.

Dada (2014) investigated the relationship between the profitability and debt of big firms in Nigeria. ROA and ROE were used to measure the performance of the company while debt of short-term and long term used in the study as independent variables. Fixed effect and panel data techniques used for analysis. The results showed that if there is an increase in debt then the profitability of the corporation declines. This study can be extended by including all firms in Nigeria instead of large firms only.

Kirmi, (2017) studied the link between capital structure and profitability of listed petroleum and energy firms in Kenya with descriptive and causal research design techniques in measuring the impact of short and long-term debt on return on assets from 2012 to 2016. The findings from the study established a high positive association between short-term debt and return on assets and an average negative association between long-term debts and return on assets and a weak positive association between total debt and return on assets.

Ishaya and Abduljeleel (2014) observed that debt is negatively related to profitability, but equity is directly related to profitability. They did a study to examine the capital structure and profitability of the Nigerian listed firms from the agency cost theory perspective. Firms‟ panel data from 70 out of a population of 245 firms listed at the Nigerian securities exchange for the period 2000 – 2009 were used and analyzed using fixed-effects, random-effects, and Hausman Chi Square estimations. Their findings were consistent with the survey by Shubita and Alsawalhal (2012) and provided evidence against the agency cost theory.

Ekwueme and Onakeke's (2021) in their study was inspired by liquidity risk that confronted the Nigerian mortgage banking business in terms of profitability. As a result, the study investigates the impact of liquidity risk on the profitability of Nigerian mortgage banks. This research effort was carried out using secondary data and an ex-post facto research design. The regression statistical technique in the SPSS Version 22.0 was used to assess data derived from the financial statements of listed mortgage banks on the Nigerian Stock Exchange (NSE). The results of the analysis demonstrate that Loan to Deposit has a substantial impact on mortgage banks' net interest margins in Nigeria and that Current Ratio has a significant impact on mortgage banks' net interest margins in Nigeria. It was so recommended, among other things, that bank management adopt sound lending policies and maintain a sufficient balance between loans and deposits because bank profit is largely dependent on deposits mobilized and liquidity created through loans given.

Assad (2016) in his paper intends to explore the effect of capital structure on firm profitability. For empirically investigating the effect of capital structure, a sample of 30 firms has been selected from the FTSE-100 index of the London Stock Exchange. The data period for the study was from 2005 to 2014. The study used multiple regression analysis methods to explore the impact of capital structure on firm performance. The results revealed that Interest Coverage has a positive significant impact on ROA, ROE, and ROIC whereas DE has a positive significant impact on ROE but a negative significant impact on ROA and ROIC. The study concluded that an optimal level of capital structure, effective utilization, and allocation of resources shall be employed to achieve the targeted level of efficiency in business

Methodology

This study adopted an ex-post facto research design since the study seeks to review the effect of past factor(s) on the present happening or event, and its strengths. It is the most appropriate design to use when it is not always possible to select, control and manipulate all or any of the independent variables (Olannye 2006). To ascertain the size of the sample for the study, purposive sampling method was deployed. The population of this study is made up of listed mining companies in the Nigerian Exchange Group (NGX), within the year 2008 to 2020. Hence, Multiverse Mining and Exploration Plc were purposively selected because of the availability and completeness of their financial data. This accounted for 100% of the sample of the population.

Method of Data Analysis

This study adopts both descriptive and inferential statistical analysis. The data collected through secondary sources were tabulated, and findings from the report were presented in tables and analyzed using both descriptive and inferential statistics. Regression analysis and correlation are the statistical tools adopted. These methods were used to test the hypotheses and solve research questions to determine the relationships between financial cost proxy and profitability of mining firms.

Model Specification

The hypotheses were tested using the Simple Linear Regression Model. In writing the model equation, the following symbols were used to denote their respective variables.

ROA = Return on Asset, ROE = Return on Equity, FCR = Financial Cost Ratio

ICR = Interest Coverage Ratio

a = Constant of the equation, b = Coefficient of the independent variable, u = Error terms

The model is summarized below:

ROA = a + FCR (b) + u ……….. (1)

ROE = a + ICR (b) + u ………..(2)

ROE = a + FCR (b) + u ……….. (3)

ROA = a + ICR (b) + u ……….. (4)

Data Analysis

Descriptive Statistics

It represents the variables financial results were available for the years 2008-2020.

Table 1. **Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
ROE	13	-96.83	2.54	-27.1115	30.54529
ROA	13	-12.71	2.41	-4.6023	5.35012
ICR	13	-214.29	273.78	-1.8731	141.31371
FCR	13	-56.58	-.14	-10.9069	17.01487
Valid N (listwise)	13				

Source: *Data analysis from SPSS 22.*

The study descriptive statistic using the profitability variable of ROE and ROA has a negative Mean of -27.1 and -4.6 respectively which is evidenced by the consistent reported loss recorded by the firm. While their standard deviation shows a positive value of 30.5 and 5.3 respectively. The finance cost variables, ICR and FCR revealed a negative Mean of -1.9 and -10.9 respectively. Their standard deviation also shows the positive values of 17.0 and 141.3 respectively. It is a warning sign for the company that the company may not have the ability to offer assured payment of interest to the lenders in the future.

Test of Hypotheses

Test of Hypotheses I

Ho: Financial cost ratio has no significant effect on the return on assets of listed mining firms in Nigeria.

Table 2. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.574[a]	.329	.268	4.57687

a. Predictors: (Constant), FCR

Source: *Data analysis from SPSS 22.*

As shown in Table 2 above, return on asset is positively related to finance cost. This is shown by a positive coefficient of correlation of *.57*. The coefficient of determination of *.33* implies that the model developed can explain up to 33% of changes in listed mining firms' profitability in Nigeria.

Table 3. Analysis of variable (ANOVA) hypothesis 1.

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	113.060	1	113.060	5.397	.040[b]
	Residual	230.425	11	20.948		
	Total	343.485	12			

a. Dependent Variable: ROA

b. Predictors: (Constant), FCR

Source: *Data analysis from SPSS 22.*

From the ANOVA in Table 3 above, the *p-value* of *.04* implies that the relationship is significant at 95% since the *p-value* is less than 0.05 (.04 < .05). The model developed is also significant for prediction. The ANOVA table is used to find out if the model is statistically significant or not. The *p-value* is the evidence against a null hypothesis. The smaller the p-value, the stronger the evidence that you should reject the null hypothesis.

Table 4. Coefficient of correlation of hypothesis 1

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.635	1.526		-1.727	.112
	FCR	.180	.078	.574	2.323	.040

a. Dependent Variable: ROA

Source: *Data analysis from SPSS 22.*

Decision

The regression analysis was performed for testing whether the financial cost ratio has no significant effect on the return on assets of the listed mining firms in the Nigeria Exchange Group. The value of β is 0.57 (which is positive), T-value is 2.32, and the *p-value* or significance level is .04 (which is less than 0.05). Results illustrate that finance cost has a moderate positive relationship and a significant effect on return on assets. The *p-value* is less than the significant level. Hence, the null hypothesis is rejected, and the alternate hypothesis is accepted. Therefore, that financial cost ratio has a significant effect on the return on assets of listed mining firms in Nigeria.

Test of Hypothesis II

Ho: Interest Coverage Ratio has no significant effect on the return on equity of listed mining firms in Nigeria.

Table 5. Model Summary of hypothesis II

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.454[a]	.206	.134	28.42363

a. Predictors: (Constant), ICR

Source: *Data analysis from SPSS 22.*

As shown in Table 5 above, return on equity is positively related to the interest coverage ratio. This is shown by a positive coefficient of correlation of *.45*. The coefficient of determination of *.21* implies that the model developed can explain up to 21% of changes in listed mining firms' profitability in Nigeria.

Table 6. Analysis of variable (ANOVA) Test of Hypothesis II

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2309.251	1	2309.251	2.858	.119[b]
	Residual	8886.928	11	807.903		
	Total	11196.179	12			

a. Dependent Variable: ROE

b. Predictors: (Constant), ICR

Source: *Data analysis from SPSS 22.*

From the ANOVA Table 6 above, the *p-value* of *.119* implies that the relationship is non-significant at 95% since the *p-value* is greater than 0.05. The model developed is also significant for prediction. The ANOVA table is used to find out if the model is statistically significant or not. The *p-value* is the evidence against a null hypothesis. The smaller the *p-value*, the stronger the evidence that you should reject the null hypothesis.

Table 7. Coefficient of correlation of hypothesis II

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-27.295	7.884		-3.462	.005
ICR	-.098	.058	-.454	-1.691	.119

a. Dependent Variable: ROE

Source: Data analysis from SPSS 22.

Decision

The regression analysis was performed for testing whether the interest coverage ratio has a significant effect on the return on equity of the listed mining firm in the Nigeria Exchange Group. The value of β is *-.454* (which is negative), T-value is *-1.691* and the *p-value* or significance level is *.119* (which is greater than 0.05). Results show that the interest coverage ratio has a moderate negative relationship and a non-significant effect on return on equity. Because this *p-value* is greater than the significant level *(.119 >.05)*. Hence, the null hypothesis is accepted, and the alternate hypothesis is rejected. Therefore, the interest coverage ratio has no significant effect on the Return on Equity of listed mining firms in Nigeria.

Test of Hypothesis III

Ho: Financial cost ratio has no significant effect on the return on equity of mining firms in Nigeria.

Table 8. Model Summary of hypothesis III

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.476[a]	.226	.156	28.06370

a. Predictors: (Constant), FCR

Source: *Data analysis from SPSS*

As shown in Table 8 above, return on asset is positively related to finance cost. This is shown by the positive coefficient of correlation of *.476*. The coefficient of determination of *.23* implies that the model developed can explain up to 23% of changes in listed mining firms' profitability in Nigeria.

Table 9. Analysis of variance (ANOVA) of hypothesis III

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	2532.896	1	2532.896	3.216	.100[b]
Residual	8663.283	11	787.571		
Total	11196.179	12			

a. Dependent Variable: ROE

b. Predictors: (Constant), FCR

Source: *Data analysis from SPSS 22.*

From the ANOVA Table 9 above, the *p-value* of *.10* implies that the relationship is non-significant at 95% since the *p-value* is greater than *0.05*. The model developed is also significant for prediction. The ANOVA table is used to find out if the model is statistically significant or not. The *p-value* is the evidence against a null hypothesis. The smaller the *p-value*, the stronger the evidence that you should reject the null hypothesis.

Table 10. Coefficient of correlation of hypothesis III

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	T	Sig.
1 (Constant)	-17.798	9.357		-1.902	.084
FCR	.854	.476	.476	1.793	.100

a. Dependent Variable: ROE

Source: *Data analysis from SPSS 22.*

Decision

The regression analysis was performed for testing whether the financial cost ratio has no significant effect on the return on equity of the mining firm in the Nigeria Exchange Group The value of β is *.47* (which is positive), T-value is *1.17,* and the *p-value* or significance level is *.100* (which is greater than 0.05). Results illustrate that finance cost has a moderate positive relationship and a non-significant effect on return on equity. The *p-value* is greater than the significant level. Hence, the null hypothesis is accepted, and the alternate hypothesis is rejected. Therefore, the financial cost ratio has no significant effect on the return on equity of listed mining firms in Nigeria.

Test of Hypothesis IV

Ho: The interest coverage ratio has no significant effect on the return on assets of mortgage banks in Nigeria.

Table 11. Model Summary of hypothesis IV.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.659[a]	.434	.382	4.20498

a. Predictors: (Constant), ICR

Source: *Data analysis from SPSS 22*

As shown in Table 11 above, the return on assets is positively related to the interest coverage ratio. This is shown by a positive coefficient of correlation of *.659*. The coefficient of determination of *.434* implies that the model developed can explain up to 43% of changes in listed mining firms’ profitability in Nigeria.

Table 12. Analysis of variable (ANOVA) of hypothesis IV.

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	148.985	1	148.985	8.426	.014[b]
	Residual	194.501	11	17.682		
	Total	343.485	12			

a. Dependent Variable: ROA
b. Predictors: (Constant), ICR
Source: *Data analysis from SPSS 22*

From the ANOVA Table 12 above, the *p-value* of *.014* implies that the relationship is significant at 95% since the *p-value* is less than 0.05. The model developed is also significant for prediction. The ANOVA table is used to find out if the model is statistically significant or not. The *p-value* is the evidence against a null hypothesis. The smaller the *p-value*, the stronger the evidence that you should reject the null hypothesis.

Table 13. Coefficient of correlation of hypothesis IV

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-4.649	1.166		-3.986	.002
	ICR	-.025	.009	-.659	-2.903	.014

a. Dependent Variable: ROA
Source: *Data analysis from SPSS 22.*

Decision

The regression analysis was performed for testing whether the interest coverage ratio has no significant effect on the return on assets of the listed mining firm in the Nigeria Exchange Group. The value of β is *-.66* (which is negative), T-value is *-2.9,* and the *p-value* or significance level is *.014* (which is less than 0.05). Results show that the interest coverage ratio has a strong negative relationship and a significant effect on return on assets. The *p-value* is less than the significant level. Hence, the null hypothesis is rejected, and the alternative hypothesis is accepted. Therefore, the interest coverage ratio has a significant effect on the return on assets of listed mining firms in Nigeria.

Discussion of Findings

The result of the first findings shows that the financial cost ratio has a positive and significant effect on the return on assets of listed mining firms in Nigeria. The results agree with Gilchris (2013) who found that net interest margin had a positive and significant impact on profitability as measured by ROA and ROE. Locally, the findings also concur with that of Otuori (2013) who found that higher interest rates offered lenders in an economy a higher return relative to other countries thus attracting foreign capital and leading to increase profitability.

The second hypothesis shows that the interest coverage ratio has a negative and non-significant effect on the return on equity of listed mining firms in Nigeria which is also in line with the work of Anifowose et al (2020) in their study, the effect of financial leverage on firms performance, a case of listed pharmaceutical firms in Nigeria which shows that Interest Coverage Ratio (ICR) has negative relation with Return on Assets (ROA) and Return on Equity (ROE. As seen in the market timing theory that firm must have done a feasibility study on the best source of capital before obtaining the fund, therefore, the ability to meet its interest cost obligation must have been established from the onset, and the interest coverage ratio will have little effect on the profitability of the firm.

The third findings show that the financial cost ratio has a positive and non-significant effect on the return on equity of listed mining firm in Nigeria which collaborate with Maroko (2014) found a positive relationship between financial leverage, cost of equity, debt interest, and organization financial performance.

The fourth finding shows that the interest coverage ratio has a negative and significant effect on the return on asset of a listed mining firm in Nigeria as supported by the works of Zelalem (2020) which found that Interest Coverage Ratio (ICR) have a significant effect on Banks' performance measured by Return on Assets (ROA) and Return on Equity (ROE). on the contrary, Ivo and Anyanwaokoro (2019) found that Interest Coverage Ratio (ICR) has a positive and insignificant effect on the return on assets of quoted cement firms in Nigeria. This implies that an increase in Debt Ratio and Debt to Equity Ratio decreases ROA, while an increase in ICR increases the ROA of cement manufacturing firms. This is because interest on debt is fixed unlike equity, and could affect the company during the period of price changes.

Conclusion and Recommendation

Based on the finding, the following conclusion is made, the finance and interest cost of listed mining firms in Nigeria have a positive and significant effect on return on asset. The Interest coverage ratio has a negative and non-significant effect on the Return on Equity of listed mining firms in Nigeria. The financial cost ratio has a positive and non-significant effect on the return on equity of listed mining firms in Nigeria. The interest coverage ratio has a negative and significant effect on the return on assets of listed mining firms in Nigeria. Considering the above-mentioned results, below recommendations are proposed:

1. Management of mining firms should endeavour to use their internal financing resources as far as possible to mitigate the effect of excessive interest costs on the profitability of the firms.
2. Management should seek to adopt other ways of financing their activities since interest expense had a negative relationship with Return on Equity and profitability.
3. Firms (both highly and lowly geared) should take into cognizance the amount of leverage incurred because it is a major determinant of a firm's performance/profitability, this is important for all the firms whether highly geared or lowly geared firms.
4. The government should create an enabling and business-friendly environment so that the firms can thrive and thus increase the firm's performance level. This in turn would increase the firm's profitability.

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A

CUSTOMERS' LOYALTY AND SALES PERFORMANCE OF DANGOTE CEMENT IN AWKA, ANAMBRA STATE

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Abstract
The main objective of the study is to ascertain the relationship between customers' loyalty and sales performance of Dangote Cement in Awka, Anambra State. The study specifically examines the relationship between emotional loyalty and consumer purchase intention; and, secondly the relationship between behavioural loyalty and consumer purchase intention. The study adopts the survey research design. The sample comprised of one hundred and sixty five (165) consumers of Dangote cement in Awka. The study relied on primary data; obtained from a structured questionnaire administered to the consumers. The data were analysed using descriptive statistics and the hypotheses tested using Pearson correlation coefficient. The results showed a positive significant relationship between emotional loyalty and consumer purchase intention; and, secondly a positive significant relationship between behavioural loyalty and consumer purchase intention. Based on this the study recommends that manufacturing companies strive to maintain customer trust via quality product or service delivery. The use of loyalty programs as strategies for rewarding customers is further encouraged; lastly, manufacturing companies are advised to engage in periodic customer satisfaction survey.
Keywords: *Customer loyalty, Emotional Loyalty, Behavioural Loyalty, Consumer Purchase Intention, Sales performance*

Introduction

Customers are persons (individuals) or corporate bodies that purchase goods and/or services from the market to meet their needs and wants (Khadka & Maharjan, 2017). According to Ndubisi and Nwankwo (2019) customers are the reason for the continued existence of an organization. They purchase goods and/or services that are able to satisfy needs or wants at a fair competitive price. This pre-condition determines the continuous patronage to a particular brand and responsible for achieving profitable performance (Ndubisi & Nwankwo, 2019). This drives from the consequent development of loyalty by genuinely satisfied customers. According to Kleinig (2017) loyalty may be "characterized as a practical disposition to persist in an intrinsically valued (though not necessarily valuable) associational attachment". The Oxford Dictionary simply put it as "a strong feeling of support or allegiance". Customer loyalty is "a deeply held commitment to rebuild and re-patronize a preferred product or service in the future despite situational influences and marketing efforts having the potential to cause switching behaviors" (Oliver, 1999).

Customer loyalty is not a one-off thing but achieved over time from multiple transactions (Khadka & Maharjan, 2017). Customer loyalty is crucial to the survival of any business in today's highly competitive environment for two reasons. First, a positive link exists between customer loyalty, satisfaction and profitability (Chi, 2005). Secondly, cost of acquiring new customers is relatively more expensive than keeping existing ones (Magatef & Tomalieh, 2015).

From an organisational perspective, performance may be viewed as the ability of an organisation to achieve its goals (Stainer, 2006). Samsonowa (2011) identifies four dimensions for corporate performance: growth, return on investment, increase of market share and increase profitability. The last two are related to the issue of sales performance which has been linked to customer loyalty. Because satisfied customers are more likely to repurchase a product/service, become less sensitive to price changes, and engage in positive word-of-mouth recommendation (Chen & Wang, 2009).

Dangote Group is the largest indigenous industrial conglomerate in Sub-Saharan Africa founded by Aliko Dangote. Dangote Group is a Multinational Corporation (MNCs) with presence in several African countries and involved a diverse range of products such as Consumer Goods (e.g., Sugar, Flour, Spaghetti, etc.), Industrial Goods (e.g., Cement, etc.), among several others. According to information on the corporate website, the Group experienced "phenomenal growth on account of quality of its goods and services, its focus on cost leadership and efficiency of its human capital" (https://www.dangote.com/our-businesses/).

The TIME Magazine's report claim Dangote Group "investments contribute as much as 10 per cent of Nigeria's GDP". Dangote Cement a subsidiary of the Group is presently the largest capitalised company on the Nigerian Stock Exchange (NSE) with a market capitalisation of about N3.4trillion (ThisDay, 2019). The company was a major contributor to growth in GDP in 2018 with record revenue of N901billion in its financial year ended December 31, 2018.

Globalization, intense competition, advancement in Information and Communication Technology [ICT], changing consumer demands, among several other factors, pose a challenge to the survival of several organisations in this 21st century (Obasan, Ariyo, & Hassan, 2015). To survive businesses need to build and maintain relationships with customers and more so transform such into a competitive advantage (Cannon & Perreault Jr, 1999).

Studies have empirically shown a link between customer loyalty and customer satisfaction, they include Bontis, Booker, and Serenko (2007) in North America, Ibok and John (2013) in Nigeria, etc. However, while customer satisfaction is a pre-condition for customer loyalty; studies have also shown that customer satisfaction only may not guarantee customer loyalty. In the Nigerian context, studies have mainly focused on customer satisfaction and organizational performance (Ndubisi & Nwankwo, 2019) and/or determinants of customer loyalty (Egbule, Onobrakpeya, Akpobire, and Obieze, 2017), etc. with a great emphasis on the service industry, e.g., Banks, etc.

The problem tackled in this study, is therefore two-fold: first, customer loyalty is disaggregated into emotional and behavioural loyalty components and individually assessed for their effect on consumer purchase intention. This approach represents a significant departure from prior studies in the literature and offers a novel contribution to the literature.

Secondly, despite the plethora of studies on service industry, there is a lacuna on studies that focus on manufacturing firms. The study focuses on a manufacturing firm, as against prior studies that mainly focus on service firms. Against this backdrop, the researcher empirically examined the relationship between customers' loyalty and sales performance of Dangote Cement Plc. To address these, the researcher formulated the following hypotheses to navigate his investigation thus:

H_{01}: There is no significant relationship between emotional loyalty and consumer purchase intention of Dangote cement.

H_{02}: There is no significant relationship between behavioural loyalty and consumer purchase intention of Dangote cement.

The paper is organised as follows' the next section reviews relevant literature with regards to context justification and provide a theoretical background for the study, respectively. Next describes the sample data and empirical methodology. The last section summaries the main results, offers conclusion and recommendations.

Conceptual Reviews

Customer Loyalty

Customer loyalty refers to a customer who chooses a particular product against another to fulfill his/her need (Ranabhat, 2018). Oliver (1999) defines customer loyalty as "a deeply held commitment to rebuild and re-patronize a preferred product or service in the future despite situational influences and marketing efforts having the potential to cause switching behaviors". According to Andreassen and Lindestad (1998), customer loyalty refers to a profound commitment to the continuous shopping of a product or service in the future, regardless of the marketing efforts to change the customer's behavior. Oliver (1997, p. 392) describes a loyal customer as one who "fervently desires to rebuy a product or service and will have no other". An age long definition was crafted by Newman and Werbel (1973), when they explain that loyal customers are those who rebought a brand, considered only that brand, and did no brand-related information seeking.

According to Yoo and Bai (2013), loyal customers are less likely to switch to a competitor's brand just because of price and other special promotions, bring in new customers through word of mouth and they are less expensive to maintain. Customer loyalty is not a one-off thing but achieved over time from multiple transactions (Khadka & Maharjan, 2017). Loyalty requires the company to focus on value creation via its product/services and to show a genuine interest in building relationships with the customers (Griffin, 2002).

To maintain customer loyalty companies implement customer-centric approaches in designing products that meet the wants and interest of the service receiver (Khadka & Maharjan, 2017). Gremler and Brown (1999) divided customer loyalty into three different categories: behaviour loyalty, intentional loyalty, and emotional loyalty. Behaviour loyalty is repeating purchasing behaviour while intentional loyalty is the possible buying intention. Emotional loyalty, however, is achieved when a customer feels that a brand corresponds with their value, ideas, and passion.

Oliver (1997) put forward a framework for describing different loyalty phases of a consumer:

1. The *cognitive loyalty phase* or loyalty based on brand belief only. Cognition can be based on prior or vicarious knowledge or on recent experience-based information (Oliver, 1999).
2. The *affective loyalty phase* is the phase when 'a liking or attitude toward the brand has developed on the basis of cumulatively satisfying usage occasions' (Oliver, 1999, p. 35).
3. The *conative loyalty phase*. Conation, by definition, implies a brand-specific commitment to repurchase. Therefore, conative loyalty implies a state of loyalty that contains the deeply held commitment to purchase a product or service (Oliver, 1999, p. 35).
4. Lastly, the *action loyalty phase* is the phase when all intentions are translated into actions with the actors willing to surmount obstacles that may hinder such intentions. Overcoming obstacles in this phase "is analogous to rebuying despite situational influences and marketing efforts having the potential to cause switching behaviour" (Oliver, 1997, p. 392).

The four-stage loyalty model has different vulnerabilities, depending on the nature of the consumer's commitment, which are summarized in Table 1.

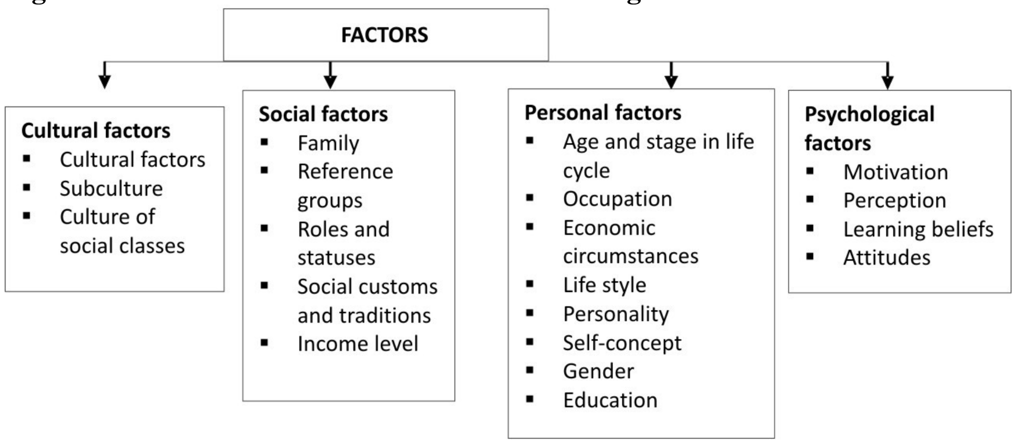
Table 2.1: Loyalty Phases with corresponding vulnerabilities

Stage	Identifying Marker	Vulnerabilities
Cognitive	Loyalty to information such as price, features, and so forth.	Actual or imagined better competitive features or price through communication (e.g., advertising) and vicarious or personal experience. Deterioration in brand features or price. Variety seeking and voluntary trial.
Affective	Loyalty to a liking: "I buy it because I like it.'	Cognitively induced dissatisfaction. Enhanced liking for competitive brands, perhaps conveyed through imagery and association. Variety seeking and voluntary trial. Deteriorating performance.
Conative	Loyalty to an intention: "I'm committed to buying it.'	Persuasive counter argumentative competitive messages. Induced trial coupons, sampling, point-of-purchase promotions). Deteriorating performance.
Action	Loyalty to action inertia, coupled with the overcoming of obstacles.	Induced unavailability (e.g., stocklifts—purchasing the entire inventory of a competitor's product from a merchant). Increased obstacles generally. Deteriorating performance.

Source: Oliver (1999

The literature documents several determinants of customer loyalty. For instance, demographics like age, income, nationality, sex and location play a vital role on influencing customer loyalty (Ranabhat, 2018). Another major determinant of customer loyalty is trust because it lessens customers' fear of opportunistic behaviour (Ranabhat, 2018). Others include such as switching cost. Switching cost includes all type of problems such as emotional, technical, financial, operational or psychological faced by the consumers while using a product or service (Ranabhat, 2018).

Figure 2.1: Consumer Characteristics affecting Consumer Behaviour



Source: Jaideep (n.d.)

Emotional Loyalty

Emotional loyalty, is achieved when a customer feels that a brand corresponds with their value, ideas, and passion (Khadka & Maharjan, 2017). According to Kumari and Patyal (2017) such loyalty may be a commitment or trust in a company's product/service which may not result in any purchase. In a study by Kumari and Patyal (2017) on a sample of 300 participants in North India and a structured questionnaire showed evidence that loyalty of participants to public health care comprised of low emotional loyalty.

Behavioural Loyalty

According to state Ehrenberg and Scriven (1999) behavioural loyalty can be defined as "an on-going propensity to buy the brand, usually as one of several". Behavioural loyalty is a form of repeat purchase behaviour (Khadka & Maharjan, 2017). According to Ipsos Encyclopedia (2016) behavioural loyalty is when a customer continues to buy/use a particular product, service or brand (at least as much as before). Behavioural loyalty is defined as the customer's intention to repurchase and patronize the product or services (Chaudhuri & Holbrook, 2001). Behavioural Loyalty is vital for a company in order to generate profitability (Kumari & Patyal, 2017). Kumari and Patyal (2017) on a sample of 300 patients of Government District Hospital Udhampur J&K (North India) and a structured questionnaire showed evidence that loyalty of participants to public health care comprised of high a behavioural loyalty.

Consumer Purchase Intention

Purchase intention is a decision-making that explains the reason for a consumer to purchase a particular brand (Shah et al., 2012). Consumer purchase intention is a situation where a consumer decides to purchase a certain product/service in certain condition. Consumer purchase intention is a complex act, and usually related to the behaviour, perceptions and attitudes of consumers (Mirabi, Akbariyeh, & Tahmasebifard, 2015). Consumers' purchase intentions or behaviour is generally an attribute of human behaviour (Wekeza & Sibanda, 2019). Gogoi (2013) observed that consumers are affected by internal or external factors in purchase decisions. Scholars propose six stages in deciding to buy a product: awareness, knowledge, interest, preference, persuasion, and purchase (Kotler & Armstrong, 2010).

Sales Performance

The Business Dictionary states that sales volume is the quantity or number of goods sold or services rendered in the normal operations of a firm in a specified period. Broadly the factors affecting sales performance may be grouped into two: the internal factors and the external factors. The internal factors encompass decisions regarding the product, price, place and promotion, also called the 4Ps or the marketing mix in the marketing language (Berhe, 2010). The latter entails factors such as the natural environment, political-legal environment, economic environment, technological environment, and other socio-cultural forces. Performance is defined as the salesperson perception of his/her sales results, of the profits generated by his/her sales, of the overcoming of goals, and of his/her satisfaction in regard to the results obtained and the work performed (Donassolo & Matos, 2014). In addition, sales people performance is one of the key factors influencing sales volume, productivity, customer loyalty and unpredicted expenses (Buciuniene & Vida, 2015)

Theoretical Framework

Resource Based View

The theoretical framework for the study is theory of Resource-Based View (RBV) propounded by J. B. Barney in 1991. According to Ndubisi and Nwankwo (2019) 'a firm will be positioned to succeed if it has superior inventory of attributes, abilities, organizational processes, knowledge, and skills'. The theory emphasizes that a firm can create competitive advantage if it succeeds in creating superior value for the customer in comparison to its competitors by making use of internal resources and capabilities (Sahaf, 2013). The theory defines resources as anything that a firm possesses (Barney, 1991). Amit and Shoemaker (1993) described resources as a firm's input into its value creation process, which include stocks of available factors that are owned or controlled by a firm.

Methodology

The study adopted the survey research design. Survey research usually consists of methods of gathering data from usually a large number of respondents, who themselves constitute a sample (Ezejelue, Ogwo, & Nkamnebe, 2008).

The population is a collection of people or things that have common and measureable properties (Naderi, Seif-Naraghi, & Shahpoorian, 1990). Conceptually, a study of such may arguably collect data from the supplier's perspective, the customer's perspective, or both. However, it is usually the customer that ultimately makes the decision of whether to purchase from a supplier (Cannon & Perreault Jr, 1999). The population therefore comprises of consumers of Dangote Cement in Awka, Anambra State. And, for the purpose of this study, the population of consumers being studied is infinite; thus, in line with Soltanmoradi, Poor, and Nazari (2013) a portion that has similar attributes, i.e., congruent and homogenous with members of society is selected with acceptable criteria.

The sample size was calculated using the Cochran's formula. The Cochran's formula is considered appropriate in situations with large populations. The formula is stated below as follows:

$$n_0 = \frac{Z^2pq}{e^2}$$

Where:

- n_0 is the desired sample size
- e is the desired level of precision (i.e., the margin of error)
- p is the (estimated) proportion of the population which has the attribute in question
- q is the $1 - p$
- Z is the confidence level (The Z-value is found in a Z table)

Thus, the sample is calculated as follows:

$$n_0 = \frac{(1.96)^2 \text{ x } (0.7) \text{ x } (0.3)}{(0.07)^2}$$

$$n_0 = \frac{(0.806736)}{(0.07)^2}$$

$$n_0 = 164.64 \approx 165$$

The study is based on primary data. The primary data was obtained via structured questionnaires that were self-administered to the respondents. The questionnaire sub-divided into two sections; section A deals with background information; while, section B address questions emanating from the research questions of the study. The second section was designed in the Likert scale form, as follows: Strongly Agree (SA) – 5; Agree (A) – 4; Un-Decided – (3); Disagree – (2); and, Strongly Disagree (1).

Methods of Data Analysis

The data were analysed using descriptive and inferential statistics. The descriptive statistics involved the mean computation, frequency distribution and, simple percentages. The inferential statistics used is the Pearson Correlation Coefficient. The statistical analysis was done via SPSS Ver. 24 software.

Data Presentation and Analysis

A total of one hundred and sixty five (165) questionnaires were distributed; while, the number returned was one hundred and twenty four (124). This represents approximately a seventy-five percent (75%) success rate.

Table 1: Demographic Characteristics of Respondents

S/No	Category		Frequency N=124	Percent (%)
1	Gender	Male	89	71.8%
		Female	35	28.2%
		Total	**124**	**100%**
2	Highest academic qualification	Primary	10	8.06%
		Secondary	26	20.97%
		Tertiary	88	70.97%
		Total	**124**	**100%**
3	No of years of Dangote cement usage	<5years	11	8.87%
		5-10years	40	32.26%
		>10years	73	58.87%
		Total	**124**	**100%**

Source: Field Survey, 2019

Reliability Test

The reliability of the instrument was tested using Cronbach Alpha (α), which measures the internal consistency of a scale.

Table 2: Reliability statistics

	N	Cronbach Alpha (α)
Emotional loyalty	4	.721
Behavioural loyalty	4	.735
Consumer Purchase Intention [CPI]	4	.711

Source: SPSS Ver. 24

Acceptable ranges of alpha value estimates are from 0.7 above; with some studies recommending as low as 0.6. The questionnaire consisted of three subscales, emotional loyalty subscale consisted of 4 items (α = .721), the behavioural loyalty subscale consisted of 4 items (α = .735), and, the Consumer Purchase Intention subscale consisted of 4 items (α = .711).

Descriptive Statistics

Table 3: Descriptive Statistics of Summated Scale

Factors	Obs.	Mean	Std. Dev.
Emotional loyalty	124	3.422	.2888
Behavioural loyalty	124	3.332	.0192
Consumer purchase intention	124	3.423	.1974

Source: SPSS Ver. 24

Test of Hypotheses

Test of Hypothesis

H_{01}: There is no significant relationship between emotional loyalty and consumer purchase intention of Dangote cement.

Table 4: Pearson correlation result between emotional loyalty and consumer purchase intention

	Correlation coefficient
Emotional loyalty and consumer purchase intention:	.746
Sig.	.000
N	124

Source: SPSS Ver. 24

The table above shows that the degree of relationship between emotional loyalty and consumer purchase intention is a moderate uphill (positive) relationship. Thus, emotional loyalty and consumer purchase intention are significantly positively correlated, r =.746, $p < .05$. Therefore the null hypothesis is rejected and the alternate accepted, 'there is a significant relationship between emotional loyalty and consumer purchase intention of Dangote cement'.

Test of Hypothesis Two

H_{02}: There is no significant relationship between behavioural loyalty and consumer purchase intention of Dangote cement.

Table 5: Pearson correlation result between behavioural loyalty and consumer purchase intention

	Correlation coefficient
Behavioural loyalty and consumer purchase intention:	.855
Sig.	.000
N	124

Source: SPSS Ver. 24

The table above shows that the degree of relationship between behavioural loyalty and consumer purchase intention is a moderate uphill (positive) relationship. Thus, behavioural loyalty and consumer purchase intention are significantly positively correlated, $r = .855$, $p < .05$. Therefore the null hypothesis is rejected and the alternate accepted, 'there is a significant relationship between behavioural loyalty and consumer purchase intention of Dangote cement'.

Discussion of Findings

The first hypothesis showed that emotional loyalty had a positive statistically significant relationship with consumer purchase intention. This relationship is expected because such loyalty derives from when a customer feels that a brand corresponds with their value, ideas, and passion (Khadka & Maharjan, 2017). The result is also consistent with the study by Ndubisi and Nwankwo (2019) using a sample of bank staff and customers in the five South-Eastern states revealed a significant relationship between customers' feelings of banks services meeting their expectations and banks financial services acceptability. Soltanmoradi, Poor, and Nazari (2013) in Iran showed evidence of a significant relationship between customer satisfaction and trust, commitment. However, in contrast the study by Kumari and Patyal (2017) using a sample of 300 patients of Government District Hospital Udhampur J&K (North India) and a structured questionnaire showed evidence that the patients had a low emotional loyalty to the public health care.

The second hypothesis showed that behavioural loyalty had a positive statistically significant relationship with consumer purchase intention. This explains the tremendous sales recorded by the company; because, behavioural loyalty often reflects as repeat purchase behaviour (Khadka & Maharjan, 2017). The result is also consistent with the study by Obasan, Ariyo, and Hassan (2015) which used both primary and secondary data and showed that brand loyalty positively correlates with organizational profitability. Another study by Soltanmoradi, Poor, and Nazari (2013) in Iran using Structural Equation Modelling (SEM) also found a positive relationship between customer loyalty and firm performance.

Conclusion and Recommendations

The study was undertaken to examine the relationship between customers' loyalty and sales performance of Dangote Cement in Awka, Anambra State. The Dangote Group is a key player in Nigeria's economy contributing significantly to her GDP and workforce. The study focuses on a subsidiary of the Group, the Dangote Cement to analyse the effect of emotional loyalty and behavioural loyalty have driven consumer purchase intention for the past years. The study utilised the survey research design and questionnaires distributed to a cross section of consumers of the product. The empirical results confirm presence of a positive significant relationship between emotional loyalty and consumer purchase intention; and, a positive significant relationship between behavioural loyalty and consumer purchase intention. Based on this, the study makes the following recommendations:

1. Strategies that boost emotional loyalty: Manufacturing companies should strive to maintain customer trust via quality product or service delivery. Product adverts should always strive to be in line with product functionality; and, sales people should always be encouraged to base arguments on actual product functions not fictitious claims. Manufacturing companies are also advised to further use loyalty programs as strategies for rewarding customers;
2. To further enhance behavioural loyalty, manufacturing companies are advised to engage in periodic customer satisfaction survey. An approach which is lacking in most developing countries in Africa in obtaining customer feedback. Also, pricing strategy of the manufacturing firm should be constantly reviewed to not scare customers from purchase

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TAXATION CHALLENGES IN NIGERIA IN 21ST CENTURY: A REVIEW OF RELATED LITERATURE

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Abstract
A well-functioning Revenue system is a necessary condition for strong, reliable, sustainable and inclusive economic development strategies. The correlation between tax-payers and tax authorities are the conceptualized tax policy and framework on rights, obligations, filling of returns, Assessments, collections, appeal and petitions cases, penalties, fines, refunds/payment procedures which have significant influence on revenue generation in Nigeria with fundamental short-coming or challenges. The concept of this paper was on a review of related literature and this article provides an inside challenges between tax-payers on assessment (IMF, 2006), the public Expenditure and Financial Accountability Assessment (PEFA) and the Tax Administration Diagnostic Assessment Tool (TADAT) will provide a standard and gauge that reveals the strengths and weakness of the tax administration and the disputes/conflict resolution between stakeholders on value Added Tax (VAT) federal government of Nigeria vs Rivers and Lagos States government on who should collect VAT? The answer is simple, VAT collection is done by federal government by law and also international best practice the Appeal court sitting in Abuja, set aside the judgment made on High court Port Harcourt- River state (2021). The Nigeria tax reforms needs to be treated with care or caution, being mindful of the current economic situation and standard of living, any proposal to this effect must meet international standard of the developed economy with consent of the stakeholders to support a strong citizen-state relationship that has underpinning effects; effective, efficient, economy, accountable and stable government in provision of potential benefits like infrastructures, security and basic needs to the citizenry in order to have a workable and sustainable tax system.
Keywords: *Taxation, challenges, 21 century, tax system, tax administration, tax deposited*

Introduction

Taxation is the process of collecting taxes within a particular location. Tax is a monetary charge imposed by the government on persons, entities, transactions or properties to yield revenue. Tax is the enforced proportional contributions from persons and property, levied by the state by virtue of its sovereignty for the support of government and for all public needs. Taxes is a pecuniary burden laid upon individuals or property to support government expenditure.

A tax is not a voluntary payment or donation, but an enforced and compulsory contribution, exacted pursuant to legislative authority and is any contribution imposed by government, whether under the name of duty, custom and excise, levy or other name.

Taxes may be direct or indirect and may be imposed on individual basis, entities basis, assets basis and transactional basis in Nigeria, taxes are imposed on the following bases. 1. **On individuals:** Personal income tax, Development levy. 2. **On Companies: (corporate entities**): Companies income tax, Petroleum profits tax, Education tax and Technology levy. 3. **On Transactions:** Value added tax, Capital gain tax, Stamp duty, Excise duty, Import duty and Export duty. 4. **On Assets:** This includes taxes such as property tax and other, such taxes imposed on land or landed property.

Revenue: is an income received from all activities engaged in by the receiving entity. In government terms: Revenue is the entire amount received by the government from sources within and outside the government entity.

In Nigeria, government revenue includes proceeds from sales of crude oil, taxes (including import and excise duties) penalties, interests, fines, charges and other earnings received from government investments (bonds, dividends, etc) and others Revenue: redistribution, re-pricing, re-presentation, also rate, grant, foreign investment and public debt or borrowing.

Federation Revenue collection Agencies and types of Revenue Collected

1. Nigeria National Petroleum Corporation (NNPC): Crude oil export, Domestic crude, upstream gas sales, Domestic gas and others.
2. Department of Petroleum Resources (DPR): Royalties, Rent, gas flare penalties, miscellaneous oil revenue (Pipeline fees).
3. Nigeria Customs Service (NCS): Import duty, Export duty, Excise duty and Fees.
4. Federal Inland Revenue Service (FIRS): Petroleum Profit Tax (PPT), Value added Tax (VAT) and Company income Tax (CIT).
5. Ministry of Mines and Steel Development: Royalties, Fees, Miscellaneous revenue.

The Tax Administrative Setting in Nigeria

The administrative machinery currently in existence in Nigeria includes; The join tax board (JTB), The federal board of inland revenue (FBIR), The state board of internal revenue (SBIR), Local Government Revenue Committee and Join State Revenue Committee (CITN), (Ojo, 2003). Tax Authorities do the assessment, collection, penalty, fine refunds/payment, appeal etc.

From this point forward, the structure of the paper is as follows; section two (2) presents the role of stakeholder in Nigeria Tax system as conceptual issues, section three (3) the tax challenges facing Nigeria, section four (4) Nigeria tax reform challenges and prospects. Conclusion and recommendation are in section five (5).

Review of Related Literature

Conceptual Reviews

Tax Challenges Facing Nigeria

Taxes matter, we all know we need them to pay public services. But most of us complain about them – exercise over "voice" and of term to dodge them – to "exist" when we can. Those who design and implement tax systems, like those who try to escape them, for the most part consider themselves to be eminently "practical" people responding to the around as the see it. As John Maynand (1936, 384 -85).

Fortunately or otherwise there is no shortage of those willing to set universal fiscal goals and standards for developing countries as a group. Almost half a century go, Kaldon Nicholas (1963), fresh from his recent exposure to India's tax system, argued that for a country to become "development" it needed to collect it taxes 25-30 percent of GDP (Gross Domestic Product) more recently, perhaps having noted that most developing countries (like India, Nigeria etc) remain well short of Kaldos target, its UN (United Nation) millennium project (2005 was somewhat less ambitious in advising developing countries that on average they needed to mobilize only an additional 4 percent of GDP in tax revenue beyond their current average level of about 18 percent.

Did anyone worry much about the international content since tax policy was considered a domestic affair. In short, to exaggerate only a bit, the conventional wisdom at the time was that all developing countries (Nigeria and Others) needed to do, to solve their problems was, as the UN millennium project still seems to assume, in the words of Kaldor (1963) simply to learn to tax" – by which he in cant to tax in a properly progressive fashion.

The world has changed, however, and so have idea about taxation. as a result IMF study (Norreggard and Khan 2007) correctly notes, there remain huge gaps in the evidence with respect to the effects of taxes and "hard thinking or ordinary people in tune with the fashion of the deny continues to be as influential in taxation as in most areas of public policy.

Value added tax (VAT) has now become the main state of the revenue system in Nigeria with 10 percent, increases from (5-10) percent and to broader bases and improveness administration. Also now has generated problem between federal government and state government on the issue of collection

NB. While Central/federal government remain the supreme VAT collection in the world- that is international best practice.
Economic structure, administrative capacity and political institution all limit the most constraining situations, some options almost always exist. The consensus of

most fiscal experts, almost regardless of political stance, seems to be that the tax challenge they face, in the current jargons, in expanding their "fiscal space" along the revenue axis **(IMF 2006)** – are essentially three (1) broaden tax bases (especially of consumption taxes (2) reduce rates or constant (especially of income taxes and (3) improve tax administration. Although in reality each of these three pathways to reform is interdependent, in the next few section.

Broadening Taxes

Taxation in Nigeria seems to assume it were, that "unto each a base is given". If the tax base is indeed "given" then the only policy issue would be how best to exploit it (1) by reducing exemptions and (2) bringing non payers into the tax net. Taxes may (3) discourage or encourage, these are gab identify in course of study the "formalization" of the economy, or they may foster or discourage the growth, too shape and direct economic growth of such tax handles as imports, as they may be used to shape and direct economic growth into particular channels in a variety of ways and for a variety of purposes. The fiscal system is primarily a tax for expenditures the second point mentioned above suggested that there may also the income tax – the mirror of democracy" as one fiscal history labeled it (Webber an Wildavssty 1986). It is likely conducive to growth by shifting resources away from the traditional agriculture sector - developed that always and can everywhere accompanied growth (Bird 1974). Much the same be said about presumptive taxes on informal sector are often so badly design and operated that they are horizontally inequitable and seldom, yield much revenue (Bird and Wallace 2004). When countries have informal sectors even a bad tax on a good base maybe a good idea (Auriol Andwarler 2005).

Lowering the Tax Rates

In Nigeria the challenge is not so much whether to increase revenue- in most cases, it do so to grow and prosper, but rather how to do there are only three possibilities: (1) raise rates, (2) expand bases and (3) improve administration. Raising rates with the existing system is the most obvious approach and politically, economically desirable solution.

Take the example of our economy with a large shadow economy. Income taxes do not reach this sector and indeed appear to be association with its expansion and population growth (Sceider and Ichnglmaier 2004). Properly both income and property taxes may play a role in accepted as fair by those affected since automobiles effectively such items are taxed, the better, finally corporate income taxes are needs to buttress personal income taxes, to ensure equitable share of returning on cross – border investment , and to tap economic rents at least to some extent (Bird 2002). There is reason for every tax.

Improving Tax Administration

Reaping revenues from tax rate ranges (whether up or down) requires effective tax administration. Raising revenues through base expansion requires even better administration New tax payers must be identified and brought into the tax net and new collected on techniques developed. Such changes take time implement. The best tax policy in the world is worth little if it cannot be implemented effectively.

The single most important ingredient required for effective tax administration is clear recognition at high political levels to the importance of the task and willingness to support good administrative practices - even if political friends are hurt. Increasing technology appears to offer potentially promises paths to at least partial solution in many developing countries (Bird and Zolt 2007).

The Political Economy of Taxation

Improving tax outcomes thus depends in large part upon how different political groups perceive proposed changes and how they react to these perceptions. Tax reforms issue, in this an exercise in political legitimation" (Liedo, Saeider, Moove 2003) those who may pay more convinced that they will get something's worthwhile for their money. Those who not want to pay more, most not be able to block reform and, in the end, must be willing to go along without taking to the hills in revoltor fleeing the country. Those who will have to implement the reform must also support it or at least not actively sabotage it. And it course politicians have to see sufficient support to warrant putting reform not only on the agenda but on ground. From a normative perspective the key function of taxes in Nigeria is to provide (non-inflator) funding for pro poor and pro-growth spending program and developing human cardinal (Bird and Gender 2007).

Nigeria would be better off there were even more informed Public dispute about such matters, careless and until an adequate degree of political consensus on what should be done in achieved, no significant tax changes are likely of be made in reality no matter what new laws may be put on the books. (Liedo, Schneider, and Moore 2004, 39).

The Centrality of Taxation to Economic Development and Poverty Reduction

A well-functioning revenue is a necessary condition for strong sustained and inclusive economic development revenue funds the public expenditure on physical, social and administrative infrastructure that enables business as to start or expand.

The Current State of Capability in Revenue Administrations

The evident on the current capability of revenue authorities in Nigeria to perform basic functions is mixed, obtaining evidences across Nigeria Mc Kinsey Bench-marking study of tax administration in (2008-09) found that tax administration in Nigeria could collect an addition $8 billon by improving of tax administration

(Dohrmann & Pinshaw 2009) such report represent the exception rather than the rule.

Data collected as part of the public expenditure and financial accountability (PEFA) assessment process Eckandt and Schickinger (2012).
The PEFA to is an assessment framework against 28key public finance capabilities. Capability is assesses on a four point (A-D) scale.
Four of the theses capabilities directly relate to the reverence system; PI-3 Aggregate reverence out turn compared with regional approved budget. PI-13 – transparency of tax payer obligations and liabilities PI – 14 Effectiveness of measures for taxpayers registration and tax assessment, and PI-15 effectiveness in collection of tax payment.

The new tax administration diagnostic assessment tool (TADAT) will provide a standardized and objective assessment of the relative strengths and weakness of the administration of a Nigeria is tax system (IMF 20143). TADAT has its origin at the G20 Seoul summit in 2010. The summit mandated the International Monetary Fund (IMF) organization for economic cooperation and development (OECO), UN – United Nations and world bank to identify constraints paced by tax administration and suggest measures for capacity building. TADAT- PEFA approach assessing performance are efficiency of tax administration, tax dispute resolution, Accuracy of reporting, filling of returns, payment of obligations, accountability and transparency, integrity of the tax payer base, assessment of risk and supporting voluntary compliance, (G20 Summit 2010).

The Impact of Globalization in Nigeria Revenue System

Globalization has changed the nature of economic activity and it has increased he challenges faced by revenue authorities, in Nigeria, we need to deal with the challenge of BEPS- taxpayers resident in a country may be arranging their affair so that they are completely hidden from the domestic revenue authority. The automatic exchange of information (AEOJ) project seeks to address this issue. The main difference between developed and developing countries is the extent to which they have the capability to act on that awareness.

It always seem more appealing and immediately productive both to outside advisors and often to governments themselves to establish “benchmark” for success, to support this particular organizational change here (Reverence Authority) and that new technology (computerization) and all too often on concession, reliefs and incentives all over the place – than it does to help countries acquire the institutional tools they need to reach their better decisions on their own. It is always tempting to believe that simple “one – Size – fits all” approaches can provide quick (but sustainable) answers to the many complex problems inherent in reforming tax policy in different environment. It is tempting. But it is wrong. (Bird, 2008).

Roles and Responsibilities of Stakeholders

The conduct of all stakeholders in the Nigerians tax system shall be governed by the following principle. 1. Adherence to constitutional federalism and the role of land at all times. 2. Strict adherence to constitutional provision relating to fiscal matters. 3. Adherence to the concept of fiscal federalism and separation of powers in relationship to fiscal matters. 4. Recognition and respect for the right and powers of each level of government in relation to the collections and control revenue within its jurisdiction. 5. Strict adherence to the provision of tax legislation in the administration of taxes. 6. Commitment to the enforcement of tax laws in a legal and constitutional manners. 7. Commitment to the peaceful resolution of all dispute and respect for judicial pronouncements on disputes submitted for ad judication. 8. Commitment to the creation and sustainable development of a stable, secure and workable tax system for Nigeria. 9. Commitment to the unity, development and progress of one Nigeria, in the acknowledgement that the tax system can be used a major pivot for achieving national development goals.

Globally Accepted Principle

Affirmation and acknowledgement of the importance and contribution of all stakeholders in the administration of taxes in Nigeria. 2. Provision of specific and general feedback by all stakeholders, in a proactive manners on issue and developments that are relevant to tax administration in Nigeria. 3. Ensuring that the principle of good faith is observed by stakeholders, especially between the payers and tax authorities on the other. 4. Fairness in the treatment of all stakeholders by each other. This is particularly relevant in the allocation of resources and consideration of each parties view point. (CITN).

Role of Professional Bodies, Tax Consultants and Practitioners

Nigerian law provides a statutory role for professional bodies in the tax system, in this regard, the chartered institute of taxation act provides powers to chartered institute of taxation (CITN) to amongst other things determine standard of knowledge and skill to be attained by tax practitioner, the establishment and maintenance of a register of its member and the regulation and control of tax practice.

Relationship between Stakeholders:

1. The executive and the legislature shall co-operate on fiscal issue and all fiscal matters shall be accorded priority and given the necessary attention by each arm of the government. 2. There should be regular for a discussing tax policy and legislation and disputes which arise between the two arms of the government shall be resolved amicably. Where necessary, disputes shall be referred to the judiciary for adjudication. In this regard, the judiciary shall be financial arbiter of all disputes and its decision shall be binding on parties. 3. In addition, all tiers of government as well as the tax authorities are expected to provide guidance and information to the taxpaying public, which should elicit higher compliance and co-operation from the taxpayers. A more structured information sharing arrangements should also be established between the tax authorities and relevant government agencies in order to properly identify and engage taxpayers to ensure full compliance with tax laws. 4. The federal and state ministries of finance shall be responsible for all tax policy matters, including initiations proposals for amendment to tax laws by the national assembly and providing direction and approvals for policy issues when necessary. 5. Federal and state tax authorities shall have a harmonious and co-operation relationship amongst themselves and with the relevant federal and state ministries or agencies of government as may be determined, except rivers and the Lagos state are the betrayed. 6. The tax system should provide a function for healthy competition amongst state towards the improvements of investment activities in the state and enhancing the internally generated revenue in the state. The relationship between the tax authorities should be coordinated by the JTB. In this regards, the JTB should effectively discharge its advisory role to the government and the tax authorities and ensure harmonization of tax administration in Nigeria. 7. Overtime, tax authorities should be expected to also function as tax laws enforcement agencies. However, they are expected to establish formal co-operation with relevant law enforcement agencies to assist them acquire skills and competences in investigation and enforcement matters. 8. The taxpaying public, corporation organizations, organized private sector and trade union shall work closely with and corporate with tax authorities and other stakeholder to ensure seamless administration of taxes. These groups of stakeholders shall be treated as customers by the tax authorities and be accorded the necessary attention and assistance. There should be proper taxpayers' education and regular forums for engagement of the paying public by tax authorities and relevant government agencies involved in taxpaying administration. 9. Oversight over the tax system shall be multi-pronged and be driven ultimately by the national and state assembly. 10. Alternative disputes resolution mechanisms such as the use of appeal tribunals and other formal and structured mechanisms shall be encouraged. 11. The taxpaying public shall have the right and duty to make necessary contributions for the development of our tax system. 12. Professional bodies, tax consultants and practitioners shall also contribute to the overall development of the tax systems and work to established necessary mutual relationship with other stakeholders. (Abdulazaq, 2016), (CITN).

Theoretical Literature Review

Nigeria Tax Reform: Challenges and Prospects

Nigeria as a nation with federal political structure has a fiscal regime that adheres strictly to the same principle, Reforming taxes is always a one off operation in the sense that it occurs in the unique circumstance of a particular country at a particular time. Some seem to believe that there must the some simple solution to be found somewhere else in the world that can replace these seemingly in Nigeria.

Most studies of tax reform experiences understandably focus on the substance of reform. A more fundamental question, is no what should be taken into account in Nigeria in should be approached. Careful and comprehensive attention of institutional arrangement for tax reform will not only improve the quality of the reforms proposed, it will also increase the likelihood of their adoption and successful implementation.

A draft of legislation and together and analyzed data relevant to tax reforms as well as developing the procedural systems and administrative capacity to implement them. Is the critical need to sell reforms not only to those who must approve them (politician), but also those who must administer them (Officers), to those who will discuss them in public (the policy), to those who will discuss them in public (the policy community) and to those who must endure them (the business community and the public.

Pre 2002 Tax Reform Efforts

The Federal Government had taken far-reaching steps aimed at reforming the nation's tax system before the Pre 2002 reform efforts. Among these are;

The 1978 Task Force on Tax Administration headed by Alhaji Shehu Musa. The major thrusts of the report of the task force are;

- Introduction of the Withholding Tax (WHT) regime
- Imposition of 10 per cent special levy on Bank's excess profits
- Imposition of 21/22 per cent turnover tax on building and construction companies.

The 1992 Study Group on Nigerian Tax System and Administration headed by Professor, Emmanuel Edozien, recommended;

- The establishment of FIRS as the operational arm of FBIR and
- Setting up of Revenue Services at the other tiers of government (State and Local Governments).

The 1992 Study Group on Indirect Taxation headed by Dr. Sylvester Ugoh recommended a policy shift from direct taxation to indirect/consumption (VAT evolved).

History of the Current Tax Reform Process (Overview of the report of The Study Group (2003) and the Working Group (2004) on the Nigerian tax system)
The current reform process commenced on August 6, 2002, after series of proposal forwarded by our Institute to the Federal Ministry of Finance. A Study Group was eventually inaugurated to examine the tax system and make

appropriate recommendations to the government, on ways to entrench a better Tax Policy and improve tax administration in the country.

Reasons for the Reform

The (1) Study Group and (2) Working Group recommendations and subsequent evaluations saw the need for more inputs from (3) stakeholders in the nation's tax system, hence the convening of the 1st National Tax Retreat, tagged "Tax Reform and Democracy" held in Lagos from 22-24 August, 2005.

Stakeholders agreed at the end of the Retreat that the following reasons were not only expedient but necessary for the Nigerian tax system; Efficient and effective tax administration, Stimulate the non-oil sector of the economy, To resolve contentious issues in tax administration, Redistribute wealth and entrench a more equitable tax system, Capacity building for administrators and taxpayers, Centralisation of revenue agency and computerization, Reduce effective tax rates and simplify tax regime and Develop a tax policy for Nigeria, etc.

Value Added Tax (VAT)

The Federal Government introduced VAT in January, 1994. Nigerians believed it was introduced as a means of avoiding taking loans from international agencies. According to analysts, the tax was intended to be a "Super Tax" to eradicate completely many other taxes related to goods and services. VAT was then imposed on virtually all goods and services whether produced or rendered in Nigeria or not. Exemptions however, was granted in respect of medical and pharmaceutical products, basic food items, fertilizers, agricultural and ventenary medicine, books and educational items, farming and transport equipments, etc. The challenge is that Rivers state government and Lagos wanted to collect VAT rather federal Government of Nigeria.

The ECOWAS Commission has for this reason, suggested a transition period of two (2) years, terminating in 2009, within which member-States presently applying low VAT regime should close the gap to a point within the range of 10-20 per cent;

Vat Increase & Its Implications for the Economy

African Economic Research Consortium (AERC), in a work carried on VAT system in Nigeria conducted some years ago, stated that Nigerian companies treat their VAT expenses as input costs and pass these to the consumer's while the government injects most of the VAT revenue back into the system as consumption expenditures, causing huge disruptions to the economy. In a country where basic physical infrastructure- for transport, communications, power and information technology-to strengthen competitiveness and expand productive capacity are total collapse of the real sector, rise inflation, unemployment, strike actions (Business Club Ikeja 2011, 2019 and 2021).

Conclusion and Recommendation

The ability to raise revenue to fund the basic public goods is central to what is means to be sovereign state and the actual raising of that revenue is seem to play an increasing role in establishing and reinforcing the legitimacy of the state. Building capacity and capability takes time in the short to medium term it makes sense to treat administrative capacity as relatively fixed. So countries with weak revenue administration laws are range of choice over how they allocate their scarce administrative capacity across tax based and over the choice of taxes within those bases. However, in the medium to longer term, well designed capacity development programs can make a real contribution to the quality and effectiveness of a relevant administration, in this context, a well designed and effectively sequenced program will see countries build their capacity and capability. The ability to enact the BEPS and AEOI agendas will be a consequence of their stronger administrations, not a goal in and of themselves.

The current tax reform process has chartered the road map to nigeria's drive to a globally competitive tax system, but the task of pushing the drive to a destination that would accelerate our economic development is a collective one. Professional are at the vanguard of development initiative in other part of the world, especially in the developed economics, Nigeria professionals that is chartered tax practitioners should not make to be involved but also allowed to play leading roles in any tax reform process this is the only sure way to achieving our collective desire for a fully professionalized tax system in our country.

In improving tax policy and especially tax outcome in Nigeria to face up to the fundamental question: how best to encourage and facilitate countries in the critical task of building the capacity they need to find their own solutions in her or their own ways? Nigeria tax challenges face by the likely best assist they collecting revenue agencies to improve their institutional framework and understanding with fiscal issues within which they operate and improve transparency.

Recommendation

Leakages from federation revenue: **1.** Monthly deduction of huge amount for petroleum subsidies still June 2022 ₦123.7 BN per month. 2. Loss of revenue due to illegal banker of crude oil. 2. Loss of revenue due to pipeline vandalizing and oil thief. 3. Gas flaring. 4. Monthly remittances of huge amount of proceeds to joint venture partner (cash all). 5. Indiscriminate tax holidays and waiting to importers and investors. 6. High cost of collection claims by revenue generating agencies. 7. High expense on pipelines maintenance. 8. Monthly withholding of substantial amount by NNPC for priority projects. 9. Delays in remittances of crude oil sales proceeds (its takes federation reserve or account). 10. Conflicting judgment by coordinating courts of law and supreme court with two appeal judgment on on revenue mattes and others cases.

Ways to Block Leakages of Federation Revenue: 1. Total compliance with the provision of the 1999 constitution section 163 (1-5) on the administration of the federal revenue (that all revenue should be paid to federation account). 2. Downward review of cost of collection by the revenue generating agencies. 3. Unnecessary wavers and tax holidays should be stopped where necessary and be review downward. 4. Empowers revenue mobilization allocation and fiscal commission (RMAFC) to monitor the crude oil production lifting and sales and prosecute offenders. 5. Judiciary should independent and people should have confidence on them

Ways to Diversify the Federation Revenue: 1. More attention on agriculture sectors during dry season and in Nigerian farming. 2. More attention on solid minerals sector. 3. Marine resources. 4. Tourism sector. 5. More expansion of gas sector. 6. Rapid expansion of (ICT) sector for a collection of revenue. Above all, government should diversify the earning base of Nigeria economy, because over dependence on the single or source has becomes overly dangerous to the health and growth of Nigeria economy. In this wise, government should strengthen the revenue generating apparatus, by considering widening the tax net and rejiging the collection agencies deployment of e government and stricter enforcement of tax compliance should be institutionalized, to boost revenue collections.

Central/federal government remain the supreme VAT collection in the world- that is international best practice.
Federal government should established federal training school for Revenue officers.
Training and re-training of Revenue officers in the revenue collecting agencies.
UDUS should be the first University to establish a course on Taxation (BSc Taxation).

CITN should laise with UDUS for the course module, Operational guideline e.g 100-level foundation, 200-level PI, 300-level PII and 400-level PIII UDUS should contact private University in South-West of Nigeria for guidance, that is Caleb University 2017.

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EFFECTS OF FINANCIAL INCLUSION ON ECONOMIC GROWTH IN NIGERIA

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Abstract
This study investigated the effect of financial inclusion on economic growth in Nigeria from 1981-2021, the objectives of the study were to, Analyze the effect of total bank loans on economic growth in Nigeria; determine the effect of bank branches on economic growth in Nigeria; Evaluate the impact of commercial banks deposit on economic growth in Nigeria; and Evaluate the impact of automated teller machine services on economic growth in Nigeria. Ordinary least squared (OLS) method of data analysis was adopted because of its Best Linear Unbiased Estimators (BLUE) properties. The variables used were sourced from Central Bank of Nigeria Statistical Bulletin. The variables used were total bank loans, bank branches, commercial banks deposit, and gross fixed capital formation. The collected data were sourced from central bank of Nigeria (CBN) statistical bulletin 2021 The study adopted the unit root test, co-integration approach, as well as Error Correction Mechanism. E- View software was used for the analysis. The study found that: Total bank loan has negative and significant effect on economic growth in Nigeria (t, -2.198595, p=0.0389). This result implies that Total bank loan has not favored the economic growth in Nigeria. Bank branches have positive and significant effect on economic growth in Nigeria (t, 2.549937, p=0.0191). This implies that Bank branches has contributed significantly to economic growth in Nigeria. Commercial bank deposit has positive and significant effect on economic growth in Nigeria; (t, 3.103610, p=0.0009). The implication of this result is that Commercial bank deposit has positively affected the economy of this country. The study recommends that, Banks should be very careful the way and manner they give out loan to customers, they should make sure that corresponding collateral is presented before loan should be issues out and again the purpose of the loan should be define properly. Increase in the number of bank branches to support their economic activities. The number currently in circulation is limited and banks should deploy more POS devices to strategic places like shops, churches, schools, hospitals, institutions and fuel stations for easy access to financial transactions.
Keywords: *total bank loans, bank branches, commercial banks deposit, and gross fixed capital formation*

Introduction

According to Yin, Xu, Chen, and Peng (2019), financial inclusion is the availability to both individuals and businesses of pertinent and reasonably priced financial goods and services that meet their needs for purchases, payments, deposits, lending, and coverage that are offered in a sustainable and responsible manner. Financial inclusion aids in the creation of services that foster financial efficiency. Financial inclusion refers to ensuring that all adults in society have equal access to financial services that are provided at reasonable prices. Additionally, due to the availability of insurance, people at the advanced stage of financial inclusion accept financial risks without any reluctance (Liu, Dong, Meng, 2022). Financial inclusion is an important and vital component of economic progress and has recently gained significant attention. According to Ali, Nazir, Hashmi, and Ullah (2022) inclusive finance is a component of financial development and has drawn increasing attention in studies when it comes to finding solutions to the problems of poverty and economic progress.

Recently, financial inclusion has become a crucial development policy priority on a worldwide scale, particularly in developing economies like Nigeria. In contrast to financial exclusion, which occurs when those services are unavailable or unaffordable, financial inclusion is defined as the provision of financial services at reasonable costs to some economically disadvantaged and low-income parts of the economy. Financial inclusion, according to Onaolapo (2015), is a procedure that guarantees that all participants in the economy have easy access to, or availability of, the formal financial system and may use it. It refers to a procedure whereby all members of the economy can open bank accounts without difficulty, afford to access credit, and conveniently, easily, and consistently use financial system products and facilities, such as Automated Teller Machines (ATM), internet banking, and point of sales, which is a cash dispenser that enables bank customers to enjoy banking services without coming into contact with bank tellers (cashier). In terms of payment services, ATMs assist cashiers in carrying out their jobs. It is a computerized piece of technology that allows users to do financial transactions in public without a cashier, human clerk, or bank teller present. (Ogunsemore, 2012) An ATM is often referred to as a cash terminal or cash machine. Automated Teller Machines (ATMs) have emerged as a key indication of banks' ICT spending. They provide significant advantages to banks and depositors alike. Depositors may be able to withdraw cash from the machines at more convenient times and locations except during branch banking hours (Tucker, & Lean, 2013). The next-generation e-payment system's point of sale (POS) terminal has emerged as a promising new application. A portable device used to accept bank card payments for goods and services is called a point of sales (POS) terminal. It enables cardholders to access funds and information in their bank accounts in real-time online using debit or cash cards. 2017 (Shekhar, & Shekar)**.** For retail transactions, a point of sale/service [POS] terminal is utilized. Depending on the type, it can offer a wide range of services, including processing credit cards, scanning checks, and transactions. These gadgets are practically everywhere, including grocery stores and gas stations. A quick and secure transaction is the outcome of the technology utilized in POS machines.

Economic growth is a dynamic, long-term phenomenon that is hampered by things like population increase, a lack of capital, inadequate infrastructure, inefficient resource utilization, excessive government intervention, structural and cultural paradigms that make growth difficult, and so on. By increasing a country's capacity for output and making the most use of the capital that is already available, economic growth can be achieved. It encourages the distribution of salaries throughout the populace and society. The longitudinal outcomes, or slight differences in rise rates, start to matter for periods of a decade or longer. It's interesting to note that inclusive finance promotes sustainable economic growth and the production of wealth (Hannig & Jansen, 2010). The importance of financial inclusion in fostering economic growth is acknowledged both conceptually and experimentally According to Adeoti and Oshotimehin (2012), providing the underserved with adequate and inexpensive financial services including savings, credit, and payment could increase business opportunities. Financial inclusion can also mitigate the financial risks faced by unbanked and underbanked individuals by easing consumption, protecting savings, and reducing debt (Ayo, 2010; Krawetz, N. (2017)). Accordingly, financial inclusivity encourages overall economic growth, narrows the income difference, and secures the eradication of poverty (Castle, Pervaiz, Weld, Roesner, & Anderson, 2016).

The high percentage of unbanked people and those without access to financial services in Nigeria, particularly among rural residents, can be attributed to a variety of factors. They consist of inadequate infrastructure, illiteracy, poverty, and insecurity. According to a 2012 survey on expanding financial innovation and access (EFInA) to financial services in Nigeria, 349 million adults, or 39.7% of the adult population, were found to be financially excluded. This indicates that just 28.6 million persons, or 32.5% of the adult population, were banked (EFInA, 2013). Over time, Nigerian financial institutions have neglected to give the active poor and rural inhabitants who need financial inclusion their due attention. Rural financial intermediation and economic development are noticeably absent from the Nigerian economy's top priorities. As a result, the rural sector and the working poor continued to experience severe economic constraints brought on by insufficient financial planning. However, the rural sector and the active poor, with their distinctive small businesses, have the ability to expand capacity and stimulate the economy in any country. As a result, failing to acknowledge this as a problem would undermine the sector's contributions to economic expansion.

According to Global Findex's 2017 report, the majority of Nigeria's adult population—2/3 of which are women and low-income rural residents—does not have a bank account. Since the lack of a formal financial system has been identified as a barrier for reducing poverty, mobile money, ATMs, and point-of-sale systems have become an opportunity to close the As a result, the rural sector and the working poor continued to experience severe economic constraints brought on by insufficient financial planning. However, the rural sector and the active poor, with their distinctive small businesses, have the ability to expand capacity and stimulate the economy in any country. As a result, failing to acknowledge this as a problem would undermine the sector's contributions to economic expansion. According to Global Findex's 2017 report, the majority of Nigeria's adult population 2/3 of which are women and low-income rural residents does not have a bank account. Since the lack of a formal financial system has been identified as a barrier for reducing poverty, mobile money, ATMs, and point-of-sale systems have become an opportunity to close the financial inclusion gap (Christolav, Marianne, and Jeanne 2013).

Objective of the Study

The broad objective of the study is to analyze the effect of financial inclusion on economic growth in Nigeria. The specific objectives are to:

1. Analyze the effect of total bank loans on economic growth in Nigeria.
2. To determine the effect of bank branches on economic growth in Nigeria.
3. Evaluate the impact of commercial banks deposit on economic growth in Nigeria.
4. Evaluate the impact of automated teller machine services on economic growth in Nigeria

Research Hypotheses

The following null hypotheses are formulated to guide this study:

Ho₁ Total bank loans has no significant effect on economic growth in Nigeria

Ho₂ Bank branch has no significant effect on economic growth in Nigeria

Ho₃. Commercial bank deposit has no significant effect on economic growth in Nigeria.

Ho₄. Automated teller machine has no significant effect on economic growth in Nigeria.

The paper is organised as follows' the next section reviews relevant literature with regards to context justification and provide a theoretical background for the study, respectively. Next describes the sample data and empirical methodology. The last section summaries the main results, offers conclusion and recommendations.

Review of Related Literature

Theoretical Framework

Modern Development Theory

The Modern Development Theory was created by Burr, HS in 1958, and it is a collection of theories regarding how to effectively bring about desired change in society. The theory was founded on modernization theory, which is used to examine the processes that can lead to modernization in a society. The hypothesis examined which aspects of the economy can promote growth and which ones act as roadblocks to it. This is so that traditional or backward civilizations might be modernized; the concept of financial inclusion of rural residents is developmental support focused at those particular elements. The notion of progress, which asserted that, can be used to deduce the earliest tenets of development theory.

Empirical Review

Azimi, (2022) with a vast number of panels divided up by income and regional levels from 2002 to 2020, researchers examined the effects of financial inclusion on economic growth from a global viewpoint. The analysis starts with the creation of a thorough composite financial inclusion index made up of financial service penetration, availability, and usage as well as the estimation of heterogeneous panel data models enhanced with well-known variables. A long-term association between economic growth, financial inclusion, and the control variables in the complete panel, income-level, and regional economies is supported by the findings of the panel co-integration test. The results of the GMM model clearly indicate that financial inclusion has a significantly positive impact on economic growth across all panels, implying that financial inclusion is an effective tool in fostering rapid economic growth in the world.

Enueshike and Okpebru (2020) nvestigated from 2000 to 2018 how Nigeria's economic growth was affected by financial inclusion. For the estimation of the variables, historical data from the Central Bank of Nigeria Statistical Bulletin was used. The explanatory variables loan to small and medium businesses (LSME), rural bank deposit (RBD), and control variable inflation (INF) were regressed on the dependent variable of financial inclusion, which was measured by the contribution of financial institutions to gross domestic product (GDP). The study used an ex-post factor research approach, and unit root and co-integration diagnostic tests were carried out, which revealed that the variables' co-integration was mixed and that there was a long-term link, respectively. Among other things, the research suggested that rural bank deposits (RBD) be promoted by the Central The study recommended among other things that rural bank deposits (RBD) should be encouraged by Central Bank of Nigeria.

Eze and Alugbuo (2021) Identify the impact of financial inclusion on reducing poverty in Nigeria. Using information from the World Bank's 2017 Global Findex survey for Nigeria, we estimated two models: a Logit model and an Instrumental variable model. The "poor" dummy variable served as the dependent variable and was set to 1 if the subject's "within economy income quintile" was under the bottom 40% and 0 otherwise. The explanatory variables include the author's financial inclusion index, respondents' ages, educational levels, genders, job statuses, wages, transfers from the government, pensions, savings, and self-employment.

Ifediora, Offor, Eze, Takon, Ageme, Ibe, and Onwumere (2022) uses panel data from 22 Sub-Saharan African (SSA) nations between the years of 2012 and 2018 to explore how financial inclusion affects economic growth. The system Generalized Method of Moments (GMM) is used in the investigation. We found that the availability dimension of financial inclusion, the penetration dimension of financial inclusion, and the composite financial inclusion (all indicators taken together) have a significant and positive impact on economic growth while the usage dimension of financial inclusion has a small but positive impact on economic growth. Additionally, bank branches and ATMs have a favorable and considerable impact on economic growth, while deposit accounts, outstanding loans, and outstanding deposits have a less significant but nonetheless negative impact.

Khan, Zafar, Okunlola, Zoltan and Robert (2022) examined the impact of financial inclusion on the G20 countries' gross domestic product, human development, financial efficiency, and financial sustainability. For the years 2004 to 2017, this analysis used yearly data from 15 developed and rising economies. By using principle composite analysis (PCA), the current study has used a single indicator for financial inclusion, financial sustainability, and financial efficiency. The ARDL model was validated by the panel stationarity test results for both the long and short runs. Similarly, the results of the ARDL Model 1 indicated that there was no correlation between financial inclusion and financial sustainability in the short term, but that there was in the long run. The ARDL Model 2 further shown that financial inclusion has no effect on efficiency in the short run, while it positively influenced financial efficiency in the long run. The results of the ARDL Model 3 are also similar to Models 1 and 2 where inclusive finance showed no effect on poverty in the short run, but a significant effect in long run. Similarly, the ARDL Model 4 also presented no association between GDP and inclusive finance in the short run, while it showed significant relationships in the long run.

Obi, (2022) determined the impact on Nigeria's economic expansion. The time series data for the study covered the years 2004 through 2021. The study spanned the time before inclusion through the time of implementation. The Ordinary Least Square approach was used to estimate the data. Additionally, preliminary and post-estimation tests were carried out. The OLS result confirmed that the financial inclusion policy had a favorable impact on economic growth despite its recent adoption. It was determined that a growth driver is financial inclusion. It was suggested that the Central Bank of Nigeria continue to implement the inclusion effort in all rural communities, working with commercial banks and microfinance institutions to make sure that women, youths, farmers, and traders in the informal sector are included in the financial system.. Also, Central Bank Nigeria should set up financial inclusion compliance committee at the Local Government levels, with a State Monitoring unit to ensure compliance.

Okonkwo and Nwanna (2021) from 1992 to 2018, researchers examined the impact of financial inclusion on economic growth in Nigeria. The following are some of the determinants for financial inclusion: nonbanking currency, circulation of currency, deposits in microfinance banks, number of commercial bank branches, credit from commercial banks to the private sector, and loans and deposits in commercial banks' rural branches. On the other side, the chosen indicator of economic growth was the nominal GDP. Ex-post facto research design is the one employed. Regression was used to analyze the variables' relationships, and the Grander Causality test was used to analyze the effects. The test's findings showed that Nigeria's economic growth is causally related to and strongly positively correlated with the amount of cash in circulation there.. Likewise, loans extended by rural branches of commercial banks also have a positive and significant relationship and causal effect on economic growth in Nigeria. Deposits of rural branches of commercial banks have causal effect on GDP in Nigeria and a positive relationship though not significant.

Olusegun, Evbuomwan and Belonwu (2021) analyzed the relationship between financial stability and inclusion in Nigeria using panel data for the years 2014Q1–2018Q4. A financial inclusion index was created to take into account usage, availability, and penetration. Financial stability was shown to be positively impacted by financial inclusion in the article, which suggests that stronger financial stability would result from higher levels of financial inclusion. Regarding dimension, utilization was discovered to have a negative link with financial stability, whereas penetration and availability did. This suggests that decision-makers must weigh whether to prioritize financial stability enhancements over changes that would encourage financial inclusion, innovation, and access.

Oti Chiadika and Obi (2022) After putting the time series data through the ADF unit root test, researchers looked into how financial inclusion affected the Nigerian economy. According to the data, Nigeria's economy benefits greatly and positively from the number of ATMs per 100,000 adults. This indicates that development is fueled in the short term by banks' use of ATMs as a form of payment. POS/100,000 adult is insignificant and has negligible economic impact. This can be linked to the fact that POS, a payment method that was recently introduced into the banking system, hasn't had a big impact on RGDP yet. This is further affirmed from the analysis which showed that a 10 percent rise in the number of POS/100,000 adults does not increase RGDP by any percentage. It therefore means that POS impact is likely to be felt in the long run and not in the short run.

The study by Ozili and Adekemi (2022) on the effect of financial inclusion on economic growth is attracting a lot of interest among academics and professionals. The authors of this paper examine the existing literature in order to highlight the current status of research in the field and to pinpoint potential areas for cutting-edge study. The authors divided their examination of the literature into pertinent categories using an approach known as a thematic literature review. The authors conclude that considerable study on the subject just started to be conducted after 2016. The majority of the research that are now available come from emerging nations in Asia and Africa. The common empirical methodology used in the literature are causality tests, co-integration and regression methods. Multiple proxies of financial inclusion and economic growth were used in the literature which partly explains the conflicting result among existing studies.

Methodology

Model Specification

An economic model is a representation of a phenomenon's essential characteristics. It is essential to construct an analysis model or paradigm that will allow the parameter estimates of inequality to be derived in order to assess the nature of the relationship between financial inclusion and economic growth. Thus a linear regression model is stated in a functional form as,

RGDP= F (TBL, BBR, TBD, ATM);

Where,

RGDP= Real gross domestic product

TBL= total bank loan

BBR= bank branches

TBD= total bank deposit

ATM= automated teller machine

The above equation can be restated in a functional form as;

$RGDP = \beta_0 + \beta_1 TBL + \beta_2 BBR + \beta_3 TBD + \beta_4 ATM + \mu$

Where;

β_0 = Autonomous or Intercept

β_1 = Coefficient of Parameter TBL

β_2 = Coefficient of parameter BBR

β_3 = Coefficient of parameter TBD

β_4 = Coefficient of parameter ATM

μ = Stochastic variable or error term

The above can restarted in it log form as

$Log\ RGDP = C + \beta_1\ TBL + \beta_2 BBR + \beta_3\ TBD + \beta_4\ ATM + \mu$

Where Log = logged values of the variables.

Estimation procedure

Ordinary Least Square (OLS), which will be used in this study's data analysis, will be used to determine whether there is a relationship between the dependent and independent variable (E-view). The advantage of OLS over other estimate methods or approaches led to the decision to use it. OLS is an estimating methodology that is recommended due to its desirable features of unbiased consistency, efficiency, sufficiency, and best linear. Gujarati (2004) also noted the technique's ease of computation.

Sources of Data

Data for the survey were sourced from the secondary methods. The secondary sources of data or information are with respect to existing literature, research reports, and CBN documents etc. These secondary sources of data for this study were sought through the following sources, including Central Bank of Nigeria (CBN) statistical Bulletin, and world bank data from 1981-2021.

Presentation and Analysis of Result

Presentation of Data

The raw and logged data for this study were presented in the appendix I & II respectively. The data was logged to present the data in the same based before it was use for the analysis. Another reason is to achieve normality.

Unit Root Test

The time series variables when used in their natural form, often leads to spurious regression results and this misleads policy makers. In other not to obtain spurious result the variables were first tested for stationary by employing the Augmented Dickey Fuller test (ADF). The Result obtained from the analysis is presented in the table below:

Table 4.1 Unit Root Result

Variables	ADF	Integration	Significance
RGDP	-5.043937	I (1)	1%
TBL	-4.490357	1 (1)	1%
TBC	-2.777864	1 (1)	1%
BBR	-5.242143	1 (1)	1%
ATM	-5.956261	1 (1)	1%

Source: *E-view 11 version.*

From the result in table 4.1 above, it is well observed that none of the variables (Total bank loans, Bank branch, Commercial bank deposit and Automated teller machine) was found to be stationary at level, but the entire variables were stationary at 1st difference. This implies that all the variables are stationary at first differencing with ADF values are higher than their critical values at 5% significance and this result gives us a lead way to co-integration analysis.

Co-integration Test

The second step is the testing of the level of co-integration between the variables, order that is if in the long run two or more variables move closely together, it implies a long run equilibrium relationship as the difference between them is not stationary. A lack of co-integration suggests that such variables have no long-run relationship.

Table 4.2 Johansen Co-integration Test

Hypothesized no of (ECS)	Eigen value	Trace statistics	5% Critical value	Prob**
None *	0.883558	213.0846	69.81889	0.0000
At most 1 *	0.839158	131.3710	47.85613	0.0000
At most 2 *	0.758753	61.93230	29.79707	0.0000
At most 3	0.185719	7.898793	15.49471	0.4763
At most 4	0.002410	0.091700	3.841466	0.7620
At most 5	0.883558	213.0846	69.81889	0.0000

Source: *E-view 11 version*

Max-eigen value test indicates 3 co-integration equations at 0.05 *denotes rejection of the hypothesis at 0.05 level. **Mackinnon-Haug-Michelis (1999) p- values.

Unrestricted Co-integration Rank Test (Trace)

Hypothesized no of (ECS)	Eigen value	Max-Eigen value	Critical value	Prob**
None *	0.883558	81.71366	33.87687	0.0000
At most 1 *	0.839158	69.43868	27.58434	0.0000
At most 2 *	0.758753	54.03351	21.13162	0.0000
At most 3	0.185719	7.807093	14.26460	0.3986
At most 4	0.002410	0.091700	3.841466	0.7620
At most 5	0.883558	81.71366	33.87687	0.0000

Source: *E-view 11 version*

Max-eign value test indicates 3 co-integrating equation(s) at the 0.05 level. *denotes rating of the hypothesis at the 0.05 level **Mackinnon – Haug-Michelis (1999) p-values. Since co-integration is a pre-requisite for the Error correction Mechanism, and following our co-integration result, there is a long-run equilibrium relationship among the variables.

The result of the Johansen co-integration presented above in tables 4.4 was carried out assuming linear deterministic trend in co-integrating equation. The trace test indicates three co-integrating equation at 5% significance level likewise. In line with this, there exist long-run equilibrium relationship that between financial inclusion and economic growth *in Nigeria*. From this findings, we move ahead to present our regression result.

Lag Length Selection

Below is the tabular summary of the lag length selected for the study

Table 4.3: Lag length selection for the study.

VAR Lag Order Selection Criteria
Endogenous variables: LRGDP LTBL LTBC LBBR
LATM
Exogenous variables: C
Date: 07/25/23 Time: 23:23
Sample: 1981 2021
Included observations: 38

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1209.240	NA	3.91e+21	63.90735	64.12282	63.98401
1	-1022.704	314.1658	8.05e+17	55.40546	56.69829	55.86543
2	-995.1751	39.11948	7.57e+17	55.27238	57.64257	56.11567
3	-896.3692	114.4069*	1.89e+16*	51.38785*	54.83540*	52.61446*

* indicates lag order selected by the criterion

Source: E-view 11 version

We started with a lag of one to find the ideal lag length, but ultimately chose a latency of three. At the 5% level of significance, we performed the selection using the sequential modified LR test, the final prediction error test, the Akaike information criterion test, the Schwarz information criterion test, and the Hannan Quinn information criteria. We ultimately opted for the Hannan Quinn (HQ) information criterion, which suggests a three-lag order. Therefore, a lag order of three (3) is the maximum lag length for the outcome.

Presentation of Regression Result

Table 4.5: Regression Result (Dependent Variable: LRGDP)

Dependent Variable: LRGDP
Method: ARDL
Date: 07/25/23 Time: 23:33
Sample (adjusted): 1984 2021
Included observations: 38 after adjustments
Dependent lags: 1 (Fixed)
Dynamic regressors (3 lags, fixed): LTBL LTBC LBBR LATM
Fixed regressors: C

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LRGDP(-1)	1.009908	0.048593	20.78307	0.0000
LTBL	0.001733	0.002854	0.607173	0.5506
LTBL(-1)	-0.005888	0.003701	-1.590778	0.1273
LTBL(-2)	-0.011505	0.003971	-2.897301	0.0089
LTBL(-3)	0.008934	0.004064	2.198595	0.0398
LTBC	0.000180	0.000687	0.261756	0.7962

LTBC(-1)	0.000686	0.000622	3.103610	0.0009
LTBC(-2)	-0.000102	0.000866	-0.117925	0.9073
LTBC(-3)	0.000869	0.000558	1.555947	0.1354
LBBR	-0.800005	8.050005	-0.231454	0.8193
LBBR(-1)	0.000251	9.840005	2.549937	0.0191
LBBR(-2)	-0.530005	0.000124	-0.687700	0.4995
LBBR(-3)	-0.560005	0.000156	-0.099787	0.9215
LATM	-0.000373	0.000152	-2.449401	0.0236
LATM(-1)	-0.000211	0.000171	-1.234686	0.2313
LATM(-2)	0.000132	0.000169	0.784526	0.4419
LATM(-3)	0.000231	0.000180	1.282791	0.2142
C	-0.044344	0.187860	-0.236049	0.8158

R-squared	0.895570	Mean dependent var	6.337657
Adjusted R-squared	0.991804	S.D. dependent var	2.397552
S.E. of regression	0.217057	Akaike info criterion	0.088204
Sum squared resid	0.942277	Schwarz criterion	0.863902
Log likelihood	16.32413	Hannan-Quinn criter.	0.364191
F-statistic	264.3697	Durbin-Watson stat	1.945458
Prob(F-statistic)	0.000000		

Source: *E-view 11 version*

Discussion of the Result

The amount of variance in the dependent variables that can be explained by all of the independent variables taken together is shown by the R2, which is the coefficient of determination or the measure of goodness of fit. The model's goodness of fit is improved by increasing our R2's proximity to 1. Our R2 is equal to 0.895570, as seen in table 4.3 above. This shows that our model suited the data well.. According to the corrected R2 of 0.881804=0.88, our variables can still account for around 88% of the changes or variation in the model, even after the degree of freedom has been adjusted. As a result, it is consistent with the model's goodness of fit result.

The total statistical significance of our parameter in the model is examined using the F-statistic. We accept the null hypothesis and reject the alternative if the probability of F in the estimated model is higher than the acceptable threshold of significance (0.5). From the outcome in table 4.3 above, f is computed to have a value of 26.43697 and a probability of 0.04. The alternative theory, which argues that the, is accepted because its probability is smaller than 0.05.

The a priori expectation, which identifies the characteristics of the economic connection under discussion, is dictated by the prevailing economic theory. The statistically significant variables will be interpreted by the researcher. Our estimated model's output revealed that the second lag of total bank loans has a negative sign, with a value of -0.011505. This suggests that a 1% rise in real gross domestic product will result from a drop in total bank loans. A positive sign is also present in the third lag of total bank loans, which has a value of 0.008934. This indicates that a rise in total bank loans will result in an 8% growth in real GDP domestic product.

Given that total bank credit at the first lag has a positive sign and a value of 0.000686, it is possible that a rise in total bank credit will result in a 6% increase in real GDP domestic product. This matches what we predicted theoretically. Given that the bank branch at the first lag has a positive sign and a value of 0.00251, it follows that a decline in the poverty rate will raise the real gross domestic product by 7%, as would be expected a priori. The automated teller machine in the second position has a positive sign with a value of 0.000373, which indicates that an increase in automated teller machines will raise real gross domestic product by 3%, as predicted by theory. The t-statistics aid in identifying each parameter's statistical significance within the model. Total bank loan at the second lag was found to be statistically significant at the 5% level, while total bank loan at the third lag was likewise shown to be statistically significant at the 5% level. This outcome suggests that the total bank loan has resulted in a significant change in Nigeria.

But at a 5% threshold of significance, total bank credit is statistically significant. This suggests even more that they made a big contribution to Nigeria's economic development. The bank branch at the first lag has a positive (2.549937) and a (0.0191) probability level. This suggests that the first bank branch in Nigeria had a substantial impact on the country's economic growth. Automated teller machines are statistically significant at the 5% level (2.449401) and have a probability value of (0.0236), which suggests that they have made a major contribution to Nigeria's economic growth.

The Durbin Watson statistic is used to determine whether autocorrelation is present in our regression model or not. Our d-w statistics' value of 2 denotes the lack of autocorrelation among the model's explanatory variables. Given that our model's durbin-watson statistics is (1.9), which is nearly equal to 2, it follows that the issue of autocorrelation is not present in our model.

Hypothesis Testing

In a bid to carry out the necessary empirical analysis a hypothesis were formulated and have to be tested to verity the validity or otherwise of such proposition.

Hypothesis One

Ho_1 Total bank loans has no significant effect on economic growth in Nigeria

From the above regression result, it was observed that t-test on total bank loans is statistically significant; at 2^{nd} lag which is -2.897301 (0.0089) . The probability result of total bank loans which is 000 and less than 0.05 suggest that the null hypothesis of no significant effect of income inequality on economic growth should be rejected and alternative hypothesis alternative. The implication of this result shows that total bank loans has no significant effect on economic growth in Nigeria. This is in line with economic theory which posits that Total bank loans support the growth of the economy.

Hypothesis Two

Ho2 Bank branch has no significant effect on economic growth in Nigeria

From the above regression result it was observes that t-test on Bank branch is statistically significant, with its values as 2.549937 (0.0191). The probability result of Bank branch which is 0.01 and less than 0.5 suggest that the null hypothesis of no significant effect of Bank branch on economic growth should be rejected and alternative hypothesis accepted. The implication of this result shows that Bank branch affect the growth of the economy. This is in line with economic theory which posits that speared of Bank branches support the growth of the economy.

Hypothesis Three

Ho3. Commercial bank deposit has no significant effect on economic growth in Nigeria.

Meanwhile, drawing inference from table 4.3 above we find out that the computed value of T- test for Commercial bank deposit is 3.103610 While it's probability is 0.0009 since it's probability is less than 0.05% level of significance, we reject the null hypotheses (H0) and accept the alternative hypothesis which says that Commercial bank deposit has significant positive effect on economic growth in Nigeria. The implication of this result shows that Commercial bank deposit affect the growth of the economy. This is in line with economic theory which posits that Commercial bank deposit positively affecting the growth of the economy.

Hypothesis Four

Ho4. Automated teller machine has no significant effect on economic growth in Nigeria.

From table 4.3 above we find out that the computed value of T- test of Automated teller machine is 2.449401 while its probability is 0.0026 since its probability is less than 0.05% level of significance, we reject the null (H0) hypothesis and accept the alternative hypothesis which says Automated teller machine has significant effect on economic growth in Nigeria. The implication of this result shows that Automated teller machine affect the growth of the economy. This is in line with economic theory which posits that Automated teller machine support the growth of the economy.

Summary of Finding, Recommendations and Conclusion

Summary of Findings

The research reveals the followings

1. Total bank loan has negative and significant effect on economic growth in Nigeria (t, -2.198595, p=0.0389). This result implies that Total bank loan has not favored the economic growth in Nigeria
2. Bank branches have positive and significant effect on economic growth in Nigeria (t, 2.549937, p=0.0191). This implies that Bank branches has contributed significantly to economic growth in Nigeria
3. Commercial bank deposit has positive and significant effect on economic growth in Nigeria; (t, 3.103610, p=0.0009).The implication of this result is that Commercial bank deposit has positively affected the economy of this country
4. Automated teller machine has positive and significant effect on economic growth in Nigeria (t, 2.449401, p=0.0235).. This result implies that Automated teller machine over the years has transmitted to a meaningful growth in Nigeria

Recommendations

This study therefore recommends as follows:

i. Banks should be very careful the way and manner they give out loan to customers, they should make sure that corresponding collateral is presented before loan should be issues out and again the purpose of the loan should be define properly.

ii. Increase in the number of bank branches to support their economic activities. The number currently in circulation is limited and banks should deploy more POS devices to strategic places like shops, churches, schools, hospitals, institutions and fuel stations for easy access to financial transactions.

iii. Commercial bank should increase their interest rate to encourage more deposit from customers. This will increase the interest of the customers to deposit their money in the bank

iv. Aggressive spread of Automated teller machines especially in the unbanked rural areas to ensure their financial access is guaranteed.

Conclusion

After conducting the study and examining all the data gathered, it was found that increasing financial inclusion is essential for enhancing economic performance. The conclusion that can be drawn from the data is that financial inclusion significantly boosts growth, which in turn strengthens the economy. This is consistent with Goldsmith's (1969) analysis of the connection between financial inclusion and economic growth, which was published 48 years ago. As a result, financial inclusion has advanced significantly. Many of the pathways by which the emergence of financial markets, institutions, and innovations effect economic development are carefully illuminated by rigorous theoretical works. A growing body of empirical analysis including product analysis, firm level studies and industry level studies demonstrate strong positive link between the functioning of the financial inclusion and in the long run, deposit money banks.

In light of the foregoing, the researcher comes to the conclusion that this study is vital at this time since its findings have shown a wealth of insightful information that the Nigerian government need to take seriously as they see this work as a partner for economic growth. The investigations in this study have shown to engender performance of economic development in Nigeria, thus the government should implement appropriate monetary and fiscal policies to foster financial innovations in Nigeria.

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A

COMPANIES INCOME TAX COMPLIANCE AND ENFORCEMENT BEHAVIOURS IN NIGERIA. AN EMPIRICAL STUDY.

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Abstract
The study empirically examined companies' income tax compliance and enforcement behaviours in Nigeria. Ex- post facto research design was adopted for the study. Data were collected through secondary sources from the archive of Federal Inland Revenue Service (FIRS) and the annual reports of some selected companies in Nigeria. The data analysis was done using Ordinary Least Square (OLS) regression technique with econometric software (E- view 9). The population of study consists of the one hundred and seventy (170) quoted companies operating in different sectors of the economy listed on the Nigerian stock exchange as at July, 2022. Poly-stat statistical tool was used to determine the sample size of forty- one (41) companies from a total of 170 companies. The major findings showed that enforcement methods have significant impact on compliance. It is recommended that government should channel tax revenue into projects like electricity and road network in order to increase ease of doing business in the country as these companies spends millions of naira on monthly basis for power generation.
Key words: *Companies' income tax, Behaviors, Compliance and Enforcement.*

Introduction

Pre- colonial people had a functional tax system in which both farmers and traders pay taxes on their harvest. It was commonly practiced in the northern part of Nigeria where they pay taxes to their traditional rulers who in turn uses same to develop their subjects.
Community tax was first introduced by Lord Luggard in 1904 and it was effective in the North. Nigeria tax then was not in cash but in kind. The first tax ordinance that was applied in the Northern and Southern regions of Nigeria was introduced in 1917 (FIRS, 2012). It was letter in 1929 that a flat tax rate of 2% was imposed on wages and salaries, and on people who engage in trade for profit. This was in existence until 1939, when the company income tax ordinance was enacted (Ordinance No. 14, 1939). Before this legal proclamation, both personal and company income tax were guided by the same law. Income tax ordinance was administered solely by a commissioner appointed by governor- general of Nigeria and the revenue derived from it, were paid directly into the Government treasury through the Governor- General (Ordinance No. 39, 1958). Tax from this source was fixed, collected and spent by the colonial government. Income tax ordinance was short- lived because it was ineffective and no penalties were prescribed for defaulting companies. (Gwangdi & Garba 2015).

In 1961, income tax management Act No 22 was promulgated and it made provision for an Act to establish the Federal Inland Revenue Service (FIRS) charged with the responsibility

for assessing, collection and imposing penalties for default in the payment and remittance of company income tax.
Income tax management Act No 22 of 1961 was re- enacted in 1976 as company income tax Act and in 1979 as the company income tax No. 28 with the power being vested in the Federal Inland Revenue Service to assess, collect and account for taxes under this Act, the power to seize and dispose property and the delegation of power to other persons to be performed on their behalf and to sue and be sued in its official name. Companies income tax Act 1979 was also re- enacted as company income tax Act (CITA) chapter 60 of the laws of the Federation of Nigeria (LFN) 1990. Subsequent amendments to this Act were done in 2002, 2004 and 2007 with the inclusion of available enforcement powers and provision. (FGN Official Gazette 1990, 2004 and 2007).

The administration of company income tax was vested on the Federal Inland Revenue Service (FIRS). Corporate bodies are chargeable to tax under company's income tax Act as amended till date on all companies operating in Nigeria and are payable at the rate defined by CITA which is 30% and 20% for big and small companies. (Adegbie & Fakile, 2011).

Companies are charged to tax on their profits or gains of business operation accruing in, derived from, brought into, earned in or received in Nigeria and it is applied on the total profit or chargeable profit of the company. Foreign companies are liable to pay tax only on their business operations carried on in the country and they are classified as non- resident. CITA exempts profits of companies involved in charitable or educational activities from tax since they are not involved in trade or business.
Companies operating in Nigeria are assessed on preceding year basis meaning that tax is charged in the year before the current year of operation. Companies income tax is paid two months from the date annual returns was filed and minimum tax is imposed where a company has no taxable profit or where the tax payable is less than the minimum tax.

Initially, company assessment year runs from 1st April to 31st March every year and the tax revenue generated from it were used to cover administrative cost and defense of the country. Presently, company assessment runs from 1st January to 31st December every year and it is known as Government fiscal year and aside oil, revenue from taxation are the most important source to the government to augment short- fall that may arise from oil revenue.
According to FIRS. (2018); to improve efficiency in assessment and collection of taxes, they have to assess companies on their expected profits to be determined by the value of properties owned by these companies. This is occasioned by determining and enforcing income tax on the assessable profits of companies.

In Feb. 2019, FIRS appointed banks as their tax collecting agents of defaulting companies that maintain account with them and it was based on section 49 of company income tax Act (CITA). With this, the issue of enforcement and tax compliant will be a huge success.
It was legally pronounced that Federal Inland Revenue service (FIRS) lacks the power to impose turn- over assessment on tax payers' properties even when such company fails to file returns except the company is into property business. (Theodak Nig. Ltd Vs FIRS 2018)

Companies are supposed to be paying their taxes to the government through FIRS which is an obligation they owe to the government but majority of the companies are not tax

compliant (Olowookere & Fasina – 2013), and those who comply are not regular in remitting taxes as and when due (Akpu & Ohaka, 2017).
FIRS tends to enforce tax payment on these companies that are not tax compliant using assessment, disdain and prosecution as a means of recovering tax due from these companies. These companies are still defaulting in tax payment probably because the positive effect of the tax revenue is not felt in the economy in terms of the provision of infrastructure. This has resulted in low revenue profile of the government and dearth of infrastructure is noticeable everywhere in the country.

Companies income tax payment compliance and enforcement in Nigeria is bundled with so many problems. These problems work against companies from complying with the laid down tax laws applicable to them. Enforcing these laws also on companies is a serious problem which FIRS is yet to be surmounted. It is in the light of these challenges that some scholars identified other problems confronting companies' income tax compliance and enforcement as:

> high cost of compliance, lack of tax data base and non-automation of tax payment method, differences in assessment leading to tax objection, poor regulations of companies by FIRS and the problem of obtaining accurate tax indicators for companies (Atawodi & Ojeka, 2012; Obara & Nangih, 2017; Gwangdi & Garba, 2015 and Chude & Chude, 2015).

However, some scholars have carried out research in this subject area but to the best of my knowledge studies carried out in Nigeria have not discussed intensively on companies' income tax as regards complying with tax payment as a whole in Nigeria. Available studies focused on were majorly on tax compliance of Small and Medium scale Enterprises (SMEs) and made use of survey method and cross sectional method in their analysis. This study therefore contributes to existing literature by analyzing and investigating Companies income tax compliance and enforcement behaviours in Nigeria using causal- comparative analysis and POLYSTAT statistical package to determine the sample size of each stratum. Penalty and jail terms for non- tax compliant awaits defaulting companies. This is a criminal offence that can be prosecuted in a competent court of jurisdiction. If these companies are audited and found to be non- compliant, they can be jailed, interest and penalty are then charged on the unpaid taxes. Problem of tax audit, tax rate and enforcement compliance relationship necessitated this research work. This study will therefore examine these problems. The persistency in company income tax default necessitated this research work and the issues mentioned above, predicated on these, the researcher examined the following

The specific objectives are to:
1. Ascertain the extent to which tax audit can improve voluntary tax payment in Nigeria.
2. Determine the extent to which enforcement methods impact on tax compliance.
3. Establish whether tax rate determines the level of tax compliance in Nigeria.

Research Hypotheses
Ho_1: Tax audit has no impact on voluntary tax payment in Nigeria.

Ho$_2$: Enforcement methods have no impact on tax compliance.
Ho$_3$: Tax rate does not determine the level of tax compliance in Nigeria.

The paper is organised as follows' the next section reviews relevant literature with regards to context justification and provide a theoretical background for the study, respectively. Next describes the sample data and empirical methodology. The last section summaries the main results, offers conclusion and recommendations

Review of related Literature Review

Conceptual Review:

Nature of Taxation

Tax is a compulsory levy by the government of any country, through the relevant tax authority, on all goods, income, profits, properties of individual, partnership, trustee and corporate body to raise revenue for public development and other legitimate functions of government (Ojo & Oladikpo, 2019).

Taxation is a concept and the act of imposing special levy by the government on the citizenry. It is a requirement that must be met by the citizenry of any country. It is a civic responsibility which is expected to yield income to the government for the provision of social amenities (Ojo, 2008).

Concept of Company Income Tax:

A company is defined by Section 93(1) of the company income Tax Act CAP 60 Laws of the Federation (LFN), 1990 as any company formed by or under any law in Nigeria or any other place. A registered company with Corporate Affairs Commission (CAC) is expected to use limited (Ltd) or Public Liability Company (Plc). Companies income tax has a significant effect on the economy of any nation since it serves as an engine of growth in the area of fiscal monetary policies (Naomi & Sule, 2015).

It is a tax imposed or levied on the profits of companies registered in Nigeria, whether resident or non- resident, in as much as they are carrying on business in Nigeria. It is a corporation tax payable by public limited liability companies. Companies income tax does not include taxes from personal income tax on the profits of unregistered business entities, petroleum profits tax on the profits of companies in the petroleum industry and capital gains tax levied on disposed qualifying assets because there are different tax legislation governing them. Under the company income tax, profits or gains are to be taxed while losses are relieved against profits with a four (4) year time limitation. In Agricultural business, there is no time limit for relieving losses. (Gwangdi et al, 2015).

Company income tax is a levy imposed on the net profits of companies and it is computed as excess receipt over allowable costs. This type of tax enables the government of a country to raise revenue on the profits earned within the country by these companies whose shareholders are elsewhere. (Richard Goode 2013).

Company income tax is not only a means of raising revenue for public use but it is an important fiscal instrument for managing the economy. (Madugba, Ekwe & Mgbokwo, 2015).

Companies income tax is a levy made compulsory by the government and it is imposed on the profits of registered companies operating in Nigeria. The incidence and the burden of this type of tax are borne by the companies and it cannot be transferred to the third party. An efficient CIT system will help to move the economy forward by reducing cost of doing business in the country. Companies income tax is used to achieve growth in the economy and it is a fiscal instrument for managing and administering the economy. (Naomi et al, 2015).

According to world bank (1991), income tax is used to redistribute income in the economy but if it is not properly designed, it creates problems of imbalance in the economy, insufficient revenue leading to a reduction in the economic welfare, growth and development.

Conceptual Framework

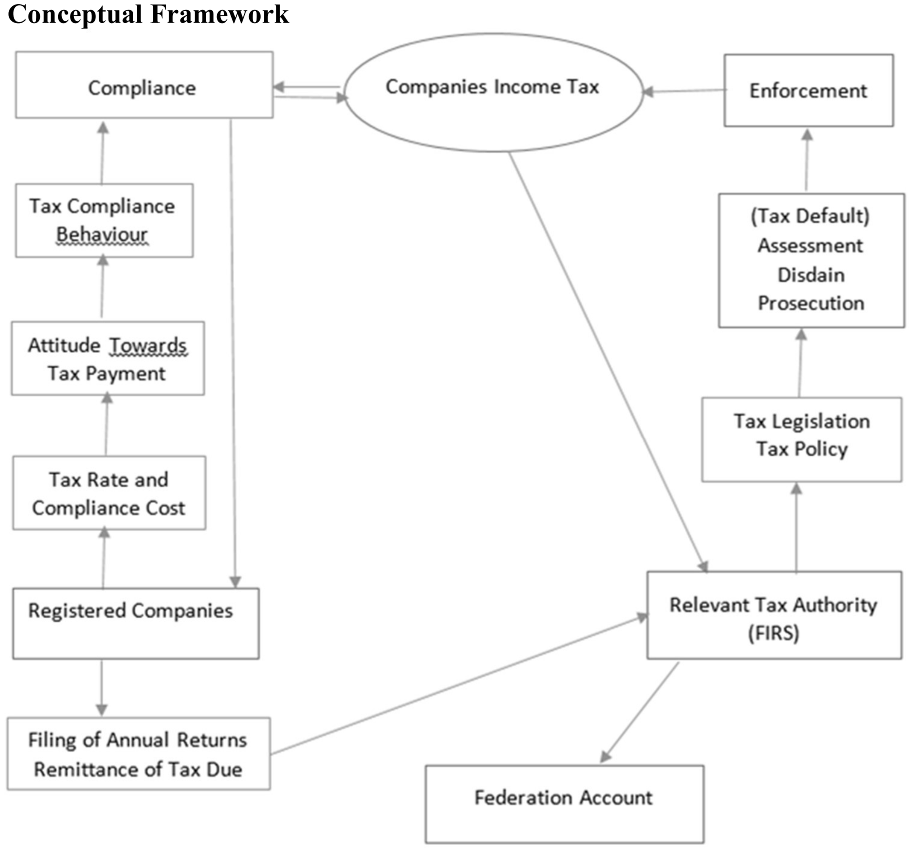


Figure 1: Conceptual framework of company income tax compliance and enforcement behaviour.
(Source: developed from the literature review).

Imposition of Companies Income Tax:

Companies income tax is imposed on the global profits of companies whether it is brought into the country, received in Nigeria or not brought into the country or not received also.

Except it is dividend income which is treated as frank investment income that does not attract tax payment. Profits of non- resident companies where such income is derived from Nigeria. Also dividend, interest or royalties of non- resident companies assessed at 10% on gross amount due where only the net is received by these companies. Companies income tax is charged on (1) The global profit of companies operating in Nigeria whether received or brought in. (2) Profit of non- resident companies derived from Nigeria. (3) Dividend, interest or royalties due to non- resident companies at 10% withholding tax rate (Ariwodola, 2007).

Part 11 section 9 of CITA 2007 states that company income tax is also imposed on the profits of all the companies operating in Nigeria with those specifically exempted under this Act. They are taxed at the rate of 30% or 20% depending on the size of the company. when it accrues to them or it is derived from business operation, or brought into Nigeria or it is received in Nigeria from:

1. Any trade or business it is currently engage in.
2. The profit of Nigerian company
3. Rent or premium granted to companies for using or occupying that property.
4. Dividend, royalties, interest, discount and annuities.
5. Profit of non- resident company operating in Nigeria.
6. Profits or gains of companies not on preceding group or class.
7. Income arising or profits under this Act.
8. Fees, dues and allowances for providing essential services.
9. The acquisition and disposal of any financial instrument such as treasury bills, savings certificate, and
10. Debenture certificates.

Income accruing to companies which are chargeable under company income tax Act (CITA) are taxed on preceding year basis and not on actual year basis except where it is applicable in the commencement or cessation provisions. Companies income tax is payable to the Federal Inland Revenue Service (FIRS) and audited financial statement is required before declaring company income tax. Also external auditors are involved in the preparation and affirmation of accounts. (FIRS, 2019).

The stages for the payment of company income tax are as stated below:

1. As the rate of company income tax graduates (goes up), it is charged on the net profit of company.
2. 10% tax rate is deducted from gross dividend before net is paid to shareholders.

Effective from 1987 year of assessment, dividend will no longer attract tax on foreign currency brought into the country on the ground that the shareholders' equity is not less than 10%. Companies income tax is also known as corporation tax and it is imposed directly on the net profits of companies (Ariwodola, 2007).

Companies income tax Act controls the taxation of companies except those involve in petroleum production and exploration activities. Resident and non- resident companies doing business in Nigeria are liable to pay tax. A resident company pays tax in respect of income derived from business activities, accruing to the company, brought into or received by the companies in Nigeria. On the other hand, non- resident companies pay tax on the income derived from its business activities in Nigeria. Company income tax is charged at 30% of the assessable profit on preceding year basis. A company with turn- over of one million naira (#1,000,000) and below, shall be charged 20% and others with turn- over of above one million naira shall be charged at 30% and are classified as big company. In this case, majority of these companies are yet to be captured in FIRS tax net, meaning that some operate without having Tax Identification Number (TIN). (PwC, 2015).

Nigerian Tax System

As contained on the presidential committee on national tax policy (2008), the main objective of the Nigerian tax system is to contribute to the well- being of all Nigerian through improved tax policy.

The Nigerian tax system has three elements as the tax policy, tax legislation and the tax administration.

Functions of a Tax System

This is the objective of setting up a tax system which forms the basis of taxation and it includes:

1. Revenue generation for the government to augment revenue from the oil sector.
2. To redistribute income concentrated in few hands to areas where they are required for immediate action.
3. It helps in the shaping of the economy.

Problems of Companies Income Tax Administration:

Tax evasion and tax avoidance are the major problems that tax authorities encounter in the process of administering taxes on companies in Nigeria. Also the failure of these authorities to pay tax refund on the excess of taxes paid to these companies, difficulty in understanding tax law and the tax authority that has control over p particular tax as noticed recently between FIRS and post office over jurisdiction on stamp duty.

Relevant Tax Authority: For the purpose of company income tax, it is solely vested on the Federal Inland Revenue Services (FIRS).

Concept of Tax Compliance

Tax compliance involves a process where the taxpayer files tax returns at the expected time, declares accurate tax to be paid and paying same by applying the relevant tax laws and regulations relating to the payment of taxes without being forced to do so- voluntary compliance. Where one is forced to carry out the above, it is termed coerced compliance. (Masud, Aliyu & Gambo, 2014).

The Burden of Compliance

Compliance cost is very high in Nigeria and the burden of compliance are the tax borne and tax compliance cost (pwC, 2015).

Enforcement of Companies Income Tax:

Section 97 part xiii of the company income tax Act 2007 made provision for enforcing tax regulation but according to FIRS, only few companies are tax compliant.

Ways of Enforcing Tax Laws in Nigeria

Companies are required by law to comply with relevant tax laws that has to do with the payment of accurate taxes as and when due. If companies default in the payment of taxes, the only available option is to enforce the payment totally (Mohammed, 2015).

Tax enforcement is an important aspect of tax administration considering the ways most of these companies undermines the revenue that ought to have accrued to the government by not remitting what is due to the government inform of corporate income tax (Gwangdi et al, 2015).

The ways in which payment of taxes can be enforced are as stated below:

Filing of returns: Companies are required to file returns (self- assessment). Initially, it was optional but was made compulsory in 2011. After the submission of tax returns, it is the duty of FIRS to ensure that all the required information is completed in the form. Any company that fails to file returns at the appropriate time, shall be liable to penalties prescribed in the tax laws.

Assessment by the relevant tax authority: Under the company income tax Act, 2007 and section 32(1)(d) FIRS (establishment) Act 2007 states that FIRS is the only tax authority required by law to serve demand notice on persons in whose name it is chargeable under the tax laws or company in the name in which it is chargeable and if payment is not made within one month from the date the demand notice was served, enforcement of tax payment will take effect.

Distrain: Where payment of taxes is not effected within the stipulated time, enforcement of payment on due taxes may be done by distraining the tax payers of their goods, bonds or security, or land.

Prosecution of defaulting companies: Section 87(2) of the company income tax Act, 2007 provides that any company that fails to comply with the relevant tax laws stands the risk of being prosecuted in a competent court that has jurisdiction over the issue.

Theoretical Framework

The theories of taxation, compliance and enforcement were formulated to support the growth of tax practice including its compliance. These theories include tax exhaustion, Arthur Laffer, optimum, economic based, psychological, and sociological theories.

Tax Exhaustion theory: The theory states that if a non- taxable company invest in business and uses its negative taxable income to offset previous positive taxable income, it must wait to claim any deduction with those that results from investment until it has become taxable. InOther words, surplus deductions accommodate taxable income, and this reduces taxes that must be paid on gains from investment and this increases net gains. The one mentioned above, reduces available incentives for investing while the second increases such incentives to invest.

Arthur Laffer theory: This theory relates to tax rate and the revenue from tax. Laffer theory uses the laffer curve to explain the relationship between the applicable tax rate and the anticipated revenue from it. If the tax rate is at 0%, the anticipated revenue would be zero. It also stipulates that as the rate of taxation increases, the expected revenue will also increase. The determination of tax rate is very important to the government as it could affect the revenue positively or negatively.

Optimum theory: When a company fails to declare full profit, this does not make the tax authority to charge interest or impose penalty. The tax payer may decide to declare full income or declare a lesser income. The tax authority will get to know of this when companies file their annual returns and this has to be cross- checked to determine the veracity of their claims.
The theories of tax compliance were formulated to change the opinion of the people on issues that has to do with tax compliance. These theories include economic, psychology theory, new endogenous growth theory and sociological theory.
Economic based theory: This theory is concerned with incentives that motivates companies to pay tax as and when due. Company's main aim is to increase profit and they view the option of paying tax to evading tax. They therefore choose the alternative that increases their expectations after considering the risk involved in evading tax. The theory therefore advocates that there should be increased audit and penalties for non- compliance.
Psychological theory: It is all about the thought that comes from the mind. The theory concentrates more on changing the perception of these companies towards the tax system and these companies may comply with tax payment even when they know that if they default, it will be un- noticed by the tax authority- FIRS.
Sociological theory: This theory relates to the attitude of these companies towards the ways government views enforcement of tax laws, the fairness of the tax system and the tax authorities. Government also made it clear here that punishment is not the only thing that can be used to enforce the payment of tax, it also views rewards for paying taxes as and when due.

Justification of the Theory(s):
The nature of company income tax compliance and enforcement behaviours is better explained by Tax exhaustion theory, Psychological theory of compliance and Sociological theory of compliance. Companies comply with income tax payment by filing annual returns on or before the due date and remit tax due to the relevant tax authority. Non- compliant with the laws by companies, forces FIRS to recover the tax due by enforcing appropriate laws on such company.
Tax exhaustion theory is relevant to this study because it captures taxable and non- taxable companies, stating that when they are over assessed, they should not put up claims for refund because when they declare zero profit, the excess tax paid will accommodate the years that zero profit is declared. This will result in total tax compliance.

Psychological and Sociological theories are also relevant to the topic under investigation because both focused on the behavior, conduct, attitude of these taxpayers (companies). The perceptions of these companies about income tax payment is that majority of these companies are not captured in the tax net, the tax system is not fair to them, tax laws are not being enforced or where they are enforced the penalty for default is not enough deterrent and that revenue from tax has not been properly accounted for by the government. This is all about company income tax compliance and enforcement behaviors.

Principles / Canons of Taxation:
There are so many principles or canons of taxation in existence but out of these, four were suggested by Adams Smith as follows:

Canon of Equity: It states that taxes should be paid based on tax liability. Every individual company is expected to support the government through the payment of taxes in proportionate to their revenue or assessable profit in the case of corporate entity.
Canon of Certainty: The taxpayer (company) should be aware of the expected tax to be paid, the relevant tax authority where the tax will be paid and the due date for the payment of the tax. The procedure for the payment of the tax due should be made clear to them. This helps individual companies to manage their profits and expenditures.
Canon of Convenience: Taxes should be imposed in such way that the taxpayer will find it convenient to pay as and when due. Tax policy must support the manner of payment.
Canon of Economy: The cost incurred in the process of tax collection should not be equal with the amount of tax collected. The cost should be minimal when compared with the administrative expenses.
According to James & Nobes (2016); the other principles of taxation as propounded or suggested are as follows:
Canon of productivity: This canon stipulates that the tax should earn much revenue to the government to enable them provide basic needs to the people and to keep the machinery of government working. The revenue generated from tax should be productive rather than earning poor tax from the taxpayers.
Canon of elasticity: The tax system should be designed in such way that it can quickly respond to changes in the area of revenue generation. It should easily be subjected to amendment when the need arises for that purpose.
Canon of simplicity: It should be simplified and easy to be understood. This will prevent the taxpayer from being exploited by the tax authority and taxes will no longer be evaded.
Canon of diversity: There should be different kinds of taxes so that the taxpayer will not be free from all the available tax. This will help to prevent tax evasion and avoidance, and manipulation.
Canon of Desirability / Expediency: The tax system should be necessary and useful to enable government avoid public criticism. This will in turn encourage taxpayer to comply with tax payment.
Canons of equity, certainty, convenience and simplicity, all advocated the easier way company income tax will be paid without impacting negatively on these companies

Review of Related Empirical Literature
Under this subsection, the researcher examined previous works carried out in this area of study in order to discover and bridge the gap in learning. It is on this note that a number of works were reviewed both local and international.
Chude and Chude (2015) reviewed the impact of company income taxation on the profitability of companies in Nigeria. They used time series econometric technique with error correction model to test the variables and the data gathered was from secondary source. It was concluded that the level of payment of company income tax has important effect on the profitability of company income and that positive relationship between profitability and explanatory variables shows that policy measures with effective tax administration will have positive effect on company profitability growth. Although the researcher adopted the time series but the period covered never reflected in their work. This is important to know actually, if the period covered reflected the realities on ground. Also the research design adopted was not stated.

Bashier et al (2015) in a study of tax law enforcement practice and procedure opined that it is only through tax enforcement that offences like tax evasion, non- compliance and corruption are detected and the defaulters are brought to book.

Kurawa (2018) investigated corporate tax and financial performances of listed Nigerian consumer goods by assessing the effect of company income tax on the financial performance of listed consumer goods companies in Nigeria from 2006 to 2016. Data was collected from the annual reports and accounts of companies using regression analysis as a technique for data analysis. The study concluded that as the tax paid by these companies increase, their performance reduces with significant amount. It was recommended that to improve the financial performance of these listed consumer goods, services of tax experts are needed in legal tax planning in order to reduce net tax paid. The researcher agrees with the findings that high taxes reduces performance and disagree with the recommendation that tax experts are needed in tax planning as a way of improving the financial performance because high tax has little effect on financial performance. Management policies has significant effect on performance.

Adegbie et al (2011) in his study of company income tax and Nigeria economic development explored the relationship between company income tax in Nigeria and economic development of the nation. Data were gathered both from the secondary and primary sources using chi- square and multiple linear regression analysis to analyze the data. His findings revealed that there is a significant relationship between company income tax and the Nigerian economic development and also that non- tax compliant and ineffective administration are the major hindrance to company income tax payment and collection. Tax incentives to these companies are very important element that enhances tax payment which the researcher failed to identify.

Gale and Samwick (2014) explored the effects of income tax change on economic growth by examining how changes to the individual company income tax affect long- term economic growth. They concluded that not all tax changes will have the same impact on growth. The researcher dwelt more on conceptual framework with little emphasis on empirical literature which should have brought an in-depth gap in literature.

Baranova and Janickova (2012) in their study on taxation of corporations and their impact on economic growth analyzed the relationship between corporate taxation and long- term economic growth in some sampled countries. They used secondary and quantitative data based on time series. Data used are mainly from the statistical data- base of Eurostat and Penn world table of time series. Data were analyzed using panel regression methodology and related method of data analysis. The researcher covered the period from 1998 to 2010. They concluded that reduction of tax burden will have greater effect in European union old countries than in the new European union. Reduction of tax burden have the same effect all the world over.

Mohammed (2015) investigated tax law enforcement, practice and procedure in Nigeria. He stated that by enforcing tax laws, tax authority will not only catch tax defaulters but also promotes a wider compliance by giving taxpayers confidence that others are paying their tax promptly. The researcher based his work on theoretical literature rather than on empirical literature that will bring out taxpayers input on tax enforcement conducts in the country.

Adekunle and Disu (2018) undertook a study on contemporary issues in corporate income tax in Nigeria. They concluded that for enforcement and compliance of tax laws to be effective in Nigeria, tax culture must be instituted.

Madugba et al (2015) conducted a study on corporate tax and revenue generation in Nigeria. They used Pearson correlation and simple regression to analyze data collected from Central Bank of Nigeria Statistical bulletin. They concluded that there is a positive significant relationship between company income tax and total consolidated revenue (TCR). They recommended that federal government should reduce tax incentives granted to these companies in order to increase revenue generated through corporate taxes in Nigeria. The researcher disagreed with this assertion because a reduction of tax incentives encourages non- compliance and tax evasion.

Literature Gap

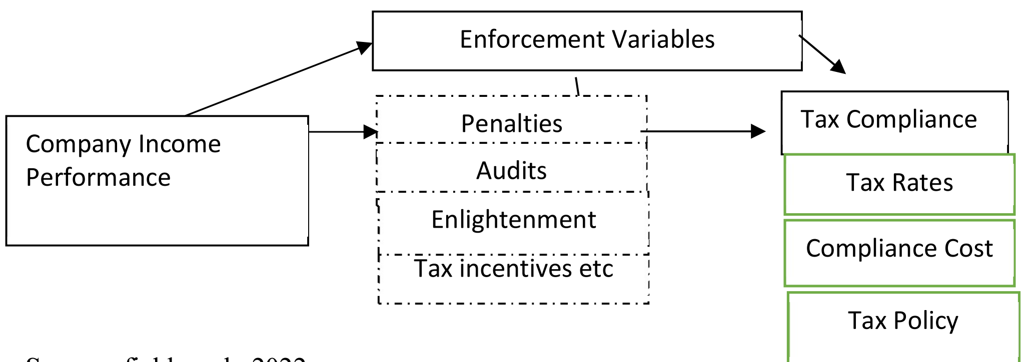
The review of empirical and theoretical literature helped in identifying some research gaps. Some studies on empirical literature review done in Nigeria, showed that there was no detailed study on company income tax especially compliance and enforcement attitude of these companies and Federal Inland Revenue Service (FIRS).

There are so many studies on tax compliance and enforcement in Nigeria, and only few on company income tax in Nigeria. Among the studies that focused on company income tax, compliance and enforcement in Nigeria, Doki and Abubakar (2015) analysis shows that the coefficient of corruption perception index (CPI) of the revenue officers and tax rates have negative relationship in the long run indicating that tax rate must set out levels that encourages compliance and company income tax accruing to the government is paid as and when due, when tax evasion (non- tax compliant) is tackled. Gwangdi et al (2015) revealed that lack of transparency and accountability in the use of revenue from income tax contribute to public distrust both with the tax system, as well as the government contributing more to tax evasion. Atawodi et al (2012) find that high tax rate has a negative effect on compliance and sometimes pushes most of the companies to remain in the informal sector. Shaheen (2014) shows that income tax system in Bangladesh is poorly administered, weakly compliant and corruption prone. Non- implementation of tax regulations negatively affects the revenue growth of Bangladesh. Baranova and Janickova (2012), empirical result indicates that there is negative influence of tax factors on economic growth. Anyaduba (2012) revealed that existing tax deterrent measures in Nigeria are inadequate and has not helped to promote tax compliance in the country. There is also no single appropriate compliance strategy for Nigeria.

In summary, company income tax compliance and enforcement behaviours is determined by a number of factors such as interest rates, transparency in the usage of tax revenue, tax rates and increased tax deterrent measures based on the reviewed literature. However, Non-filing of tax returns covering inactive business periods, not paying tax voluntarily, enforcement methods not having significant impact on compliance, tax amnesty not promoting tax compliance and non- capturing of some companies in the tax net are the major identified problems arising from this study.

Thus, there is still gap in knowledge since majority of the study used survey method to carry out their analysis. This study will fill this gap created by using Econometric View- 9 (E-View) analysis to analyze data to provide a robust analysis on companies' income tax compliance and enforcement in Nigeria. This method is considered useful because it provides informative data and it cannot be manipulated or changed. This research study will therefore analyze empirically the factors that affect the attitude of these companies towards being tax compliant and how Federal Inland Revenue service (FIRS) is enforcing tax laws on these companies in Nigeria especially with a view to enhancing the revenue profile generated from this source in order to fill the existing gap.

Methodology
The research design for this study is Ex-post facto since the data is available on the archive of the Federal Inland Revenue Service (FIRS) and cannot be manipulated or change. The target and the actual tax paid by these companies will be reported over a period of eight years; from 2015 to 2018. The justification for limiting the years covered to eight years from 2015 to 2022 is that records for previous years were unavailable on the statistical bulletin of the Federal Inland Revenue Services (FIRS). The aim is to discover the significance of the relationship between company income tax compliance and its enforcement by the relevant tax authorities. To further elucidate the connections between the variables, a conceptual model was developed.



Source: field work, 2022

Population of the Study and Sample Size
The population of the study includes all 170 companies covered under the Companies Income Tax Act (CITA) Cap C21 of 2004 (as amended) and as listed on the stock exchange as at July, 2022. It covers companies in the following sectors: Agriculture, consumer goods, construction/ real estate, conglomerates, health care, industrial goods, information and communication technology, natural resources, services, financial services and oil and gas in the Nigerian stock exchange as at 31st July, 2022. Emphasis is placed on these sectors because of their contribution to the development of the Nigerian economy. The sub-population is based on the number of companies operating in different sector of the Nigerian economy as listed on the stock exchange.

Sampling Procedure
To determine the sample size, a multi-stage sampling procedure will be adopted. The sub-sample size from the sectors was determined using the POLYSTAT statistical analysis package. The total sum of 41 will serve as the sample size for this study. Secondary source will be used for data collection, from the archives of the Federal Inland Revenue Services (FIRS) covering a period of eight (8) years from 2015 to 2022 will be used extensively. This

will be augmented with information from the selected companies' annual reports and sundry records where necessary.

Research Instrument

The major data for this study will be derived from secondary sources; hence, the instruments for the research will include publications of the Federal Inland Revenue Services (FIRS) and annual reports of the sampled quoted companies on the Nigerian stock exchange.

Measurement of Variables

Generally, two major variables will be covered in the study and these are: company Income tax compliance and enforcement behaviours. To achieve a deep understanding of these two variables however, the following sub-variables will be observed:

-Tax Compliance (T_{Ct}): This represents level of compliance at a particular point in time and is captured by company tax remittance over the period under review. This will be generated from the records of the Federal Inland Revenue Services (FIRS); the Apriori expectation here is that where enforcement is effective, company income tax (CIT) remittance will be high, thus representing high compliance. This represents the dependent variable, compliance, while the following three, connected to enforcement behaviour, will be considered as independent variables.

-Tax audits (T_{Aud}) – A means of enforcement of tax compliant is the tax audit which is used to ensure that all taxable items are captured in the tax returns of the respective company. The frequency of tax audits and coverage will be used to measure its effectiveness as an enforcement factor.

-Tax rate (Tr)- A major compliance determinant. The lower the rate, the higher the level of compliance.

- Compliance cost(Tcc)- It is all about the cost incurred in managing tax affairs. They include the time and the monetary resources used in tax compliance.

- Tax enforcement policy (Tep)- The rule may not be understandable without the effort of the tax officers.

To test for the significance of the impact of enforcement methods on compliance, an Ordinary Least Square (OLS) regression analysis will be conducted. Compliance is dependent on enforcement behaviours or methods and this relationship will be represented by the following linear model:

$T_{Ct} = a_o + a_{aud}\, T_{Aud} + Tr + T_{ep} + \partial$

Where,

T_{Ct} = dependent variable (Tax Compliance and enforcement)

a_o = Constant

Tc = regression coefficient of T_{Aud}, T_r and T_{ep} respectively

∂ = Stochastic error term

Data Analysis Techniques

Data would be analyzed using, at the first stage, descriptive statistics such as frequency distribution tables, percentages and mode. These will be used to identify the peculiar trend of company income tax compliance in Nigeria and assist in carrying out an explanatory review of enforcement methods and behaviours in relation to annual tax performance over the period under review. To examine the significance of the impact of enforcement procedures on compliance, inferential statistical tools such as correlation analysis and linear regression will be used.

Decision Rule

Apriori expectation is a term used in explaining knowledge gained through deduction and not through empirical evidences. The apriori expectation of this study is that tax compliance is dependent on enforcement behaviours of the tax authorities and government. Tax audit, penalty and motivation i.e. T_{aud}, T_p and T_{mo}, where appropriately implemented and positively utilized will have positive impact on tax compliance, hence, predicted signs of the explanatory variables will be T_{Ct} >0.05***. Where the case is otherwise, the null hypothesis shall be accepted and confirmed.***

Data Presentation And Analysis

Table 4.1 Tax collected from companies by Federal Inland Revenue Service (FIRS). 2015 - 2022

	2015			2016			2017			2018		
Quarter	Target	Actual	%	Target	Actual	%	Target	Actual	%	Target	Actual	%
1st	189.7500	113.5970	0.60	171.1865	116.5074	0.68				257.5000	174.1639	0.68
2nd	189.7500	154.4337	0.81	201.8850	289.0813	1.43	241.8293	400.6694	1.66	241.8950	556.2703	2.30
3rd	171.1865	240.1715	1.40	201.8850	254.4492	1.26	241.8293	240.7724	1.00	241.8950	273.1290	1.13
4th	171.1865	151.3937	0.88	201.8856	156.4812	0.78	241.8293	167.8149	0.69	241.8950	176.8439	0.73
Total	**721.8730**	**659.5959**	**0.91**	**776.8421**	**816.5191**	**1.05**	**725.4879**	**809.2567**	**1.12**	**983.1850**	**1180.407**	**1.20**

2019			2020			2021			2022		
Target	Actual	%	Target	Actual	%	Target	Actual	%	Target	Actual	%
241.8950	160.9224	0.67	447.8522	166.0176	0.37	426.0843	152.4191	0.36	417.3309	203.6832	0.49
80.6317	501.6561	6.22	447.8522	305.3955	0.68	426.0843	364.2424	0.85	417.3309	471.5832	1.13
117.0314	65.2876	0.56	447.8522	297.3369	0.66	426.0843	384.9345	0.90	417.3309	362.6303	0.87
351.0942	265.3192	0.76	447.8522	164.7873	0.37	426.0843	313.4608	0.74	417.3309	371.3172	0.89
790.6523	**993.1853**	**1.26**	**1791.4088**	**933.5373**	**0.52**	**1704.3372**	**1215.0568**	**0.71**	**1669.3236**	**1409.2139**	**0.84**

Source: FIRS archive.

Analysis of data using E-view 9

Level of significance = 0.05

Test of hypothesis I

Ho: Tax audit has no impact on voluntary compliance.

H1: Tax audit has impact on voluntary compliance.

Dependent Variable: AT

Method: Least Squares

Date: 11/09/22 Time: 17:01
Sample: 2015 2022
Included observations: 41

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	25.26519	94.84863	0.266374	0.7976
AC	-0.133471	0.195511	-0.682677	0.5168
CIT	0.011720	0.002642	4.435803	0.0030

R-squared	0.932536	Mean dependent var	840.6898
Adjusted R-squared	0.913260	S.D. dependent var	494.4346
S.E. of regression	145.6190	Akaike info criterion	13.04319
Sum squared resid	148434.3	Schwarz criterion	13.13397
Log likelihood	-62.21595	Hannan-Quinn criter.	12.94361
F-statistic	48.37928	Durbin-Watson stat	1.391677
Prob(F-statistic)	0.000080		

Source: E-Views9

From the analysis above, it shows that the probability value (0.00008) is less than the alpha value (0.05) the researcher therefore accept the alternative hypothesis and conclude that tax audit is a significant instrument that propels companies to pay their tax due voluntarily.

Test of hypothesis II

Ho: Enforcement methods has no impact on tax compliance.

H1: Enforcement methods has impact on tax compliance.

Dependent Variable: AT
Method: Least Squares
Date: 11/09/22 Time: 17:02
Sample:2015 2022
Included observations: 41

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-25.16078	178.1911	-0.141201	0.8917
AC	-0.467684	0.685074	-0.682677	0.5168
CIT	0.017160	0.007152	2.399170	0.0475

R-squared	0.858914	Mean dependent var	963.9073
Adjusted R-squared	0.818603	S.D. dependent var	640.0086
S.E. of regression	272.5842	Akaike info criterion	14.29710
Sum squared resid	520115.1	Schwarz criterion	14.38787
Log likelihood	-68.48549	Hannan-Quinn criter.	14.19752

F-statistic	21.30748	Durbin-Watson stat	1.201783
Prob(F-statistic)	0.001055		

Source: E-Views 9

From the analysis above, it shows that the probability value (0.001055) is less than the alpha value (0.05) the researcher therefore accept the alternative hypothesis and conclude that Enforcement methods do have significant impact on tax compliance.

Test of hypothesis III

Ho: Tax rate does not determine the level of tax compliance in Nigeria.

H1: Tax rate determines the level of tax compliance in Nigeria

Dependent Variable: CIT
Method: Least Squares
Date: 11/09/22 Time: 17:33
Sample: 2015 2022
Included observations: 41

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2296.471	6931.282	0.331320	0.7501
AT	26.29616	10.96052	2.399170	0.0475
AC	62.93329	14.18758	4.435803	0.0030

R-squared	0.960513	Mean dependent var	80550.90
Adjusted R-squared	0.949232	S.D. dependent var	47357.89
S.E. of regression	10670.62	Akaike info criterion	21.63170
Sum squared resid	7.97E+08	Schwarz criterion	21.72248
Log likelihood	-105.1585	Hannan-Quinn criter.	21.53212
F-statistic	85.13766	Durbin-Watson stat	1.120557
Prob(F-statistic)	0.000012		

Source:E-Views9

From the analysis above, it shows that the probability value (0.000012) is less than the alpha value (0.05) the researcher therefore accept the alternative hypothesis and conclude that tax rate determines the level of tax compliance.

Discussion of findings

The study focused on companies' income tax compliance and enforcement behaviours in Nigeria. Based on the analyzed information obtained and the hypotheses tested, Hypothesis one result showed that tax audit help companies' to voluntarily pay their taxes provided the environment is conducive for them to carry on their business activities. The finding is similar to the result obtained from Olufemi (2018) which confirm that medium and small scale businesses will only comply with tax payment when tax audit is carried out on them and when government play the role of making their business environment conducive. Favorable economic condition is a major determinant for tax compliance.

Hypothesis two affirmed that enforcement methods have significant impact on compliance. This is confirmed by Mohammed (2015) that enforcement strategy is a way of ensuring total compliance and makes more money available as revenue to the government. Tax payment help the government to augment shock that may arise from oil revenue.
Hypothesis three revealed that tax rate determines the level of tax compliance in Nigeria. This is confirmed based on the regression result as shown above. The higher the rate, the lower the level of tax compliance in the country and vice versa. It is affirmed in Kurawa (2018) that some companies are willing to comply when tax rate is moderate.

Summary of findings

The result of the analysis showed that;

1. Tax audit help companies to voluntarily pay their taxes probably to avoid paying penalty which will definitely encroach on their profit margin.
2. Enforcement methods used by federal inland revenue service such as distrain, assessment and prosecution of defaulting companies has a significant impact on compliance by these companies.
3. Tax rate is a determinant factor to tax compliance and companies tries to be tax compliant to avoid tax arrears accumulation. An acceptable tax rate encourages these companies to comply with tax payment.

Conclusion

The major objective of this study was to empirically examine whether companies default in the payment of taxes (compliance) and how Federal Inland Revenue is going about with the collection of taxes (enforcement). Using ordinary least square (OLS) regression technique and econometric view 9 to analyze data obtained on companies' income tax obtained from secondary source and from FIRS archive, and the annual reports of some selected companies in Nigeria, the study has been able to throw light on the need for compliance and enforcement.
In view of the above, companies can only comply with tax payment totally if the immediate environment is conducive for them to carry on their businesses (Provision of infrastructural needs of these companies such as electricity and good road network and curtailing security challenges in the country). Enforcement is the only means of ensuring that these companies comply with tax payment as and when due.
From the findings, voluntary compliance has increased immensely due to enforcement mechanisms in place. Tax audit and tax rate are also important instruments that has significantly influence on tax compliance in Nigeria.

Recommendations

From the findings and conclusion, the study recommends as follows:

1. Government should ensure that company income tax revenue derived are ploughed back into the society which should translate into infrastructural provision such as electricity and roads as these companies spends millions of naira every month to power their generating sets. This sometimes deters companies from total compliance.
2. Government through federal inland revenue service should reduce company income tax rates of 30% and 20% for big and smaller companies as other taxes such as Value

Added Tax (VAT), Withholding Tax (WHT), Stamp Duties (SD) and Education Tax (ET) are equally paid by these companies translating into multiple taxation.

3. Government should ensure that seasoned tax auditors are appointed for these companies to carry on tax audit on them so as to solve the problem of under reporting of incomes.
4. Companies that default in tax payment should be delisted from Corporate Affairs Commission (CAC) register and subsequently be made to wind- up compulsorily.
5. Government should also provide FIRS with the needed skills that will help them to carry out total enforcement on defaulting companies.

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