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WORKING CAPITAL MANAGEMENT AND FINANCIAL PERFORMANCE OF LISTED MANUFACTURING FIRMS IN NIGERIA

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Abstract:

This study investigates the impact of working capital management on financial performance of quoted manufacturing firms in Nigeria. The period which the study covers is from 2005 to 2019 of sixteen listed manufacturing firms in the Nigerian Stock Exchange as information about them is extracted from their financial statements. The dependent variables are financial performance proxied by ROA while the independent variables are Average Collection Period (ACP), Average Payment Period (APP) and Cash Conversion Cycle (CCC). The Panel Ordinary Least Squares analysis reveal identical results for the two models in the sense that while ACP is negatively and statistically significant with both ROA at 1% level; APP and CCC, on the other hand, are positively significant with both ROA at the 1% level also. We recommend that firms in this industry should maintain and improve on their present policy with respect to average payment period (APP) and cash conversion cycle (CCC) since APP and CCC are respectively positive and statistically significant with ROA, but they should investigate the ACP so as to realign it with APP and ACC since it negates ROA.

Keywords: *Working capital management, ROA, Nigerian Stock Exchange.*

Introduction

Every organization-whether profit oriented or not-, operating in any political economic environment-capitalism, socialism or otherwise-and irrespective of the size and nature of business-large scale, medium scale or small scale- needs sufficient amount of working capital for the operations of that business (Mukhopadhyay, 2004). The effective management of working capital plays a very important role in the performance (profitability) of firms. The essence of this is to ensure that managersof firms' current assets and liabilities maintain a satisfactory level of fund (Vural et al., 2012).Phuong and Hung (2020) noted

that working capital management involves the policy of risk-return exchange where aggressive policy denotes high risk-return policy; matching working capital policy denotes lower risk-return policy and conservative policy denotes lowest risk-return policy. To maintain this satisfactory level of fund ensure that sufficient fund is available for the firm to meet its short term commitment of operational expenses. This guides and guards the firm from carrying too little or too much investment in working capital which ensures the firm to continue its operations at normal level of working capital. Many businesses have gone under-became insolvent and even bankrupt due to the fact that the firm could not maintain a satisfactory level of working capital.

Researchers give serious attention to the study of the management of working capital because of its relevance and centrality to the success of a going concern (Ademola, 2014). Working capital serves as the catalyst for the day-to-day smooth running of the business activities of which the current assets and current liabilities are the major components (Takon & Atseye, 2015).Finance, of which working capital is an offshoot, is regarded as the life blood or the life wire of any economic unit.

In the opinion of Tjandra et al. (2022) inadequate working capital may lead to liquidity and financial distress while excess working capital can also be harmful, and so firms need to realize a turning or tipping point in their working capital management which guarantee optimality. Vartak and Hotchandani (2019) were of the opinion that working capital, which is seen as an important part of finance, influences a firm's liquidity position and is generally regarded as the lifeblood of a business since it plays a pivotal role in the upkeep of the wheels of a business. They went further to state that working capital management which involves the management of accounts payables, accounts receivables, inventories and cash ensures continuity in business operations, guarantee availability of sufficient funds for both maturing short-term debt and upcoming operational expenses, support the smooth and efficient functioning of the daily operations of the business by striking a balance between liquidity, profitability and risk. Thus, the ability to manage such resources is seen as a critical factor for the maintenance of liquidity, solvency and profitability of business and this guarantee the continued existence of the firm (Siddique & khan, 2009).

According to Panigrahi (2014), the decision on the optimal level of working capital theoretically affects both liquidity and profitability positions, and this relationship, in the opinion of Wuryani (2015), is frequently emphasized in deciding on the level of investment in working capital. Thus, Ailemen & Folashade (2014) noted that these two variables-liquidity and profitability-are very vital in the evaluation of the performance as well as in deciding on the survival of any organization. Increasing only profit without a corresponding increase in liquidity can lead to insolvency and ultimate bankruptcy and increasing liquidity without a corresponding increase in profitability can result in low profitability. An efficient management of working capital involves the definition of appropriate ratios which optimizes the risk-return relationship so as not to cause negative revenue-growth nexus effects in the future.

Therefore, this study examined the trade-off between profitability and liquidity because a well implemented working capital level will contribute positively to the creation of firms' values (Leon-Jude, 2013). The remaining parts of this study after this introduction is as follows: literature review, methodology, results and discussions, and then conclusion.

Literature Review

Empirical Review

Anton and Anca (2021) empirically studied working capital management and profitability of firms listed on Poland. Secondarily sourced data obtained from the Polish Stock Exchange from 2007 to 2016 was used in the study. The dependent variables were return on assets (ROA) and operating return on assets (OROA) whereas the independent variables were debt ratio (DEBTR), cash ratio (CASHR), growth rate in sales (SALESGR) and firm size (SIZE). The regression results of the panel corrected standard errors (PCSE) indicated that all the independent variables were positively significant with ROA and OROA.

Kayani et al (2020) studied working capital management and profitability of firms listed on the New Zealand and Australian. Secondarily sourced data obtained from the two countries Stock Exchanges from 2010 to 2019 were used in the study. The dependent variable was return on assets (ROA) whereas the independent variables were cash conversion cycle (CCC), inventory

conversion period (ICP), average collection period (ACP) and average payment period (APP). The result of the generalized methods of moments (GMM) regression showed that CCC and ICP have negative and significant relationship with ROA, APP relationship with ROA was positive while ACP relationship was insignificant. Nadeem et al. (2020) examined the relationship between working capital policy and firms performance in Indonesia. Secondarily sourced data obtained from financial reports of listed firms on the floor of the Indonesia Stock Exchange (IDX) for the year 2012 to 2017 was used in this study. The dependent variables were return on assets (ROA) and Tobin's Q whereas the independent variables were cash conversion cycle (CCC), inventory conversion period (ICP), average collection period (ACP), average payment period (APP) and current liabilities-to-total assets (CLTA). The result of the OLS regression showed that, CCC and ICP have negative and significant relationship with ROA and Tobin's Q, APP had a positive and significant relation with both ROA and Tobin's Q. CLTA relationship with ROA was positive while CLTA relationship with Tobin's Q was insignificant.

Soukhakian and Khodakarami (2019)studied working capital management and profitability of firms listed in Iran. Secondarily sourced data obtained from the Teheran Stock Exchanges from 2010 to 2016 were used in the study. The dependent variable was return on assets (ROA) whereas the independent variables were cash conversion cycle (CCC), leverage, firm size, cash flow, current liabilities ratio, variability of operating net income, firm age, current asset ratio and fixed financial assets to total assets. The result of the Ordinary Least Squares (OLS) with Robust Standard Errors regression showed that CCC had a negative and significant relationship with ROA. Al-Mawsheki et al (2019), in their study, empirically tested the impact which efficient working capital management and working capital policies have had on the profitability of firms listed in Malaysia. Secondarily sourced data obtained from the Bursa Stock Exchanges from 2010 to 2016 was used in the study. The dependent variable was economic value added (EVA) whereas the independent variables were cash conversion cycle (CCC) which stood for efficient working capital management and current assets to total asset ratio which represented working capital policies, firm size, debt ratio and change in GDP . The results of the OLS regression showed that CCC negatively and significantly influenced EVA while current assets to total asset ratio had no influence at all on EVA.

Vartak and Hotchandani (2019), in their study, evaluated the impact which working capital management have had on the profitability of firms listed in India. Secondarily sourced data obtained from the Bombay Stock Exchanges from 2009 to 2018 was used in the study. The dependent variable was return on assets (ROA) whereas the independent variables were cash conversion cycle (CCC), inventory turnover (IT), account payables (AP) and average collection period (ACP). The results of the OLS regression showed that CCC and IT were negatively and significantly related with ROA, ACP relationship with ROA was positive while AP relationship with ROA was insignificant. Olaoye et al. (2019) carried out an empirical study to investigate working capital management and firms' profitability in Nigeria. Secondarily sourced data obtained from the Nigerian Stock Exchanges from 2008 to 2017 was used in the study. The dependent variable was return on assets (ROA) whereas the independent variables were cash conversion cycle (CCC), cash payment period (CPP), current ratio (CRA), and inventory policy (INP). The result of the GMM regression showed that while CCC and CPP have negative and significant relationship with ROA, CRA and INP were positively and significantly related with ROA. Mohsin et al (2019) empirically evaluated whether working capital management impacted profitability in Pakistan. Secondarily sourced panel data of 280 non-financial firms listed on the floor of the Pakistan Stock Exchange over the periods 2000 to 2016 was used. The dependent variables were return on asset (ROA) and return on equity (ROE) while average collection period (ACP), average payable period (APP), inventory turnover ratio (ITD), SIZE, LIQ and LEV. The OLS regression showed that ACP, APP and ITD positively and significantly influenced performance.

Rajiet al (2017) examined the impact of working capital on firms' performance in Nigeria. The data were extracted from audited financial statements of agricultural firms and banks respectively for the period of thirteen (13) years (2002-2014). The dependent variables were return on assets (ROA) whereas the independent variable was current asset (CA). Data were analyzed with the OLS method and findings indicated that there was a positive and significant relationship between CA and firms' performance in Nigeria. Jason (2017) carried out an empirical evaluation whether working capital management impacted profitability in South Africa. Secondarily sourced panel

data of 69 manufacturing firms listed on the floor of the Johannesburg Securities Exchange (JSE) over the periods 2007 to 2016 was used. The dependent variables were return on asset (ROA) while average collection period (ACP), average payable period (APP) and cash conversion cycle (CCC). The OLS regression showed that ACP and APP relationship with ROA were negatively significant while CCC had an insignificant impact. Hingurala et al. (2017) researched on the extent to which working capital management impacted on firms' value in Sri Lanka. The researchers used annual data spanning the periods 2011 to 2015 collected from the Colombo Stock Exchange (CSE) for 44 firms making a total observations of 220 firm-years. Cash Conversion Cycle (CCC), sales growth, leverage and firm size were the independent variables while Tobins'Q was the dependent variable. The results of the OLS showed that CCC negatively and significantly influenced performance.

Twahirwa et al, (2016) examined the effects of working capital management on organizational performance. Both primary questionnaires and secondary data over the period 2008 to 2014 were used. The dependent variable was gross operating profit (GOP) while the independent variables were cash conversion cycle (CCC), debt ratio (DEBTR), cash ratio (CASHR), sales growth rate (SALESGR), inflation rate and firm size (SIZE). The results of the primary data revealed that firms sell more on cash than on credit and there was a good inventory management system in place. The results of the OLS regression indicated that DEBTR, CCC and inflation rate have a negative and significant relationship with GOP while CASHR, SALESGR and SIZE positively and statistically influenced GOP.

Shampa (2015) embarked on this research to investigate the effect of working capital management efficiency as well as maintaining liquidity on the profitability in Bangladesh. Secondary data over the period from 2008 and 2012 obtained from the financial statements of Af-Arafah Islamic banks were used in this study. Return on assets (ROA) was the dependent variable while cash conversion cycle (CCC), creditor's payable period (CPP), debtor's collection period (DCP), bank growth and credit risk were the independent variables. The OLS result showed that cash conversion cycle (CCC), debtors' collection period (DCP) and bank growth negatively and significantly impacted ROA. Ngendakumena, Jagero and Gongo (2015) empirically

evaluated whether working capital management impacted profitability of smart bags limited manufacturing firm in Zimbabwe. Secondarily sourced data was used for the study over the period between 2009 and 2012. The dependent variable was gross operating profit (GOP) while average collection period (ACP), average payable period (APP), inventory turnover ratio (in days), cash conversion cycle (CCC), current ratio (CR), debt ratio (DR) and aggressiveness of financing policy were the independent variables. The OLS regression showed that while ACP was negatively significant with GOP but APP was positively significant.

Salman et al. (2014) studied if there was any relationship between working capital management and profitability in Nigeria. The researchers made used of secondary data extracted from the financial statements of manufacturing firms listed on the Nigerian Stock Exchange for a period 2005 to 2013. While return on Assets (ROA) and return on Equity (ROE) were the dependent variables, the independent variables were cash conversion cycle (CCC), current asset to current liability (CACL), current assets to total assets ratio (CATA), current liability to total asset (CLTA) and total debts to total assets ratio (TDTA). The OLS results showed that all working capital proxies had negative and significant relationship with both ROA and ROE. Angahar and Alemetu (2014) examined the impact of working capital management on the profitability of cement firms in Nigeria. The study used secondary panel data covering eight years from 20002 to 2009 on four cement firms listed on the Nigerian Stock Exchange (NSE). Dependent variable was return on asset (ROA) while the independent variables were number of days inventory are held (NODI), cash conversion cycle (CCC), average collection period (ACP) and debt ratio (DR). The results of the OLS found that ACP was negatively and significantly related with ROA. Ponsian et al (2014) attempted an enquiry to find out the effect of working capital management on profitability in Tanzania. Secondary data obtained on three manufacturing companies listed on the Dare Salaam Stock Exchange spanning the ten years period 2002 to 20012 was used. Gross operating profit (GOP) was the dependent variable while average collection period (ACP), inventory turnover in days (ITD), cash conversion cycle (CCC), inventory conversion period (ICP) and liquidity (LIQ) were the independent variables. The OLS result showed that cash conversion cycle (CCC) had a positively and significantly impacted ROA

while LIQ was negatively significant. Biswal (2014) critically investigated the impact of working capital management on profitability of cement manufacturing firms in Meghalaya. Panel data secondarily obtained from the financial reports of these companies between 2003 and 2013 was used. The dependent variable was return on asset (ROA) whereas current ratio, debtors turnover ratio, inventory turnover ratio, creditor turnover ratio were the independent variables. The OLS results found that debtor turnover ratio, inventory turnover ratio and creditor's turnover ratio negatively and significantly impacted ROA while leverage, sales growth, current ratio and firm's size had a positive relationship with ROA.

Nziok et al (2013) researched on the effect of working capital management on the profitability of manufacturing firms listed in the Nairobi security exchange. Secondary data was used to collect data on 9 listed manufacturing firms trading on the Nigeria stock exchange for the period of 5 years (2006-2010). Dependent variable is gross operating profit (GOP) while average collect period, inventory turnover in days (ITD), average collection period (ACP), average payment period (APP) and cash conversion cycle (CCC) are independent variables. Multiple regression and correlation analysis (OLS) was used for analysis. The OLS results revealed that APP and ACP was positively correlated with GOP but CCC was negatively correlated GOP.

Ajao and Nkechinyere (2012) carried out an investigation into the effectiveness of working capital management and profitability in Nigeria. The researchers used secondary data of five companies for five years obtained from the Nigerian Stock Exchange (NSE). While the dependent variable was return on asset ROA, the independent variables were inventory conversion period (ICP), cash conversion period (CCC), average collection period(ACP) and average payment period(APP) . The OLS regression result indicated that ICP, CCC, ACP and APP positively and significantly impacted of ROA.

Table 1: Summary of Literature Reviewed

Author(s)	Years Range	Years	Methods of Regression Analysis
Anton and Anca (2021)	2007 to 2016	10	Panel corrected standard errors (PCSE)

Kayani et al.(2020)	2010 to 2019	10	Generalized methods of moments (GMM)
Nadeem et al. (2020)	2012 to 2017	5	OLS
Soukhakian and Khodakarami (2019)	2010 to 2016	7	OLS
Al-Mawsheki et al. (2019)	2010 to 2016	7	OLS
Vartak and Hotchandani (2019)	2009 to 2018	10	OLS
Olaoye et al.(2019)	2008 to 2017	10	GMM
Mohsin et al. (2019)	2000 to 2016	17	OLS
Jason (2017)	2007 to 2016	10	OLS
Hingurala et al. (2017)	2011 to 2015	5	OLS
Twahirwa et al. (2016)	2008 to 2014	7	OLS
Shampa (2015)	2008 to 2012	5	OLS
Ngendakumena, Jagero and Gongo (2015)	2009 to 2012	4	OLS
Salman et al. (2014)	2005 to 2013	9	OLS
Angahar and Alemetu (2014)	2002 to 2009	8	OLS
Ponsian et al (2014)	2002 to 20012	11	OLS
Biswal (2014)	2003 to 2013	11	OLS
Nziok et al (2013)	2006 to 2010	5	OLS

Research Gap

Many research studies on working capital management have been carried out both in developed and developing economies. The summary of our literature reviewed is as shown above. The highest number of years ever used in the research work was 17 years by Mohsin et al. (2019) in Pakistan. This work differs from others in that it used data for fifteen (16) years from 2005 to 2019 which to the best of our knowledge no one has used in Nigeria. Also, none of the above authors used Estimated Generalized Least Squares (EGLS with Period SUR) method as we did. Note that panel data models do have heteroskedascity and correlation between the error terms (autocorrelation). EGLS is used to correct for these problems and give a better regression output.

Methodology

Research Design/Data and Sources

The study uses the ex-post facto research design, otherwise called the descriptive or correlational research design, to investigate the relationship, if any, between the working capital management and financial performance in Nigeria. The population of this research comprises selected firms of the manufacturing industry listed on the floor of the Nigerian Stock Exchange (NSE). Secondarily sourced data obtained from sixteen (16) of those companies' annual reports over the period 2005 to 2019, making a total number of 240 firm-year observations, is used in this study.

Table2: Data Definition and Measurement

S/N	Variables Names	Definitions	Types	Measurements
1	ROA	Return On Assets	Dependent	Net Income /Total Assets
2	ACP	Average Collection Period	Independent	Accounts Receivable/Sales*365
3	APP	Average Payment Period	Independent	Accounts Payable/Purchases*365
4	CCC	Cash Conversion Cycle	Independent	ACP+*ICP-APP

*ICP = Inventory Conversion Period = Inventory/Cost of Sales*365

According to Brealey and Myers (2006), firms should focus carefully on their account receivables, account payables, inventories, cash and short-term securities in order to effectively, efficiently and economically manage their working capital otherwise; the firm would experience negative growth and sub-optimality.

Model Specification

The functional equation of the working capital management modelis stated as:

ROA = f (ACP, APP, CCC*)* (1)

The above equation is anchored on the adapted works of Ajao and Nkechinyere (2012), Jason (2017) and Nadeem et al.(2020)

The functional testable modelsis derived as:

$ROA = \beta o + \beta_1 ACP + \beta_2 APP + \beta_3 CCC + \varepsilon_1$ (3).

$EPS = \beta o + \beta_1 ACP + \beta_2 APP + \beta_3 CCC + \varepsilon_1$ (4).

Where the definitions are as stated in Table1 above.

β1, β2, β3 are the beta coefficients of the independent variables. From this study, we expect β1 to β3 to be greater than zero.

ε_1 = Error term

Since we are using panel data, the modelsare specified in the Pooled Ordinary Least Squares (Pooled OLS) model form below:

$ROA_{it} = \beta o + \beta_1 ACP_{it} + \beta_2 APP_{it} + \beta_3 CCC_{it} + \varepsilon_{1it}$ (5)

$EPS_{it} = \beta o + \beta_1 ACP_{it} + \beta_2 APP_{it} + \beta_3 CCC_{it} + \varepsilon_{1it}$ (6)

Method of Data Analysis

Data collected were analyzed in the following order: Unit root test,Estimation of the regression models and performance of some diagnostics tests.

Unit Root Test.

The essence of a unit root test is to ascertain the stationarity of the data which will determine the model to be used.

Table 3: Unit Root Test Result

Variables	Phillips Perron(PP) Fisher	Im, Pesaran& Shin	Hadri	ADF Fisher	Decision
ROA	0.0009	0.0000	0.0000	0.0431	I(0) stationary
ACP	0.0000	0.5360	0.0000	0.5611	I(0) stationary
APP	0.0000	0.7879	0.0000	0.6006	I(0) stationary
CCC	0.0000	0.9640	0.0000	0.8165	I(0) stationary

The unit root test results in Table 3 showed that all the variables of interest are I (0), that is, stationary at levels. Their p-values are less than 5% except ACP, APP and CCC with respect to ADF Fisher and Phillips Perron (PP) Fisher. When variables are not stationary, it means that they can drift apart on the long run and the regression results obtained can be spurious or nonsensical.

Regression Model Results

We present the regression models estimations and interpret the results as presented in Table 4.

Table 4a: Panel EGLS (Period SUR) Results

Dependent Variable: ROA
Method: Panel EGLS (Period SUR)
Date: 02/02/22 Time: 13:34
Sample: 2005 2019
Periods included: 15
Cross-sections included: 16
Total panel (unbalanced) observations: 239
Linear estimation after one-step weighting matrix

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CCC	0.247611	0.020275	12.21257	0.0000
APP	0.246780	0.020264	12.17826	0.0000
ACP	-0.252064	0.020339	-12.39305	0.0000
C	1125.966	154.5962	7.283273	0.0000

Weighted Statistics			
R-squared	0.736605	Mean dependent var	-0.093369
Adjusted R-squared	0.733242	S.D. dependent var	1.743644
S.E. of regression	0.900953	Sum squared resid	190.7533
F-statistic	219.0653	Durbin-Watson stat	1.968584
Prob (F-statistic)	0.000000		
Unweighted Statistics			
R-squared	-0.001920	Mean dependent var	1503.754
Sum squared resid	8.26E+09	Durbin-Watson stat	0.081357

Source: Authors Analysis Using Eviews10+

Table 4a shows the regression estimation results of the relationship between the components working capital management (Average collection period, Average payment period and Cash conversion cycle) and financial performance (ROA) of the sampled firms. For the ROA model, the Adj R^2 = 0.733 which means that about 73.3% of systematic variations in financial performance (ROA) is accounted for by ACP, APP and CCC. The remaining 26.7% can be explained by other factors not captured by our model. The F-stat=129 confirm that there is a joint significant linear relationship between the variables (dependent and independent). The D.W statistic indicates that there is unlikely that a serial correlation exist in the residuals.

A look at the working capital management variables shows that ACP relationship with ROA is negatively significant at the 1% level. For the ROA model, the t-Statistic is -12.93 while the p-value is 0.0000.This suggests that an increase in average collection periods will impact negatively on ROA. In this study, data show that firms collect their debts faster than they pay their creditors. Too much aggressiveness in debt collection may impact negatively on profitability as customers may look for alternative more friendly firms. We, therefore, reject the null hypothesis of no significant relationship and accept the alternative hypothesis that there is a significant relationship between Average Collection Period and Return on Assets. This result is in line with those of Jason (2017), Shampa (2015), Ngendakumena, Jagero and Gongo (2015) and Angahar and Alemetu (2014), but contradicts that of Mohsin, Muhammad and Salman (2019), Soukhakian and Khodakarami (2019), Vartak and Hotchandani (2019) and Kayani et al. (2020) which had a positive relationship.

APP relationship with both ROA is positively significant at the 1% level. For the ROA model, the t-Statistic is 12.18 while the p-value is 0.0000.This suggests that an increase in average payment periods will impact positively on ROA. In this study, data show that firms delay paying their creditors more than they collect their debts. This may be due to favourable terms of trade as willful and unjustified delayed may be dangerous. We, therefore, reject the null hypothesis of no significant relationship and accept the alternative hypothesis that there is a significant relationship between Average Payment Period and Return on Assets. This result is in line with those of Kayani et al. (2020); Nadeem, Waris, Asadullah & Kaman (2020);Mohsin, Muhammad and Salman (2019); Nziok et al (2013) and Ajao and Nkechinyere (2012) but contradicts that of Shampa (2015), Ngendakumena, Jagero and Gongo (2015), Jason (2017) and Vartak and Hotchandani (2019)

There is a positive relationship between CCC and ROA at the 1% level. For the ROA model, the t-Statistic is 12.21 while the p-value is 0.0000. This suggests that an increase in cash conversion cycle will impact positively on ROA. We, therefore, reject the null hypothesis of no significant relationship and accept the alternative hypothesis that there is a significant relationship between Cash Conversion Cycle and Return on Assets. The study is in line with Ajao and Nkechinyere (2012) and Ponsian et al (2014) but contradicts that of Olaoye et al.(2019);Vartak and Hotchandani (2019); Al-Mawsheki et al. (2019); Soukhakian and Khodakarami (2019); Nadeem, Waris, Asadullah & Kaman (2020) and Kayani et al.(2020)

Residual Diagnostic Tests of No Cross Sectional Dependence

An increasing number of literatures on panel-data conclude that panel-data models arelikelyto substantially exhibit cross-sectional dependence in the errors. This may be due to the presence of common shocks and some other unobserved components that may eventually become part of the error term. According to De Hoyos and Sarafidis (2006), the past few decades have witnessed an ever-growing economic and financial integration among countries and this signifies strong interdependencies among cross-sectional units. Thus, there is the tendency for individuals to respond in a similar manner to common “shocks”, or some common unobserved factors due to neighborhood effects, herd behavior, social norms and genuinely

interdependent preferences (De Hoyos & Sarafidis, 2006). Rodríguez-Caballero (2016) also noted that if cross-sectional dependence exists in a panel data model, it can complicate statistical inference and any estimators that do not take such into account could be inconsistent even if the number of cross section dimension *N* is large with a finite time dimension *T*.

The above necessitate us to test for cross-sectional dependence as such testing is very important in fitting panel-data models. The results of the cross sectional dependence tests for the ROA model are shown in Table 4b.

Table 4b: Residual Cross-Section Dependence Test

Null hypothesis: No cross-section dependence (correlation) in weighted Residuals

Equation: Untitled
Periods included: 15
Cross-sections included: 16
Total panel (unbalanced) observations: 239
Note: non-zero cross-section means detected in data
Test employs centered correlations computed from pairwise samples

Test	Statistic	d.f.	Prob.
Breusch-Pagan LM	64.92006	120	1.0000
Pesaran scaled LM	-3.555395		0.0004
Pesaran CD	-0.041963		0.9665

Usually, where N is very large with a finite time T or where T is greater than N, we use the Breusch-Pagan LM test Statistic. But where N = T or where T is of the same magnitude with N, we use the Pesaran CD test Statistic. The two results above show that there is no cross sectional dependence in the residuals or the residuals are cross sectionally independence since the Pesaran CD test Statistic is 0.9665 which is greater than 0.05 allowed to reject the null hypothesis of no cross sectional dependence.

Conclusion

In this study, we empirically investigate the impact which working capital management has on the profitability of sixteen (16) listed manufacturing firms in Nigeria over the periods from 2005-2019. The ROA Model is used in the analysis. The result of the test shows that the variables of interests are all statistically significant. While the average collection periods (ACP) for the periods under review is negatively but statistically significant at the 1% level, the average payment periods (APP) and cash conversion cycle (CCC) have a positive and significant relationship.

Recommendations

Based on the results of our study, we recommend that:

- The managements of manufacturing firms should develop expertise or engage experts in accounting and finance to ensure that the needed liquidity position through efficient management of working capital is very secure.
- They should maintain and improve on their present policy with respect to average payment period (APP) and cash conversion cycle (CCC) since APP and CCC are respectively positive and statistically significant with ROA. Great attention should be paid to all components of working capital but especially those that make up CCC.
- The negative relationship of average collection period (ACP) is not in line with our expectation. Management needs to do something about this so that it can realign with the average payment period (APP) and cash conversion cycle (CCC)

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PUBLIC PERCEPTION OF RESIDENTIALLAYOUT FACILITIES IN EAGLE ISLAND, PORT HARCOURT

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Abstract

The nature of design of a residential layout and the facilities therein make life either enjoyable or difficult for residents. It is therefore within the purview of this research to analyze public perception of residential layout facilities in eagle island, Port Harcourt. This study adopted the cross-sectional research design. The sources of data for the study came from both primary data and secondary data. The primary data were specifically derived with the use of questionnaire. The sample size for the study was 312 and a corresponding number of copies of the research instrument were administered. However, 282 copies of the questionnaire were successfully filled and retrieved. The Paired Sample T-test and simple percentage were used to analyze the data. Housing Quality Index (HQI) system was also used in the assessment facilities in the layout. Seven indicators were developed in assessing residential neighborhood quality. The indicators were schools, play and leisure parks, shopping area, support services, public water supply, and electricity supply. This study found that over half of the population surveyed are of the view that play and leisure park, schools, shopping area, support services, public water supply, electricity supply, waste collection centres are not available in the Eagle Island residential layout. Precisely, 59.8% of the 282 respondents are of this disposition. Furthermore, the study indicated that the mean score for respondents that say there is absence of schools, play and leisure parks, shopping area, support services, public water supply, and electricity supply is higher than those who feel the facilities exist. On the other hand, results obtained from the paired sample t-test table revealed that there is no significant difference in the opinions of respondents on the indicators available at Eagle Island as p-value (0.070) is greater than the critical level of $\alpha = 0.05$. Following the findings of the study, it is recommended that municipal government should invest in the development of infrastructure in residential neighbourhoods. It is also recommended that residential layouts should be protected from unplanned development as seen in the residential layout in focus.

***Keywords**: Residential, Housing, Quality, Location, Layout*

Introduction

A residential layout is a geographically delineated zone in a city or town and is often a spatial unit where social interactions occur among residents. There are three classes of residential areas which are the low-class residential, the medium-class, and the high-class residential areas (Pacione, 2003).Multiple, and often conflicting factors influence local authorities' decisions in land use distribution within a city. These factors can generally be categorised as demographic, economic, sociological, legal and political. Residential layouts are designed for specific class of dwellers with consideration to the socio economic status of the residents. Residential layout facilities are financed in whole or in part, by national or sub-national governments (Ankeli, Dabara, Gambo, and Lawal, 2016). Layout facilities are required to provide the necessary and essential functions to the inhabitants of the area. These facilities include water supply, waste collection and treatment centre, schools, roads, navigation aids, fire and police stations and electricity among others (Butterworth,2007).

Housing environments consume the majority of developed urban space and humans spend quite a considerable period of their lifetime in such environment. Consequently, the nature of design of a residential layout and the facilities therein make life either enjoyable or difficult for the residents.It has been said that a good residential layout with facilities can support the development of stable communities and social inclusion (Adewale, Taiwo, Izobo-Martins, and Ekhaese, 2015 and Butterworth,2007). A residential layout with site and services does not only ensure the safety and wellbeing of people but promotes convenience and aesthetics in the overall built-up environment (Adesoji, David Jiboye 2012). Also, Okunola & Amole (2013) argued that the provision of site and services in a residential layout potentially influences residential satisfaction. Therefore, residential layouts with facilities will promote the socio economic and political satisfaction of the residents. Residential satisfaction is referred to as the degree of contentment experienced by a household with reference to the current housing situation (Ibem & Aduwo, 2013). Studies have shown that positive correlation exists between the quality of life and the comfort, convenience and visual appeal of neighborhoods (Baadom, Nwiganale and Needam, 2016).

The need for residential layouts with good and adequate facilities cannot be overemphasized. Yet, there is gross deficit of municipal infrastructure in many African cities. Investment in residential layout site and services is grossly inadequate compared to the increase in urban population (Obinna, Owei, and Mark, 2010). The increase in urban population arising from among other factors rural urban migration keeps altering the land use system of cities. One of the visible consequences of this development in Nigeria is the imbalance in the provision and maintenance of municipal facilities (Ebiwari, 2017). In some residential areas where these facilities exist, they are in dare need of maintenance. In many layouts, residents are therefore left with no option than to provide for themselves the basic services and facilities. Residential layouts facilities are very important components of housing that require to be critically examined and analyzed (Lee, You and Huang 2012, Cloise and Joan 2010). Facilities in a given residential layout have the ability to support the realization of the socio and economic aspirations of residents (Aiello and Scopelliti, 2010). It is against this background that this study seeks to evaluate the residential layout facilities in Eagle Island. A study that dissects the state of facilities in residential layout will provide a a checklist to residential layout managers on areas of intervention. The study will also benefit prospective tenants in their choice of residential layout.

Review of Literature

There is a plethora of literature on urban residential housing. Studies in this context and related areas have engaged the minds of professionals in the built industry and scholars in urban geography since the mid-20th century. The oldest available study was in the mid-1940s and was conducted in residential areas in the United States. Shortly after, there was a research. Solow, (1946)on measurement of housing quality value using a survey that comprised two distinct parts. The first covered the appraisal of structures and apartments, and the second the evaluation of environmental factors (Solow, 1946). Years later, Twichell designed a method for assessing housing quality. It introduced an overcrowding factor into housing quality assessment and was focused on assessing the physical neighborhood environment (Twichell, 1948). In 1970, Kain and Quigley estimated the market value of specific housing aspects. They measured the qualitative and quantitative dimensions of housing quality

on several levels: apartment units, structure, parcels, and micro-neighborhoods.

Currently, housing quality analysis research has assumed in a similar dimension though the number of evaluated parameters have increased. Housing quality is evaluated from the perspective of various experts (Acre & Wyckmansa, 2014; Kang, Lee, Kim and Kim, 2014), users (Mridha, 2015; James, 2007; Opoku & Abdul-Muhmin, 2010; Sima, 2015), and apartment buyers (Grum&KobalGrum, 2014; Haddad, Judeh and Haddad, 2011; Nahtigal & Grum, 2015). The Systèmed'évaluation de logements or Housing Assessment System is a Swiss online tool developed to provide assistance in the design, evaluation, and comparison of residential objects (Housing Assessment System - SEL). It consists of 25 criteria and measures the quality of a building in three aspects: situation, immediate environment, and housing (Housing Assessment System - SEL). Based on an analysis of the existing research, 25 studies were singled out and used to identify specific housing quality criteria. Because there were so many, the housing quality assessment criteria were divided into four main categories: apartment unit quality assessment criteria; apartment building assessment criteria; neighborhood quality assessment criteria, and social and economic criteria. Baadom, Nwiganale, and Needam, (2016) contended that the measurement of standards depends on several factors which are instrumental in the determination of residential qualities. The standard still varies based on national relating to the residential environment. Duruzoechi (1998) confirms that the issue of standard in housing (residential environment) may be seen in relative terms but there are basic parameters that could be used to measure the standard of any dwelling unit.

Haddad, Judeh and Haddad (2011) investigated the main factors that influence customers' purchase behavior toward apartments and tried to identify the factors that most influence buying (Grum & KobalGrum, 2014). Ljubljana, Slovenia, Nahtigal and Grum conducted market research with the intention of creating a so-called value frame of influential factors related to a particular type of potential buyer (Haddad, Judeh and Haddad, 2011). In any review of foreign research, in the spirit of technology advancement it is necessary to mention online tools for housing quality assessment. Housing Quality Indicators (HQI), designed in the United Kingdom from 2008 to 2015, is an

online toolkit for the measurement, evaluation, and improvement of buildings' design quality (Housing Quality Indicators – HQI). It was designed for evaluation of housing schemes on the basis of quality rather than just cost. It contains 10 indicators that measure housing quality and presents a series of questions on location, site, unit, and external environment quality. The Building for Life criteria were designed parallel to the HQI. They represent a national standard for well-designed homes and neighborhoods. The 20 criteria measure the functionality, attractiveness, and sustainability of housing, and cover the following housing aspects: the environment and community, character, streets, parking and pedestrianization, design, and construction (Building for life). The Systèmed'évaluation de logements or Housing Assessment System is a Swiss online tool developed to provide assistance in the design, evaluation, and comparison of residential objects (Housing Assessment System - SEL). It consists of 25 criteria and measures the quality of a building in three aspects: situation, immediate environment, and housing (Housing Assessment System - SEL). At the core of this study is the evaluation of residential layout facilities. Residential layout facilities criteria are considered along four broad themes namely general neighborhood characteristics, traffic, hazards, and the existence of and distance from different services and facilities. The first subgroup of the criteria contained general characteristics of the neighborhood, such as the condition of adjacent structures, and building and population density. The traffic criteria subgroup included criteria concerning the condition of surrounding streets, accessibility to and proximity of different kinds of public transportation, traffic nuisances, etc.

A broad literature review suggested that residential layout facilities are both tangible and intangible and to this extent it has many determinants to be studied (Mohit, Ibrahim, and Rashid, 2010; Hipp, 2010). The physical attributes are usually structural and they include physical characteristics of housing such as kitchen space, laundry and washing areas, size of living area and dining area, morphological configuration of residence hall, number and levels of sockets, number of bedrooms and bathrooms, and other aspects of housing such as housing quality, privacy (the social densities), housing services provided by developers such as garbage disposal and safety, and brightness and ventilation of the house (Baum, Arthurson, & Rickson, 2010;

Hipp, 2010). In Nigeria, studies exist on residential attributes and their effect on residents' satisfaction (Ilesanmi, 2010;Olatubara&Fatoye, 2007). No doubt, there is much research conducted about residential satisfaction. However, there are few in-depth studies on the evaluation of residential layouts in Port Harcourt metropolis. This study therefore aims to analyze the residential layout facilities in Eagle Island by adapting the existing parameters such as schools, play and leisure parks, shopping area, support services, public water supply, and electricity supply in analyzing the residential layout facilities. This study also has the ability to provoke government interest in the provision and maintenance of residential facilities. Stakeholders in the built environment will ultimately benefit from the output of the research.

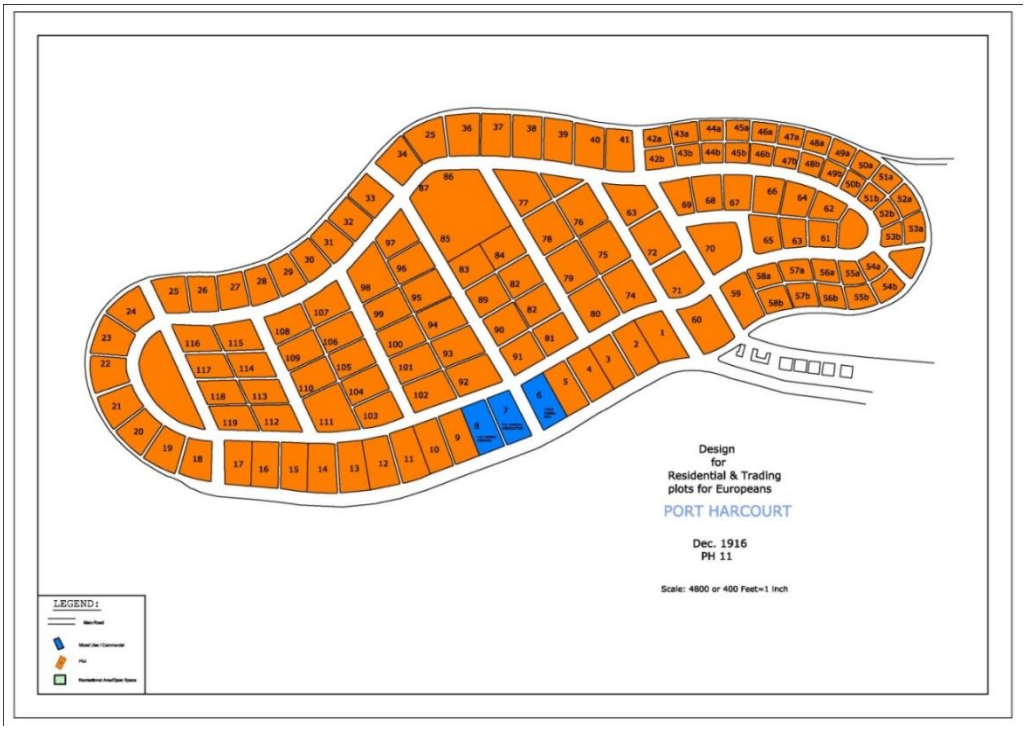
Methodology

Study Area

The study area of this research is Eagle Island which is within the precincts of Port Harcourt metropolis. Eagle Island is located along the latitude of 4' 47'' 21.73 and longitude 7 0'56.59. It lies between the Diobu River and the Mgbuodohial Agip River. The layout is shown in figure 1.

Eagle Island layout is a reclaimed land by the Rivers State Government. It sits on 69 hectres of land and a total of 30 streets including crescents, closes and avenues. The layout contains various buildings types and designs ranging from bungalows, duplexes to semidetached flats (Rivers State Ministry of Physical Planning and Urban Development, 2019). It is one of the major low residential density layouts in Port Harcourt. It is calm and placid with lots of beautiful houses close to the sea side and in close proximity with the Nigerian Agip Oil Company and Iloabuchi street popularly called Port Harcourt Electronics Village.

Fig.: 1: Layout of Eagle Island



Research Design/Research Instrument

This research adopted the cross-sectional research design. It is a type of research design that takes a sample from a given population with a view to making a generalization about the whole population. This research made use of this research design because it was helpful in eliciting residents' opinions and feelings about the residential layout. Household heads of residential houses constituted the study population because they are affected by the absence or presence of residential layout facilities. According to Rivers State Ministry of Physical Planning and Urban Development, (2019) there are 312household heads in Eagle Island layout. In view of the small size of the sample frame, the study undertook a survey of all the households. Therefore, the sample size for the study was312 and a corresponding number of copies of questionnaire were administered. However, 282 copies of the questionnaire were successfully filled and retrieved. Hence, the analysis was based on the 282 copies of questionnaire that were retrieved.

Data and Sources

The sources of data for the study came from both the primary data and the secondary data. Primary data were specifically derived with the use of questionnaire. This instrument for the study was grouped into two sections with direct questions covering the objective of the study. For secondary data, they were sourced from the Rivers State Ministries of Urban Development, Housing and Lands and Survey, journals, textbooks, and published and unpublished theses.

Method of Data Analysis

The data generated were analyzed using simple percentage. It provided meaningful discussion and analytical description about the social economic characteristics, housing types and housing preferences by student. Raw scores collected from the field were presented in frequency distribution tables and then interpreted into simple percentages [%], which is defined as a part of a whole expressed in hundredths. It is expressed as:

$\frac{F}{N} x \frac{100}{1}$……..(Equation 1)

Where:

F =frequency (number of times of each response)

N= size (282)

The Housing Quality Index (HQI) system was also used in the assessment of facilities in the layout. The HQI system is designed to allow residential layouts to be fully assessed without detailed examination of all individual units hence it was used for this study. The questions in the questionnaire related to facilities in the layout of the study area. Appropriate answers to the questions that made up the indicators were ticked by the respondents. This information was then transferred to the scoring spreadsheet which then produced the scores. Based on the peculiarities of the study area, seven indicators were developed based on existing templates used in assessing residential neighborhood quality. The indicators were schools, play and leisure parks, shopping area, support services, public water supply, and electricity supply in

analyzing the residential layout facilities. Each Indicator received one tenth of the total possible score as equally, though differently, important in creating quality. Each indicator had several parts and there were individual questions within each part for each respondent. Within each indicator, the weight of each part was shown alongside the relevant sub-title. Scoring the responses of the respondents on the HQI form was calculated into a standardized score. This was expressed as a series of scores showing how well the layout performed on each indicator as well as an aggregated score. The profile of the seven different indicators gave the most useful information about the strengths and weaknesses of the residential layout.

To compute the mean of the various indicators responses were scaled using a five point Likert scale. In doing this, the individual raw score for all the respondents was added and the sum divided by the total number of indicators using the Paired Sample T-test was used. It is written in the form:

$$t = \frac{\bar{d}\sqrt{n}}{S_d} \qquad \text{(Equation 2)}$$

Where $\bar{d} = \frac{\sum_{i=1}^{n} d_i}{n}$

$$S_d = \sqrt{\frac{\sum_{i=1}^{n}(d_i - \bar{d})^2}{n-1}}$$

Here, d_1, d_2,……, d_n are values of a random sample of the difference in the paired observations, which is assumed to be normally distributed with the mean and variance. This test is used to check the difference in two means arising from dependent observations.

Results and Discussion

Availability of facilities in residential neighbourhood is critical to the satisfaction of residents. The present study showed the perception of residents about the availability of facilities. This study found that over half of the populations surveyed are of the view that play and leisure park, schools, shopping area, support services, public water supply, electricity supply, waste collection centres are not available in the Eagle Island residential layout. Precisely, 59.8% of the 282 respondents are of this disposition. See table 1.

Table 1: Respondents' Perception on Facilities

Indicators	Responses					
Variables	YES	%	NO	%	% Total	Total
Schools	23	8.2	15	5.3	13.5	38
Play and leisure park	16	5.7	32	11.3	17	48
Shopping area	12	4.3	19	6.7	11	31
Support services	17	6	18	6.4	12.4	35
Public water supply	21	7.5	28	9.9	17.4	49
Electricity supply	15	5.3	27	9.6	14.9	42
Waste collection centres	9	3.2	30	10.6	13.8	39
Total	**113**	**40.2**	**169**	**59.8**	**100**	**282**

Source: Researcher's computation, 2021

This finding of this study suggests that the municipal government investment in residential neighbourhood is poor. Inadequate facilities imply little or no comfort for the residents. Furthermore, the paired sample statistic table showed the mean response, standard deviation as well as the standard error of the mean presented in tables 2 and 3 indicate that the mean score for respondents that say there is absence of the identified facilities study instrument is higher than those who feel the facilities exist. On the other hand, results obtained from the paired sample t-test table revealed that there is no significant difference in the opinions of respondents on the indicators available at Eagle Island as p-value (0.070) is greater than the critical level of $\alpha = 0.05$. This implies that the opinions of respondents on the availability of these indicators are consistent across the study area. This finding agrees with a similar study carried out in France by Arrif & Rioux, (2008).

Table 2: T test Output

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	yes	16.1429	7	4.84522	1.83132
	no	24.1429	7	6.66905	2.52066

Table 3: T test Output

Paired Samples Test

		Paired Differences							
					95% Confidence Interval of the Difference				Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	
Pair 1	yes - no	-8.00000	9.62635	3.63842	-16.90289	.90289	-2.199	6	.070

Conclusion and Recommendations

The satisfaction residents derive from a layout of the facilities available in the neighbourhood. These facilities can help families to achieve their socio economic aspirations. This study provided a comprehensive overview of the criteria used for the evaluation of housing layout quality based on existing studies. The criteria used were schools, play and leisure parks, shopping area, support services, public water supply, and electricity supply. The result showed that, the remark of most of the residents is that there is absence of these facilities in the layout. In conclusion, the study revealed that there is no significant difference in the opinions of respondents on the indicators available at Eagle Island hence the researchers are of the opinion that municipal government should invest in the development of infrastructure in residential neighbourhoods.

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REAL EXCHANGE RATE AND AGRICULTURAL EXPORTS IN NIGERIAN

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Abstract

This paper empirically investigates the link between RER and agricultural exports. The main objective is thus to empirically establish the impact of RER on agricultural exports in Nigeria. This is significant since agricultural export has not improved significantly despite various exchange rate policy. The ECM was used to analyze the data. The result indicates that RER lagged by 1 period has a positive and significant impact on agricultural exports. The money supply has a positive and significant impact on agricultural exports. Interest rate lagged by one period has a negative and significant impact on agricultural exports. The one period lagged inflation rate has a positive and significant impact on agricultural exports. The ECM shows that the adjustment is satisfactory. Improved production of agricultural products for exports through public private partnership was recommended.

Keywords: *Agricultural exports, RER, money supply, interest rate, ECM*

Introduction

Exchange rate policies have important consequences for the development process. It could be recalled that the Real Exchange Rate (RER), provides the direction on the movement of resources since it measures the terms of trade between the traded as well as non-traded aspects of the society. The importance of RER lies in the fact that its appreciation or depreciation can influence the level of economic progress in the country (Hashim and Zarma, 1996). Babatunde and Shuaibu and (2019) noted that government only controls the RER indirectly through the control of the nominal exchange rate backed with appropriate fiscal as well as monetary policies. They added that capital inflow normally causes the exchange rate to appreciate in Nigeria. This hinders the growth pf the tradable commodity sector which include the agricultural sector. It has also been argued by Gutawa, Akinola and Muktau

(2017) that exchange rate as an indicator of relative prices affects agricultural export more than the fiscal policy indicators. Anwi, Mills and Zhao (2013) were of the opinion that policies which affects exchange rate have influence on agricultural exports.

Oyejide and Ogun (1995) as well as Ogun (2000) did a classification of the exchange rate regimes into four categories which are: the regimes of fixed exchange rate which ranged from 1960 to 1970 and the regime of adjustable peg which ranged from 1974 to 1978. The third regime is the floating of the exchange rate which ranged between 1978 to 1985. The market oriented or flexible exchange flexible exchange rate regime started at the introduction of SAP in 1986. However, the prevailing system in Nigeria is managed float in which monetary authorities periodically intervenes in the FOREX market (Ismaila and Imoghele, 2015). In terms of the contribution to income, employment generation, food supply and foreign exchange earnings, agricultural exports play a leading role (Omojimite, 2012). Omalaran (2013) noted that the agricultural sector contributed over 70 percent of employment and provided over 80 percent of foreign exchange (forex) earnings mainly through exports.

Although, the agricultural sector has been the main stay of the Nigerian economy, the narrative was changed with the discovery of crude oil which led to the neglect of this all important sector (Wasiu and Ndukwe 2018). Just like other sectors of the economy, the agricultural export was greatly affected by the fluctuations in the RER. The deregulation of the exchange rate brought about by the Structural Adjustment Programme (SAP) focused more on market forces in determining the exchange rate. The deregulation of the RER reduced the cost of exports and increased the cost of imports. Obstfeld (2002) added that perturbations in exchange rate affects both the domestic prices and foreign prices, making an alteration in spending between domestic goods and foreign goods. The problem has been that most of the inputs that facilitated the production for agricultural exports are imported at high costs due to the depreciation of the naira. This is even made worse, since the exports of agricultural products from Nigeria are mainly in the form of raw materials such as cocoa, rubber etc at reduced costs but we import finished agricultural produce and agricultural facilities such as chocolate at high cost. This has hindered the progress of the agricultural sector (Oyakhilome et al (2014).

Thus, despite the depreciation of the RER, the performance of agricultural exports have not been impressive over the years. For example, even though agricultural exports took an upward swing in absolute terms, its share in total exports continued to take a downward trend. Agriculture contributions to total exports declined from 6.60 percent in 1988 to 3.28 percent in 1996 and declined further to 0.42 percent in 2005 (Babatunde and Shuaibu, 2012).

The contribution of agricultural exports to GDP has been on the decline from 40 percent in 1986 to 20 percent in 1990 (CBN, 2013). This has reduced agricultural exports and increased the food imports bills of Nigeria (Omoloran 2013). The depreciation of the RER by about 3.91 percent in between 2008 and 2009 due to the global financial crisis caused the share of agricultural exports of Real Gross Domestic Product (RGDP) to fall by 0.58 percent. The contribution of agricultural exports to the RGDP declined further by 0.84 percent and 0.64 percent between 2009 and 2010.

The RER depreciated further between 3.7 percent and 2.89 percent between 2014 and 2015 and 2016 (Michael, 2017). The nominal exchange rate and RER depreciated by about 32.07 percent and 16.19 percent between the period of 1981 to 1990 but was more stable at 4.33 percent and 6.65 percent between 2001 and 2007 (Omolara, 2013).

Oriavwote and Dicksom (2014) and Ismaila and Imoughele (2016) noted that despite numerous government attempts to stabilize the exchange rate, the naira depreciated throughout the 1980s and this has not changed. More so, the appreciation of the RER that characterized the oil boom era hindered the level of incentives available by the non-oil tradables, particularly agricultural exports (Michael, 2017). Michael (2017), however, argued that the fall in the contribution of agricultural exports to foreign exchange earnings does not in any way implies that the agricultural sector has been sidelined by the seemingly lucrative oil sector. In addition, Ogunkoya and Shobayo (2015) noted that in the era when agricultural sector contributed a major part of the foreign exchange, RER were less volatile since more Nigerians were willing to trade the product with currencies included in the computation of the RER.

The objective is thus to empirically investigates the link between the RER and agricultural exports in Nigeria. Although few authors attempted to assess the

relationship between exchange rate and agricultural exports, most of the results lacks consensus. Majority of the studies focused on exchange rate and agricultural output and not exports. It must be noted that not all output from the agricultural sector are exported since some are consumed domestically. In addition, the RER which reflects the actual competitiveness of an economy was used instead of the nominal exchange rate.

Following this introduction, the next component of the paper is the theoretical perspective which is closely followed by the empirical literature and econometric procedure. The paper ends with conclusion and recommendation.

Literature Review

Conceptual Framework

The paper draws from the Dutch Disease Syndrome (DDS) to evaluate the connection between RER and agricultural exports as demonstrated by Corden (1984) and Michael (2017). The sector used by the model has a booming sector represented by B, the lagging sector represented by L and the non-tradable sector represented by N. The activities of the oil and gas sector are captured by B while the agricultural export declining performances are captured by L. The N is related to the services sector of the economy. B and L focus on traded goods facing global prices not directly under their control;. Also, the DDS suggests that the outcome of the production process in any sector is greatly determined by factors relevant to that sector and by the availability of labour which is mobile among and between the three sectors. He also posits that factor prices are flexible since they are determined by market forces. Also, factors of production are immobile at the global level. Thus, from B, the model produces two different effects which are:

Spending effect: If the additional income from B is spent directly or indirectly, given a positive income elasticity for N. the price of N relative to the price of traded goods will increase. The phenomenon called real appreciation works by obtaining resources from B and L into N. It also works by altering demands away from N towards B and L.

The Resource Movement Effect: a rise in the marginal product of labour in B because of the boom results in an increase in the demand for labour which

then force labour away from L and N. This has two interesting dimensions. First, is the de-industrialization which connotes movement of labour away from L to B resulting in the reduction in the output of L. It does not need RER appreciation and does not also affect the market for N.

The second effect is called **indirect Industrialization**. Given the RER, the labour moves away from N into B. This alteration in resources generates excess demand for N in addition to that which was brought about by spending effect. This brings about more RER appreciation. Thus, the result is the movement of more labour away from L into N and this strengthening the de-industrialization that comes from the earlier spending effect.

Empirical Literature

Empirically, Ibekwe (2020) assessed the impact of exchange rate on the output of the agricultural sector in Nigeria between the period of 1987 to 2019. The OLS technique was adopted and the results revealed that nominal exchange rate have positive and significant impact on the output of the agricultural sector. However, interest rate and inflation rate has negative and insignificant effect on agricultural production in Nigeria. Gutawa and Mahmud (2019) examined exchange rate instability and agricultural exports in Nigeria using the Generalized Autoregressive Conditional Heteroskedasticity (GARCH). The result showed that exchange rate has a positive impact on agricultural exports. Alegwu et al. (2019) attempted to establish the effect of RER perturbations on the exports of agricultural products in Nigeria using the VECM framework. With data spanning the period between 1970 to 2014. It was revealed that RER volatility has a negative but insignificant effect on agricultural exports in the short run. Wasiu and Ndukwe (2018) investigated the connection between exchange rate changes and agricultural performance in Nigeria. The study is between 1981 and 2016. The findings, using the bounds test for cointegration revealed that no long run relationship exists between RER and agricultural performance in Nigeria. It revealed that factors that affect changes in agricultural performance are RER, real appreciation and depreciation and government expenditure on agricultural output.

Ogunkoya and Shobayo (2015) using data between 1986 to 2012 studied exchange rate and agricultural exports in Nigeria using the OLS technique.

The result revealed that exchange rate has a significant impact on agricultural exports. Anigbogu, et al (2014) attempted an investigation of how agricultural supply responds to macroeconomic factors like exchange rate in Nigeria. The study covered the 1971 to 2008 period and revealed using the cointegration method that the agricultural output was inelastic to exchange rate volatility and to financial development. Oyakhilome et al. (2014) focused their study on the nexus between the deregulation of exchange rate and the share of agriculture in GDP between the 1986 and 2011 period. The VECM and granger causality tests were used to analyze the data. The findings revealed that exchange rate deregulation had a negative and significant influence on the share of agriculture in GDP.

Omalara (2013) assessed exchange rate and disaggregated agricultural production in Nigeria using a 2SLS technique and data covering between 1970 to 2008. The result revealed that exchange rate has a negative effect on crop and fishery output, but it has a positive impact on livestock and forestry. Babatunde and Shuaibu (2012) used the ARDL estimation technique to assess exchange rate changes and agricultural exports in Nigeria. The findings revealed that RER volatility have significant effect on agricultural exports. Also, agricultural exports prices significantly affects agricultural exports.

In summary, the works reviewed mostly focused on the impact of exchange rate on agricultural output. It must be recalled that not all output from the agricultural sector are exported since some are consumed domestically. This study however deviates from the studies reviewed since it focuses on the impact of the RER on agricultural exports and not the nominal exchange rate. This is symptomatic since the RER reflects the true competitiveness of an economy. Also, empirical literature do not show a uniform effect of exchange rate on agricultural exports; some studies show that exchange rate impacts positively while other studies show negative effects. These form the major gaps. This forms a major gap. The study also extends the data to 2020 and used modern and more encompassing econometric technique to analyze the data.

Methodology

Data and Source

The data used for the study include the following:

AGE = Agricultural export. This refers to both plant and animal products produced domestically for foreign market. *Source is World Bank, 2020*

RER = Real Exchange Rate. This is the nominal exchange rate multiplied by the by the price ratio between two countries, *Source is World Bank, 2020*

MS = Money Supply. This refers to the total amount of money held in the society at a point in time. *Source is World Bank, 2020.*

INT = Interest Rate. This is the amount or cost of borrowing which is attached to the principal. *Source is World Bank, 2020.*

INF = Inflation Rate. This is the percentage and persistent change of a price index over a period of time. *Source is World Bank, 2020*

Model Specification

This study draws from the work of Ibekwe (2020).. However, unlike Ibekwe (2020), this study used agricultural exports as the dependent variable. Also, unlike Ibekwe (2020), this study used the RER which is a true reflection of the true competitiveness of the economy instead of the nominal exchange rate. The study also extended the time framework to 2020 which encompasses several changes in exchange rate management.

The model that was developed for the study is thus specified below:

$AGE = b_0 + b_1RER + b_2MS + b_3INT\ b_4INF + u_t$

b_1**><0,** $b_2>0$, $b_3<0$, $b_4<0$

Method of Data Analysis

The cointegration technique and the Error Correction (ECM) were used to estimate the above model. The analysis commenced with the descriptive statistics which is preceded with the correlation analysis and the static regression. The unit root test which was used to test whether the variables are stationary or not and their other of integration forms the next stage of the analysis. This is to enable us ascertain whether the variables are stationary or not and their order of integration. This is followed by the cointegration test. The Johansen's methodology will be used to assess the existence or not of a long run relationship among the variables. The Error Correction Mechanism (ECM) which is the short run dynamic model will be used for policy analysis. This will be followed by various diagnostic checks.

Results and Discussion

The result of the descriptive statistics is shown in the table below:

Table1: Result of Descriptive Statistics

	LAGE	LINT	LMS	LRER	INF
Mean	11.22410	2.642570	11.39103	2.098059	19.41463
Median	10.53399	2.882004	10.87554	2.293494	13.80000
Maximum	15.24010	3.586016	16.21658	5.021905	72.80000
Minimum	8.933836	1.791759	6.856357	-0.604404	3.200000
Std. Dev.	2.030225	0.511258	2.774031	2.201730	16.16899
Skewness	0.498900	-0.304262	0.103540	0.017106	1.636614
Kurtosis	1.846956	1.772866	1.898460	1.394903	5.059015
Jarque-Bera	3.972073	3.205105	2.146134	4.403242	25.54568
Probability	0.137238	0.201382	0.341958	0.110624	0.000003
Sum	460.1879	108.3454	467.0321	86.02042	796.0000
Sum Sq. Dev.	164.8725	10.45539	307.8098	193.9046	10457.45
Observations	41	41	41	41	41

Source: Author's computation, 2021

Table 1 showed that the mean of AGQ is 11.22 which is greater than the median of 10.53. This signifies that the AGE increased in most of the study period. The maximum value for AGE is 15.24 while the minimum value is 8.93. The standard deviation is a negligible 2.03. The average value for INT is 2.64 which is lower than the median of 2.88, implying the possibility of a potential decline in the INT. The highest and lowest values for INT are 3.59

and 1.79 respectively. The standard deviation of 0.51 is also negligible. The mean of MS of 11.39 is higher than the median of 10.88 implying that the money supply increased over the study period, supporting the expansionary monetary policy of the government. The maximum value is 16.23 while the minimum value is 6.86. The standard deviation is 2.77. The average and median values of RER are 2.09 and 2.29. These figures suggest a depreciation of the RER in the study period. The highest and lowest values for the RER are 5.02 and -0.60. The standard deviation is just 2.20. The mean and the median of INF are 19.41 and 13.80. Since the mean is higher, it signifies a rise in inflation rate. The skewness showed values greater than 0 in most of the cases which is an indication that the series is skewed to the right with a long right tale. The Jarque-bera showed probability values greater than 5 percent in most cases indicating that the residuals appear to be normally distributed.

The result of the correlation matrix is shown in the table below:

Table2: Result of Correlation Analysis

	LAGE	LINT	LMS	LRER	INF
LAGE	1	-0.456110858	0.198637822	0.34051464	-0.081624018
LINT	-0.456110858	1	0.739307863	0.80982703	0.24519316
LMS	0.19863782	0.73930786	1	0.949039711	0.00298088
LRER	0.34051464	0.80982703	0.94903971	1	0.024071592
INF	-0.081624018	0.24519316	0.002980889	0.024071592	1

Source: Author's computation

The result of the correlation analysis in table 2 indicates a weak but negative correlation between agricultural exports and interest rate with a coefficient of -0.46. The correlation between AGE and MS is positive and weak with a coefficient of 0.20. The correlation coefficient between RER and AGE is positive and weak with a value of 0.34. The correlation between INF and AGE is negative and weak with a coefficient ofc-0.08.

Before proceeding with the remaining segment of the results, we estimated a static long run results to assess the relevant parameters.

The result of the static model is shown in the Table 3:

Table3: Summary of Static Long Run Result: Dependent Variable: LAGE

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LRER	0.493624	0.157235	3.139391	0.0034
LMS	0.619039	0.107575	5.754477	0.0000
LINT	-2.446082	0.339043	-7.214666	0.0000
INF	-0.371560	0.008935	-41.58299	0.0000
C	9.469254	1.291441	7.332316	0.0000

R^2= 0.82, DW= 2.16.

Source: Author's computation

The R^2 indicates that 82 percent of the total variation in the AGE was explained by the RER, MS, INT and INF taken together. The variation explained outside the model is only 18 percent. The result indicates that the RER has a positive relationship with the AGE. It indicates that a depreciation of the RER by 1 unit increased the AGE by 0.49 units. The MS has a positive relationship with the AGE. An increase in the MS by 1 unit increased the AGE by 0.62 units. The INT has a negative linear relationship with the AGE. An increase in the INT by 1 unit reduced the AGE by 2.45 units. The INF has a negative relationship with the AGE. An increment in the INF by 1 unit decreased the AGE by 0.37 units. The result of the t-statistic indicates that the RER with a value of 3.14 and probability of 0.0034 has a statistically significant impact on agricultural exports. This result is however in agreement with the results of Ibekwe (2020), Guttaw and Mahmud (2020), Wasiu and Ndukwe (2019) . The result indicates further that the MS with value of 5.75 and probability of 0.000 is statistically significant in explaining the changes in agricultural exports. The t statistic for INT is -7.21 with probability of 0.0000. This insinuates that the INT is statistically significant in explaining the changes in agricultural exports. The value for INF is -41.58 with probability of 0.0000 which insinuates that the INF is statistically significant in explaining the changes in agricultural exports.

The result of the Augmented Dickey Fuller (ADF) and Phillip Peron (PP) unit root tests are shown in Table 4:

Table 4: ADF and PP unit root test result

Variables	**ADF**		**PP**		**Order of Integration**
	Level	**First Difference**	**Level**	**First Difference**	
AGE	0.011	4.144*	0.1781	6.222*	I (1)
MS	1.413	7.262*	1.808	4.226*	I (1)
INT	2.015	5.227*	0.447	4.084*	I (1)
INF	-0.218	-7.421*	-0.187	-5.051*	I (1)
RER	-0.882	-5.028*	-2.246	-8.284*	I (1)

NB: (1) * Indicates Stationary at the 1 percent level
(2) 1 percent critical value =3.761

Source: Author's Computation

The results of both the ADF and PP in Table 4 have something in common. They both indicated that all the variables were not originally stationary. Stationary status for all the variables were achieved after the first difference was taken. This result suggests that the variables were integrated of order 1 or I(1). In addition, all the variables were stationary at the 1 percent level. The permission has thus been granted by this result to conduct the cointegration test. The Johansen methodology becomes desirable. The result of the Johansen cointegration test is shown in Table 5:

Table 5: Summary of Johansen Cointegration Test Result

Hypothesized No. of CE(s)	Trace Statistic	0.05 Critical Value	Prob.**
None *	79.33055	69.81889	0.0072
At most 1	39.85166	47.85613	0.2279
At most 2	21.02184	29.79707	0.3563
At most 3	9.718851	15.49471	0.3030
At most 4	0.069434	3.841466	0.7921

Hypothesized No. of CE(s)	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	39.47889	33.87687	0.0097
At most 1	18.82982	27.58434	0.4278
At most 2	11.30299	21.13162	0.6171
At most 3	9.649417	14.26460	0.2360
At most 4	0.069434	3.841466	0.7921

Source: Author's computation

The result of both the trace statistic and the Max-Eigen statistic indicate the existence of one cointegrating equation. This result suggests the existence of a long run equilibrium relationship among the AGE, RER, MS, INT and INF. This result allows us to estimate the ECM.

The result of the over parameterized ECM is shown in the appendix The parsimonious ECM was extracted from the over parameterized ECM by eliminating the insignificant variables. Economic theory, Akaike Information Criteria (AIC) and Scwartz guided lag length selection. The result of the preferred ECM is shown in Table 6:

Table 6: Summary of Parsimonious ECM Result. Modeling: LAGE

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LRER(-1)	0.729985	0.094324	7.739122	0.0000
LMS	0.480243	0.065976	7.279060	0.0000
LINT(-1)	-2.570012	0.194887	-13.18720	0.0000
INF(-1)	-0.013922	0.003571	-3.899028	0.0004
ECM(-1)	-0.772390	0.096859	-7.974366	0.0000
C	10.77898	0.783483	13.75777	0.0000

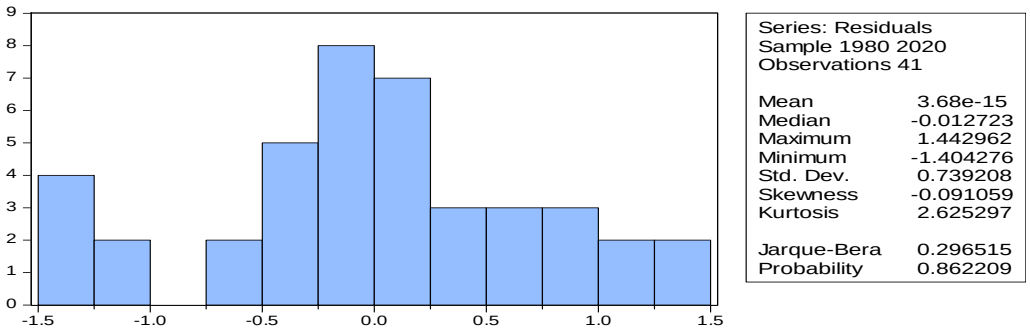
R^2 = 0.91, AIC= -0.80, SC= -1.05, DW=2.16

The coefficient of determination indicates that 91 percent of the total variation in the AGE has been explained by the RER, MS. INT and INF taken together. The one period lagged RER with a coefficient of 0.73 and t value of 7.74 and probability of 0.0000 indicates that the RER has a significant and positive impact on agricultural exports. It is an indication that a depreciation of the RER has the potential of increasing agricultural exports. This result is however in agreement with the results of Ibekwe (2020), Guttaw and Mahmud (2020), Wasiu and Ndukwe (2019). The coefficient of money supply is 0.48 and the t value of 7.28 and probability of 0.0000. This indicates that the money supply has a significant and positive impact on the level of agricultural exports. This suggests that expansionary monetary policy has a positive impact on agricultural exports. The one period lag value of interest rate is -2.57 and the t value is -13.19 with a probability of 0.0000 which indicates that interest rate has a negative and significant impact on agricultural exports. The one period lag inflation has a coefficient of -0.01 and t value of -3.90 has a significant and

negative impact on the AGE. The ECM is statistically significant and is rightly signed. It indicates a satisfactory speed of adjustment. It also indicates that about 77 percent of the errors have been accounted for. The various diagnostic checks results are shown below:

The result of the Jarque-bera normality test is shown in the figure below:

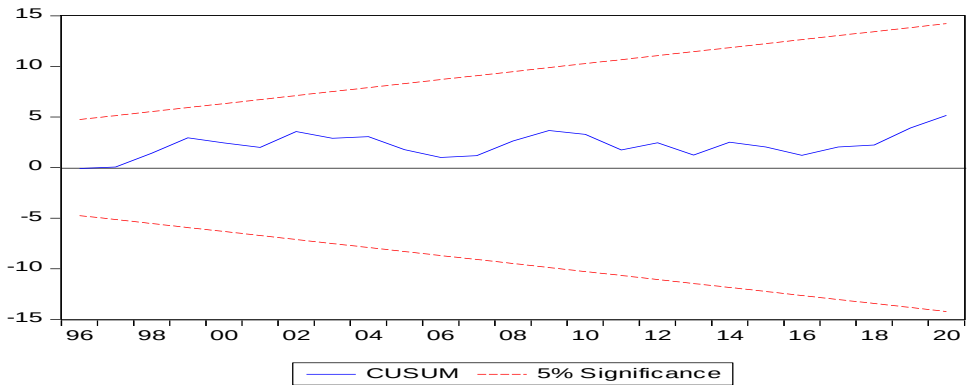
Figure1: Jarque- Bera Normality Test Result



Source: Author's Computation

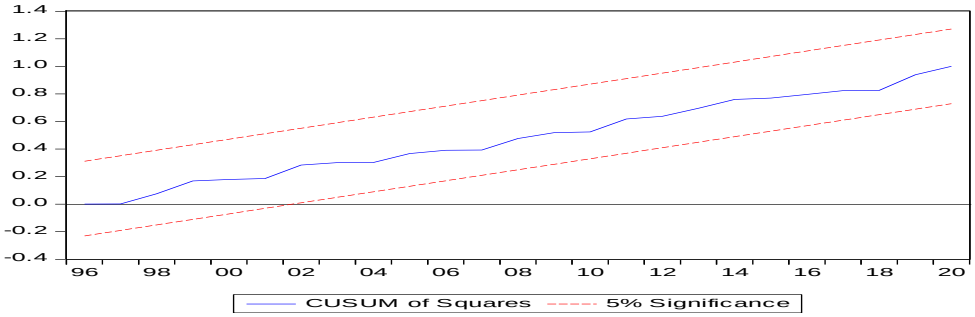
The Jarque-bera value of 0.30 and probability of 0.86 indicates a validation of the null hypothesis that the residuals are normally distributed. The result of the Cumulative Sum of Recursive Residual (CUSUM) as well as the Cumulative Sum of Squares of Recursive Residuals (CUSUMQ) suggests a validation of the null hypothesis that the residuals are normally distributed.

Figure2: CUSUM test Result



Source: Author's Computation

Figure3: CUSUMQ test Result



Source: Author's Computation

This is because the lines of the CUSUM and the line of the CUSUMQ fell in-between the two 5 percent lines. Serial correlation LM and heteroskedasticity results are shown in Table 7:

Table 7: Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.315767	Prob. F(2,32)	0.7315
Heteroskedasticity Test: White			
F-statistic	0.986614	Prob. F(20,19)	0.5133

Source: Author's computation, 2021

The result of the Breusch-Godfrey serial correlation test with probability of 0.7315 suggests the validation of the null hypothesis that the residuals are not serially correlated. The result of the white heteroskedastictity test with probability value of 0.5133 indicates that the residuals are homoskedastic with constant variance which is characteristics of time series data.

Conclusion and Recommendations

Drawing from the DDS framework, this paper attempts to unravel the impact of RER on the exports from the agricultural sector in Nigeria. The agricultural sector has been the bedrock of many economies in Sub Saharan Africa, including Nigeria. In the 1960s and 1970s, exports from agriculture constitute the major foreign exchange earnings of Nigeria. this abruptly changed with the discovery of crude oil which hindered the exports of agricultural products. lots of the agricultural products are not exported, but rather consumed locally due to lack of processing facilities. The ECM modeling framework was used to

analyze the data. The results conclude that the depreciation of the RER has the potentials of enhancing the exports of agricultural products. This is significant given that when the value of the exchange rate is low, viz-a-viz other currencies, it makes the exports of agricultural exports from Nigeria cheaper which ordinarily should increase the exports of agricultural products from Nigeria. This has however not been the case in Nigeria because the neglect of the sector as a result of the discovery of crude oil has seriously reduced the production of cash crops for exports. The bottlenecks in the value chain such as lack of storage facilities and financial incentives are also partly responsible for the low level o agricultural exports. Thus, the exports of agricultural product has not improved or benefited from the depreciation of the RER. An improvement in the production of exports commodities from the agricultural sector is therefore recommended. This should also include production of agro-allied commodities for exports. The production of agricultural exports could be facilitated through Public Private Partnership (PPP) framework. This will reduce the burden of government which will bring about more efficiency in the production of agricultural exports.

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Appendix

Appendix 1: Overparameterized ECM Result

Dependent Variable: LAGE
Method: Least Squares
Date: 10/06/21 Time: 11:46
Sample (adjusted): 1982 2020
Included observations: 39 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LRER	-0.265842	0.245771	-1.081664	0.2897
LRER(-1)	0.908295	0.343519	2.644087	0.0139
LRER(-2)	-0.020926	0.251383	-0.083242	0.9343
LMS	1.635767	0.623652	2.622887	0.0146
LMS(-1)	-1.465859	0.977161	-1.500120	0.1461
LMS(-2)	0.389875	0.634929	0.614045	0.5447
LINT	-0.315387	0.479622	-0.657573	0.5168
LINT(-1)	-2.048743	0.624571	-3.280239	0.0031
LINT(-2)	-0.173564	0.446337	-0.388863	0.7007
INF	0.002874	0.005805	0.495185	0.6248
INF(-1)	-0.362724	0.006328	-57.32323	0.0000
INF(-2)	0.004551	0.006436	0.707093	0.4860
ECM(-1)	-0.671653	0.154185	-4.356151	0.0002
C	9.811503	1.166004	8.414638	0.0000

R-squared	0.880811	Mean dependent var	11.32782
Adjusted R-squared	0.870832	S.D. dependent var	2.027838
S.E. of regression	0.346325	Akaike info criterion	0.990383
Sum squared resid	2.998519	Schwarz criterion	1.587559
Log likelihood	-5.312461	Hannan-Quinn criter.	1.204644
F-statistic	98.29359	Durbin-Watson stat	2.277056
Prob (F-statistic)	0.000000		

UNEMPLOYMENT AND INCLUSIVE GROWTH: THE CASE OF NIGERIA

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Abstract

This study explores the relationship between unemployment and inclusive growth in Nigeria using a time series data for a period of 45 years ranging from 1970-2015. In achieving this objective, several quantitative techniques including: the Augmented Dickey-Fuller (ADF) unit root test and the Autoregressive Distributed Lag (ARDL) model/Bounds testing approach were employed. The study found out that in the long run, the rate of unemployment has a significant negative impact on the inclusiveness of the growth process in Nigeria. The study also found that institutional quality and the supply of infrastructure also have a negative and significant impact on inclusive growth in Nigeria. On the other hand, the study results revealed that that the interest rate and level of financial deepening both have a positive and significant impact on inclusive growth in Nigeria. The result implies that the reduction in the rate of unemployment and improvements in the level of financial deepening are key requirements to the improvement in the quality of the growth process in Nigeria. Based on the findings, the study recommends among other: the creation of policy implementation assurance mechanisms to ensure the effective implementation of the government's policies with respect to employment generation. This will ensure the attainment of the nations employment objectives, thereby improving the inclusiveness of the growth process. Increase allocation of bank credit to highly absorptive sectors such as agriculture and industry. This will aid in the promotion of the growth of private sector activity in the country, and thereby reduce the unemployment problem.

Keywords: *Unemployment, Inclusiveness, Economic growth*

Introduction

In the last decade, Nigeria experienced a steady rise in its Gross Domestic Product (GDP). The country recorded an average growth rate of 7 per cent for the period between 2007 and 2011 (NBS, 2009).Despite the increase in GDP, other development indicators such as; poverty, unemployment, per capita

income and infrastructural facilities remain at abnormal low level. With the rebasing of the economy in 2013, Nigeria became the largest economy in Africa, with an increase in GDP from $259b in 2010 to $510b in 2013 (NBS, 2009). The new position has adjudged the country to be one of the fastest growing economies in the world in the last few years. Nigeria became one of the world's fastest growing economy, averaging 7.4 per cent (NER, 2014). However, the new growth rate is different from the economic realities in the lives of the larger population. Data showed that about 25.7 per cent of the populace lives in severe poverty, about 46 per cent and 67.98 per cent live below poverty line (CBN, 2009). Income inequality worsened from 0.43 to 0.49 between 2004 and 2010, this is correlated with differential access to infrastructure and amenities. As at the second quarter of 2015, the trend of unemployment showed that Nigeria is far from achieving sustained increases in job creation as unemployment was 23.9 percent in 2013. The rate rose to 8.2 percent from 7.5 percent in the first quarter (NBS, 2009). UN (2015) noted that Nigeria's dependency ratio of ages 0-14 was around 83.9 while the dependency ratio of 65 years old and above was expected to be about 5.1 percent.

The percentage of total dependants in Nigeria was expected to hit 89 per cent in 2015 (UNSD, 2014), meaning that the active work force was just 11 percent in 2015. The literacy rate in Nigeria between 2002 and 2012 was 51.1 percent. With an intolerable rate of carbon emission in Africa, which have reduced its life expectancy to 52 years. Nigeria's energy consumption capacity is very low, both in terms of energy consumed per-capita and energy consumed per $1000 at purchasing power parity. All these challenges have made the basic needs of life unaffordable to an average Nigerian and inclusive growth just a dream.

The issues discussed so far raise concerns about the inclusiveness of the Nigeria's economic growth. Macroeconomic policy focus thus has shifted from increases in the GDP to inclusive growth. That is, increase in income due largely to increase in productive employment and in turn accompanied by a significant reduction in poverty and income and non-income inequality. Inclusive growth has been defined as broad-based rapid pace of growth across sectors in an economy contributed to and benefited by a cross section of people in the economy including the poor (WEF, 2014). It focuses on ways to

raise the pace of growth by utilizing fully parts of the labour force trapped in low productive activities or completely excluded from the growth process. For growth to be inclusive, productivity must be improved and new employment opportunities created. Inclusive growth is about raising the pace of growth and enlarging the size of the economy while levelling the playing field for investment and increasing productive employment opportunities. The major concern here is sustainable growth and for growth to be sustainable it has to be broad-based, across sectors leading to structural transformation for economic diversification. This is highly essential because how growth is generated is critical for accelerating poverty reduction. Productive employment is emphasised rather than income redistribution, the strategy is to teach a person how to catch a fish rather than giving him a fish, hence the core of inclusive growth strategy is not only on employment growth but also on productivity growth. Thus inclusive growth is an absolute pro poor growth strategy. Non inclusive growth according to Pedro & Paula (2013) is the failure of economic growth in creating productive employment opportunities and addressing issues of poverty and income inequalities prevailing in Nigeria. It is such a growth that bypasses important segments of the society. It is a growth pattern that undermines sustainability, and further entrenching existing poverty level, unemployment rates and income inequalities.

Table 1: Average Growth Rates of Economic Growth, Unemployment and Poverty (1981 to 2010)

Years	Economic Growth	Unemployment Rate	Poverty Rate
1981-1990	0	3.93	42.07
1991-2000	3	3.88	59.65
2001-2010	6.5	14.7	63.99

Source: Authors computation using data from CBN annual reports and NBS Bulletin of various Editions.

This inconsistent link of rising economic growth rates with rising unemployment, poverty and income inequality; undoubtedly demonstrate that the trickle-down effect of such growth is utterly inconsequential on the welfare of the greater Nigerian populace. The above further demonstrates that despite the notable growth rate experienced over the years, the problems of unemployment, poverty and income inequality appears a pig-headed one.

However, previous empirical studies on Nigeria related to these issues such as Ijaiya, Ijaiya, Bello and Ajayi, 2011; Sodipe and Ogunrinola, 2011; Oloyede, 2014 among others, focused exclusively on the relationship between unemployment and economic growth. Unfortunately, inferences from the findings of these studies cannot be extended to inclusive growth. This is because economic growth is just one of the necessary elements of inclusive growth.

This study examined; the inclusiveness of Nigeria's economic growth. It explores the relationship between unemployment and inclusive growth in Nigeria. The rest parts of the paper are organized as follows: section two presents the concept of inclusive growth, section three reviews related empirical studies. Section four discussed the methodology; section five presents the principal component analysis of inclusive growth. Section six presents the regression results and section seven concludes the paper.

Literature Review

Conceptual Issues

Inclusiveness

The usage of the term "inclusive" in the characterization of growth episodes can be traced back at least to the turn of the century when Kakwani and Pernia (2000) employed it to highlight the contents of pro-poor growth as that one enables the poor to actively participate in it and benefit from the growth process. Inclusive growth involved both poverty and inequality reduction. Ali and Son (2007) defines inclusive growth as the growth process that increases the social opportunity function which depends upon the average opportunities available to the population and how these opportunities are shared among the population.

According to Ali (2007) the key elements in inclusive growth are employment and productivity, development in human capabilities and social safety nets and the targeted intervention. Habitat (2009) defines inclusiveness of economic growth as gross domestic product growth that leads to significant poverty reduction. Elena and Susana (2010) of World Bank focused on both the pace and pattern of growth and have identified the employability of the poor and

the cost of capital, geography and infrastructure as building blocks of inclusive growth analytical framework.

Elena and Susana (2010) defined inclusive growth as that growth which can reduce poverty and allow people to contribute to economic growth and benefit from the growth process. They pointed out that rapid pace of growth is unquestionable necessary for substantial poverty reduction but for growth to be sustainable in the long run should be broad based across the sectors and inclusive of the large part of the country's labor force. This definition of inclusive growth has a direct link between the micro and macro determinants of growth. Inclusive growth is disadvantage reducing growth (Klasen, 2010). Growth Report (2010) notes that inclusiveness is a concept that encompass equity, equality of opportunity and protection in market and employment transitions. World Bank (2009) stated that inclusive growth can be achieved by focusing on expanding the regional scope of economic growth, expanding access to assets and thriving markets and expanding equity in the opportunities for next generation.

McKinley (2010) identifies that inclusive growth entails achieving sustainable growth that will create and expand economic opportunities and ensuring broader access to these opportunities so that members of society can participate in and benefit from growth. In reviewing the ADB literature Raumiyar and Kanbur (2010) point out that while there is no agreed and common definition of inclusive growth or inclusive development, the term is understood to refer to "growth coupled with equal opportunities and consisting of economic, social and institutional dimensions. They further pointed out that inclusive growth is accompanied by lower income inequality so that the increment of income accrues disproportionately to those with lower incomes.

Asian Development Bank (ADB, 2013) defines inclusive growth economic growth that results in a wider access to sustainable socio economic opportunities for a broader number of people, regions or countries while protecting the vulnerable, all being done in an environment of fairness, equal justice and political plurality. Ramos et al (2013) follow the concept of benefit sharing and participation to measure inclusiveness. Exchange rate coordination, improved international tax capacity, coordinated fiscal stimulus, global resource system, issue of macro-economic imbalances are some of the

key policy actions that will stimulate inclusive growth in developing countries (Maritns and Lucy, 2013). Inclusiveness of growth is the growth elasticity of poverty in the sense that poverty reduction is the overall objective of any policy debate over a period of time (Han and Thorat, 2013). It depends upon two factors (a) income growth and (b) income distribution (Anand et al, 2013).

Economic Growth

Sustainable and faster economic growth is pre requisite for achieving the goal of inclusive growth. Asian Development Bank's long term strategic framework 2008-2020 (Strategy, 2020) identifies inclusive growth as its first development agenda with the second and third being environmentally sustainable growth and regional integration. It details two key determinants of inclusive growth: (i) achieving sustainable growth that will create and expand economic opportunities, and (ii) ensuring broader access to these opportunities so that members of society can participate in and benefit from growth. The second determinant for inclusive growth is identified as "expanding human capacities such as investing in education, health and basic social services". Social safety nets are also emphasized to protect the most vulnerable and deprived who have been excluded in the growth process.

Unemployment

Generally, unemployment means a state of joblessness. According to Briggs (1973), unemployment is defined as the difference between the amount of labour employed at current wage levels and working conditions and the amount of labour not hired at these levels. However, Gbosi (1997) has defined unemployment as a situation in which people who are willing and able to work at the prevailing wage rate are unable to find jobs. Therefore, anybody who is not willing and actively seeking paid employment should not be counted as part of the employed labour force. If we do so, we may be overestimating the official rate of unemployment. On the other hand, additional workers should not be counted as part of the unemployed labour force. If we do so, we may be underestimating the official rate of unemployment. No matter how one defines unemployment, the underlying philosophy is that unemployment means a state of joblessness.

Empirical Literature

Empirically, some studies have taken the position of Okun's Law, for instance, Noor et al (2007) examined the relationship between output and unemployment in Malaysia in order to ascertain if Okun's law actually exists. The end result of their analysis shows that forgone output is the major cost of unemployment, and if the loss is very high it could lead to recession.

Nkwatoh, (2015) in his work "*the nexus between entrepreneurship development and unemployment: implication for economic growth in Nigeria"* used the weighted least square technique to estimate the different models with time spans of five and nine years respectively within the period 1982 to 2013.The choice of his technique was driven by its ability to handle regression situations in the presence of non-constant variance (heteroskedasticity). The results established the occurrence of a twin effect: entrepreneurship development reduces future unemployment and also unemployment induces entrepreneurship development. Some authors have identified education as a catalytic component for the negative relationship between unemployment and inclusive growth.

The work reviewed focused on entrepreneurship development and unemployment. Entrepreneurship development was used as a measure of inclusive growth while in this study, the ratio of agricultural output to GDP is been used as a measure of inclusive growth. Also, Nkwatoh (2015), stopped at 2013 while this study extended to 2015. Hence, this work attempts to examine unemployment and inclusive growth in Nigeria.

Methodology

Model Specification

In this study, the ratio of agricultural output to the gross domestic product is used as a measure of the inclusiveness. The independent variables include the unemployment rate, institutional quality (the role of institutions in promoting the equitable distribution of income and the gains from the growth process), infrastructure- this is expected to have a positive impact on the growth and financial deepening. The model for the study followed Nkwatah (2015) but with little modification in the areas of variable included and measurement.

$$AGDP = \beta_0 + \beta_1 UNEP + \beta_2 INST + \beta_3 IFRA + \beta_4 INTR + + \beta_4 FIND + Ut$$

Where

AGDP = Agricultural-GDP ratio
UNEP = Unemployment
INST = Institutional quality
IFRA = Infrastructure (Captured using the consumption of electricity)
INTR = Interest rate
FIND = Financial deepening
U = Stochastic error term

Data Sources and Estimation Technique

The specified model is estimated using several quantitative techniques including: the Augmented Dickey-Fuller (ADF) unit root test, the Autoregressive Distributed Lag (ARDL) model/Bounds testing approach. The study is based on the use of time series data. The data for the study is sourced from the Central Bank of Nigeria Annual Statistical Bulletins (various issues) and World Bank (2017). The data set span from the period, 1970 - 2015

Table 1: Augmented Dickey-Fuller Unit Root Test Result

Variable	t-Statistic	5% Critical Value	t-Statistic	5% Critical Value	Order of Integration
AGDP	-2.147767	-3.513075	-6.521225	-3.515523	*I*(1)
UNEP	-2.943427	-3.513075	-5.438138		*1(1)*
INST	-5.240877	-3.513075			*I*(0)
INTR	-3.612505	-3.513075			*1(0)*
FIND	-7.578557	-3.536601			*I*(0)
IFRA	-3.060040	-3.513075	-9.033470	-3.515523	*I*(1)

Source: Author`s computation, 2021.

The unit root test result in Table 1 shows that the measure of inclusive growth (the ratio of the agricultural output to the GDP) and the measure of infrastructure (electricity consumption) are both stationary after first differencing, meaning that they are integrated of the first order. On the other hand, the measure of institutional quality (contract intensive money) and the measure of financial deepening (the ratio of the broad money supply to the GDP) are both stationary at level, making them integrated of order zero. The

other variables used in the study were not tested for unit roots on account of the fact that they are rates.

Table 2: Bounds Cointegration Test Result

Test Statistic	Value	K
F-statistic	6.044458	5
Critical Value Bounds		
Significance	**I0 Bound**	**I1 Bound**
10%	2.26	3.35
5%	2.62	3.79
2.50%	2.96	4.18
1%	3.41	4.68

Source: Author`s computation, 2021.

The bounds test result is presented in Table 2. The result indicates the rejection of the null hypothesis of no long run relationship for both upper and lower bounds. The study thus concludes that there exists long-run relationships, and thus cointegration among the variable used in the study.

Table 3: Bounds Test Long Run Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
UNMP	-0.0235	0.006493	-3.61903	0.0012
INTR	0.009869	0.002109	4.679683	0.0001
FIND	0.018693	0.005799	3.223799	0.0033
INST	-0.5798	0.174618	-3.32037	0.0026
IFRA	0.001525	0.000545	2.795913	0.0094
C	0.744316	0.133174	5.589062	0.0000

Source: Author`s computation, 2021.

The long run result for the bounds test shows that the level of financial deepening, the interest rate and infrastructure have a positive and significant impact on inclusive growth in Nigeria in the long run. On the other hand, the quality of the domestic institutions and the rate of unemployment both have a significant negative impact on inclusive growth in Nigeria in the long-run.

Conclusion and Recommendations

The need to ensure the active participation of the wider majority of the population in the drive towards the attainment of rapid and sustainable levels of economic growth has long been recognized by policy makers in Nigeria. This recognition is in view of the role of such an approach in reducing the levels of poverty and inequality, thus ensuring that the growth process is inclusive. In pursuit of this objective the government has over the years implemented a wide spectrum of measures aimed at increasing the level and quality of employment, either directly through the creation of jobs, or indirectly through the provision of an enabling environment to ensure the growth of the private sector through improvement in the quality of the domestic institutions and infrastructural facilities. However, the continued persistence of high levels of unemployment and infrastructural decay, given the high rates of growth in recent decades leads to questions as to the inclusiveness of such growth.

In view of the importance of the inclusiveness of the growth process to the developmental aspirations of the country, this study was carried out to provide answers to the question raised above. The results of the study revealed that in the long run, the rate of unemployment has a significant negative impact on the inclusiveness of the growth process in Nigeria. the study also found that institutional quality and the supply of infrastructure also have a negative and significant impact on inclusive growth in Nigeria. On the other hand, the study results revealed that that the interest rate and level of financial deepening both have a positive and significant impact on inclusive growth in Nigeria. the result implies that the reduction in the rate of unemployment and improvements in the level of financial deepening are key requirements to the improvement in the quality of the growth process in Nigeria. Based on the findings, the study makes the following recommendations:

1. The creation of policy implementation assurance mechanisms to ensure the effective implementation of the government's policies with respect to employment generation. This will ensure the attainment of the nations employment objectives, thereby improving the inclusiveness of the growth process.

2. Increase allocation of bank credit to highly absorptive sectors such as agriculture and industry. This will aid in the promotion of the growth of private sector activity in the country, and thereby reduce the unemployment problem.
3. The reassessment of the current interest rate structure which is too high, and its reduction to a level low enough but consistent with the overall growth and employment objectives of the country.
4. Improvement in the quality of the country's institutions through the increase in their financial independence and the reduction of executive interference in their internal processes.
5. Improvement in the quantity and quality of infrastructure, especially the energy and transport infrastructure. This will reduce the cost of doing business in Nigeria and create and enabling environment which will encourage the growth of the private sector.

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Appendix

ARDL Cointegrating And Long Run Form
Dependent Variable: AGDP
Selected Model: ARDL(1, 2, 1, 3, 3, 0)
Date: 03/22/17 Time: 05:12
Sample: 1970 2015
Included observations: 43

Cointegrating Form

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(UNMP)	-0.005494	0.003086	-1.780117	0.0863
D(UNMP(-1))	0.008858	0.002543	3.482828	0.0017
D(INTR)	0.005121	0.001381	3.708215	0.0010
D(FIND)	-0.001318	0.002395	-0.550253	0.5867
D(FIND(-1))	0.000263	0.002348	0.111867	0.9118
D(FIND(-2))	-0.016041	0.004376	-3.665861	0.0011
D(INST)	0.003973	0.054899	0.072372	0.9428
D(INST(-1))	-0.103672	0.038586	-2.686758	0.0122
D(INST(-2))	0.738675	0.158540	4.659245	0.0001
D(IFRA)	0.001171	0.000431	2.717371	0.0113
CointEq(-1)	-0.767664	0.126156	-6.085052	0.0000

Cointeq = AGDP - (-0.0235*UNMP + 0.0099*INTR + 0.0187*FIND -0.5798 *INST + 0.0015*IFRA + 0.7443)

Long Run Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
UNMP	-0.023499	0.006493	-3.619029	0.0012
INTR	0.009869	0.002109	4.679683	0.0001
FIND	0.018693	0.005799	3.223799	0.0033
INST	-0.579798	0.174618	-3.320369	0.0026
IFRA	0.001525	0.000545	2.795913	0.0094
C	0.744316	0.133174	5.589062	0.0000

Dependent Variable: AGDP
Method: ARDL
Date: 03/22/17 Time: 05:36
Sample (adjusted): 1973 2015
Included observations: 43 after adjustments
Maximum dependent lags: 3 (Automatic selection)
Model selection method: Hannan-Quinn criterion (HQ)
Dynamic regressors (3 lags, automatic): UNMP INTR FIND INST IFRA
Fixed regressors: @EXPAND(@QUARTER,@DROPFIRST) C
Number of models evalulated: 3072
Selected Model: ARDL(1, 2, 1, 3, 3, 0)

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
AGDP(-1)	0.232336	0.126156	1.841659	0.0765
UNMP	-0.005494	0.003086	-1.780117	0.0863
UNMP(-1)	-0.003687	0.002216	-1.663663	0.1077
UNMP(-2)	-0.008858	0.002543	-3.482828	0.0017
INTR	0.005121	0.001381	3.708215	0.0010
INTR(-1)	0.002455	0.001359	1.806971	0.0819
FIND	-0.001318	0.002395	-0.550253	0.5867
FIND(-1)	-0.000110	0.002336	-0.047166	0.9627
FIND(-2)	-0.000263	0.002348	-0.111867	0.9118
FIND(-3)	0.016041	0.004376	3.665861	0.0011
INST	0.003973	0.054899	0.072372	0.9428
INST(-1)	0.185940	0.046836	3.970028	0.0005
INST(-2)	0.103672	0.038586	2.686758	0.0122
INST(-3)	-0.738675	0.158540	-4.659245	0.0001
IFRA	0.001171	0.000431	2.717371	0.0113
C	0.571385	0.103176	5.537965	0.0000

R-squared	0.911796	Mean dependent var	0.327052
Adjusted R-squared	0.862794	S.D. dependent var	0.068246
S.E. of regression	0.025279	Akaike info criterion	-4.238840
Sum squared resid	0.017254	Schwarz criterion	-3.583510
Log likelihood	107.1351	Hannan-Quinn criter.	-3.997175
F-statistic	18.60727	Durbin-Watson stat	2.322181
Prob(F-statistic)	0.000000		

*Note: p-values and any subsequent tests do not account for model selection.

ARDL Cointegrating And Long Run Form
Dependent Variable: AGDP
Selected Model: ARDL(1, 2, 1, 3, 3, 0)
Date: 03/22/17 Time: 05:37
Sample: 1970 2015
Included observations: 43

Cointegrating Form

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(UNMP)	-0.005494	0.003086	-1.780117	0.0863
D(UNMP(-1))	0.008858	0.002543	3.482828	0.0017
D(INTR)	0.005121	0.001381	3.708215	0.0010
D(FIND)	-0.001318	0.002395	-0.550253	0.5867
D(FIND(-1))	0.000263	0.002348	0.111867	0.9118
D(FIND(-2))	-0.016041	0.004376	-3.665861	0.0011
D(INST)	0.003973	0.054899	0.072372	0.9428
D(INST(-1))	-0.103672	0.038586	-2.686758	0.0122
D(INST(-2))	0.738675	0.158540	4.659245	0.0001
D(IFRA)	0.001171	0.000431	2.717371	0.0113
CointEq(-1)	-0.767664	0.126156	-6.085052	0.0000

Cointeq = AGDP - (-0.0235*UNMP + 0.0099*INTR + 0.0187*FIND -0.5798 *INST + 0.0015*IFRA + 0.7443)

Long Run Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
UNMP	-0.023499	0.006493	-3.619029	0.0012
INTR	0.009869	0.002109	4.679683	0.0001
FIND	0.018693	0.005799	3.223799	0.0033
INST	-0.579798	0.174618	-3.320369	0.0026
IFRA	0.001525	0.000545	2.795913	0.0094
C	0.744316	0.133174	5.589062	0.0000

ARDL Bounds Test
Date: 03/22/17 Time: 05:37
Sample: 1973 2015
Included observations: 43
Null Hypothesis: No long-run relationships exist

Test Statistic	Value	K
F-statistic	6.044458	5

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	2.26	3.35
5%	2.62	3.79
2.5%	2.96	4.18
1%	3.41	4.68

Test Equation:
Dependent Variable: D(AGDP)
Method: Least Squares
Date: 03/22/17 Time: 05:37
Sample: 1973 2015
Included observations: 43

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(UNMP)	-0.007351	0.003385	-2.171999	0.0388
D(UNMP(-1))	0.007111	0.002731	2.603926	0.0148
D(INTR)	0.005567	0.001530	3.637894	0.0011
D(FIND)	-0.000101	0.002694	-0.037476	0.9704
D(FIND(-1))	-0.019472	0.004981	-3.909165	0.0006
D(FIND(-2))	-0.018816	0.004771	-3.943397	0.0005
D(INST)	0.012690	0.065326	0.194251	0.8474
D(INST(-1))	0.442854	0.164871	2.686057	0.0122
D(INST(-2))	0.510928	0.174286	2.931556	0.0068
C	0.474118	0.115068	4.120317	0.0003
UNMP(-1)	-0.017997	0.005099	-3.529151	0.0015
INTR(-1)	0.008426	0.001822	4.624450	0.0001
FIND(-1)	0.019233	0.004534	4.241861	0.0002
INST(-1)	-0.274236	0.132683	-2.066850	0.0485
IFRA(-1)	0.000399	0.000426	0.937032	0.3570
AGDP(-1)	-0.719979	0.144543	-4.981062	0.0000

R-squared	0.672276	Mean dependent var	-0.003471
Adjusted R-squared	0.490207	S.D. dependent var	0.039320
S.E. of regression	0.028075	Akaike info criterion	-4.029085
Sum squared resid	0.021281	Schwarz criterion	-3.373754
Log likelihood	102.6253	Hannan-Quinn criter.	-3.787419
F-statistic	3.692423	Durbin-Watson stat	2.388512
Prob(F-statistic)	0.001549		

DATA

YEAR	AGDP**	FIND**	INTR*	INST**	UNMP***	IFRA***
1970	0.447428	0.231856	7	0.649969	9.768022	32.27036
1971	0.420995	0.220931	7	0.65982	9.763899	28.49249
1972	0.380375	0.248304	7	0.682937	9.766138	32.63679
1973	0.340621	0.286723	7	0.713695	9.783153	35.1992
1974	0.229799	0.14776	7	0.757726	9.758898	32.75295
1975	0.28115	0.156087	6	0.756979	9.747405	45.63789
1976	0.234623	0.202601	6	0.771181	9.775097	51.4161
1977	0.234821	0.250594	6	0.754292	9.851213	58.98368
1978	0.2298	0.273357	7	0.729857	9.661879	60.47856
1979	0.201465	0.341412	7.5	0.770084	9.701431	59.60691
1980	0.206101	0.478655	7.5	0.789013	9.885864	67.80365
1981	0.28257	0.078752	7.75	0.761046	10.15568	50.70674
1982	0.297723	0.090611	10.25	0.76663	8.904542	81.57746
1983	0.317943	0.112496	10	0.768055	9.859641	81.41297
1984	0.304627	0.127313	12.5	0.791036	10.62359	61.8158
1985	0.327048	0.130711	9.25	0.813153	11.23493	80.12961
1986	0.35022	0.132979	10.5	0.810955	3.9	90.51529
1987	0.339872	0.164386	17.5	0.812917	13.68004	88.93497
1988	0.349078	0.206694	16.5	0.792866	13.6794	86.77632
1989	0.341647	0.198771	26.8	0.79257	13.6803	96.66263
1990	0.315248	0.256634	25.5	0.782252	13.68105	86.71021
1991	0.32973	0.329716	20.01	0.735764	13.6794	89.21814
1992	0.329244	0.475689	29.8	0.715262	13.67685	89.66875
1993	0.329642	0.72218	18.32	0.708559	13.6839	100.4507
1994	0.337022	0.969121	21	0.6606	13.68405	95.14616
1995	0.341927	1.132747	20.18	0.664819	13.67279	91.08615
1996	0.341167	1.26073	19.74	0.686442	13.66667	85.52179
1997	0.346047	1.422846	13.54	0.695931	13.71208	81.6319
1998	0.350008	1.690751	18.29	0.701855	13.68467	76.61259
1999	0.366998	2.241418	21.32	0.733533	13.62773	75.4092
2000	0.358301	3.147468	17.98	0.735531	13.64219	74.13121
2001	0.343205	3.685967	18.29	0.742625	13.89375	75.19744
2002	0.438901	3.692248	24.85	0.758085	13.575	104.1345
2003	0.42596	4.157183	20.71	0.792385	13.4	101.4018
2004	0.409815	4.290543	19.18	0.797407	13.7	122.9846
2005	0.411907	5.009234	17.95	0.799907	14.9	128.6357
2006	0.417237	6.760248	17.26	0.838391	12.3	111.1444
2007	0.420145	9.195866	16.94	0.87349	12.7	138.1424
2008	0.421265	13.63701	15.14	0.902619	14.9	126.5322
2009	0.417014	0.014994	18.99	0.91399	19.7	119.9494
2010	0.408693	0.014846	17.59	0.906096	21.4	135.6377
2011	0.402071	0.015948	16.02	0.906405	23.9	149.3125
2012	0.239108	0.000258	16.79	0.915967	7.6	155.8544
2013	0.233325	0.000248	16.72	0	7.1	141.873
2014	0.229036	0.000208	16.55	0.655055	4.8	145.6694
2015	0.231111	0.000212	16.85	0.605576	10.85	148.1773

Source: *Central Bank of Nigeria Annual Statistical Bulletin (2012), (2016).

** Authors computation based on data from the Central Bank of Nigeria Annual Statistical Bulletin (2012), (2016).

*** World Development Indicators derived from the World Bank (2017)/

FACTORS AFFECTING LOCATION DECISION OF SHOPPING CENTRES IN THE PERI-URBAN AREAS IN PORT HARCOURT, RIVERS STATE

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Abstract
Most actual decisions concerning the location of commercial establishments involve many considerations. Flawed location selection decision can lead to huge economic loss. Consequently, this research examines the factors that influence the location decisions of shopping malls in the peri-urban areas in Port Harcourt. The study population for this study is Shopping Mall Operators. The check list method was adopted and the data were collected using structured and semi structured questionnaire. Primary data was also used. Simple random sampling technique was deployed in administering copies of the questionnaire. The analysis was based on 375 respondents sampled for the study. Data were analyzed using ANOVA and the Kruskal-Wallis test. The results indicated that accessibility had a mean score of 2.83 and a standard deviation of 1.44. The Kruskal-Wallis non-parametric analysis of variance test for repeated measures was significant, p <.001. Thus, accessibility emerged the most important factor business owners consider in establishing a shopping mall. Based on the findings of the research the researchers recommend that prospective shopping centre owners should consider accessibility in establishing a shopping mall. The researchers argued that government should provide access to the communities adjoining the city of Port Harcourt to encourage growth, reduce movement towards the centre, and thereby reduce traffic at the city centre. Finally, planning authorities should insist that locations of shopping centres are strictly in compliance with extant planning laws.

Keywords*: shopping centre, selection, decision, location, planning, accessibility*

Introduction

Shopping centres exist and may thrive because of their ability to fulfill the convenience needs of nearby residents. As with the hexagonal concept of urban locations, these shops provide a low hierarchical level of services while the customers served look to higher hierarchical levels (central business districts and shopping centers) for the filling of more specialized needs (Barlowe,1978). **Shopping centre,** also called **shopping mall,** or **shopping plaza** is a 20th-century adaptation of the historical marketplace, with provision for parking. A shopping centre is a collection of independent retail stores, services, and a parking area conceived, constructed, and maintained by a management firm as a unit. Shopping centres are generally of neighbourhood, community, or regional scope. Aspects considered by planners when a shopping centre is to be built include feasibility of the site in terms of the community's ability to support a centre; adequate vehicular access; and size, access, and topography of the site, as well as availability of utilities, zoning laws, and land use in the immediate area. Economic conditions of the area, the sociology of the region, and local commercial competition and attitudes determine the size of centre that can be supported and the kind of stores acceptable to a given locale. Shopping centres have become the most common of shopping environments and have influenced the makeup of cities around the world. This is intensified by the poverty dynamics associated with urbanization, distribution and redistributions of goods and services for more patronages, land use zoning requirements, intervening opportunities, economy of scale and the dynamics of demands and supply.

The decision concerning the location of commercial establishments can be very difficult take; perhaps due to the intrinsic and extrinsic factors associated with motives, land use dynamic and policies. Deciding where to build a shopping centre has long-term implications. A faulty decision can be very difficult or even impossible to rectify (Akhtar, 2021). Location analysis is a crucial decision-making element in ensuring the profitability and sustainability of the establishment. High levels of urban growth have been recognized to be associated with increasing levels of industrialization which further raises the prospect of economic growth (Balchin*et al*, 2000). As a result of rapid urban change, the location of commercial activities has been based more on the assessment of profitability or utility. The pattern of urban land use reflects the

competition between supply and demand especially where urban land supply for informal activities slowly reacts to dynamics of land demand. Informal activities, as is the case of retailing, often seek to maximize profits by locating as close as possible to consumers and other servicing activities, but as far as possible away from its direct competitors (Stahl, 1987).This is because small scale industries, as acknowledged by the World Bank (2004), attract indigenous labour, account for a substantial part of the total manufacturing value added, employ significant number of people in Africa and Latin America (Dutta, 2005) and offer strong grounds for linkage creation between rural and urban population (Kappel, 2004 & Sanni 2009).

Literature Review

Empirical Review

The literature is replete with the factors that shopping centres entrepreneurs consider before choosing a location for their business. These factors vary from the postulations of optimal theorist who contend that business enterprises are located where they will command maximum profit possible. Other theoreticians have suggested sub-optimal reasons with a mix of personal factors. In a study done in India by Tarun, Satnam & Anindita (2017), the researchers acknowledged that there are various factors which might affect shoppers' selection of a place to shop. In a similar vein, Otegbulu, Okechukwu & Umeh (2015) assessed the factors affecting shopping in selected shopping malls in Lagos metropolis. The findings were expected to guide shopping mall owners, developers and other shopping mall service providers on shopping mall factors to give priority attention relative to others in their development plans and service operations. Findings from the study however indicated that total building area; arrangement, ordering, neatness and quality of goods; and variety of different stores and service shopping experience are the major determinant factors attracting shoppers to shopping malls. What the study failed to identify were the factors responsible for the selection of location of shopping malls.

Ikadeh & Cloete (2020) did a perceptive study on the impact of formal shopping centre development on informal and small businesses in Lagos, Nigeria and concluded that most of the small business and informal business

around Ikeja City Mall and the Palms Mall in Lekki have a perception that these malls impact their business negatively. However, Bayero (2018) investigated the pattern and extent of relationship among factors that stimulate consumer patronage of shopping malls in metropolitan Lagos. The Study utilized survey method with questionnaire and interview as the two instruments of the study. The study was obviously silent on the factors affecting the location selection of a shopping mall. The study however, vaguely made reference to location attributes as a function of patronage and profit in shopping mall enterprise. It argued that liberalization has led to the establishment of as shopping malls. The study remarked that location influences consumer patronage of shopping malls but did not point out locational attributes that influence the decision of shop owners in establishing shopping malls.

In explaining the locational factors of shopping mall, Lei Zhou, Y. (2018) in an International Conference on Economic Management and Green Development (ICEMGD) presented a paper on location selection of super mall based on GIS Technology and Huff Model published in the Advances in Economics, Business and Management Research, adopted GIS technology to select the best location for large-scale shopping malls in Changchun, Jilin Province of India. The work analyzed the various factors that should be considered in the location selection of large-scale shopping malls, including population density, traffic conditions and existing commercial areas and so on. Based on the detailed planning and field visit data collected in Changchun, Jilin Province. In conclusion, the study noted that demographic structure, transport service and planning regulations determine the selection criteria of a shopping mall. Nevertheless, Barlowe (1978) added that ease of accessibility, the attraction of new facilities, the wide variety of convenience goods offered, and special shopping services such as free parking and opportunities to shop under one roof in air-conditioned comfort have contributed contribute to the location of shopping centres. He argued that these advantages have made it possible for these centers to siphon off much of the trade advantage once enjoyed by central business district establishments and by neighborhood shops.

It is noteworthy to remark that in Nigeria many studies on factors affecting location of shopping malls have concentrated more on economic criteria (type

of goods sold, population and your customer, location costs and personal factors) than non-economic (accessibility, visibility, and traffic, signage, zoning, and planning location costs) that influence the decision of locating a commercial business outfit (Oyelakin-Oyelarin, 1997; Akinbinu, 2001 & Fatusin, 2010). Bull (1994) in emphasizing the importance of location asserted that "the three most important factors that define the business establishment are location, location, and location". In the literature there is growing body of knowledge on the importance of location in business establishment (Adam & Amuquandoh, 2014; Chou, Hsu, & Chen, 2008 & Wang, 2012). However, recent observations in the peri urban of Port Harcourt have shown that the location of shopping centres tends not to conform to the optimal location theories of Weber (1929) and Losch (1954). Alfred Weber in his book, theory of industries posited that the location of industry is hinged on cost minimization. Nevertheless, operators of business establishments locate their activities on the basis of some sub-optimal behaviour as well as on some personal factors with peculiarities that vary from one environment to another. In the words of Ogbu (1998), personal factors are imperative in explaining actual location decisions of industries as the siting of such small scale or informal sectors might be the result of sub-optimal behaviour.

Summary of Literature Reviewed

Based on the studies reviewed it can be argued that the existing works failed to address the factors that explain the location of shopping malls in the peri urban centres in Port Harcourt. It is also important to note that none of these previous studies focused on factors that will influence the location decision of shopping centres entrepreneurs in a polycentric city like Port Harcourt. It is on the basis of this gap in the literature that this study sets to determine the factors that influence location decision of shopping centres in the peri urban of Port Harcourt. It is envisaged that this study will provide a model of location selection based on both theoretical and empirical data and information from shopping mall investors and operators and experts in urban planning. In this sense, it can serve as a guideline for anyone interested in the establishing a shopping mall. Importantly, the structured framework and identification of factors and their influence will introduce a new dimension to location decision-making in the establishment of shopping malls. Lastly, the output of this research will be a helpful spatial decision tool for policy makers and

municipal managers in terms of providing support to shopping centre operators.

Methodology

Study Area

Port Harcourt was founded in 1913 by Lewis Vernon Harcourt, a top member of the British Colonial Administration in Nigeria. Port Harcourt is the heart of Nigeria's oil industry with virtually all major multi-national oil companies being represented in the city (Port Harcourt Master Plan, 1975) b. The economic activities of Port Harcourt include manufacturing processing, sand mining, agriculture and fishing, and services. Numerous small-scale enterprises like consumer retailing and wholesale businesses also thrive in the city. Rural urban migration among other factors has pushed the population of the city to over 3 million. Thus, the city is expanding rapidly and it has annexed the peripheral communities. With about 3.5% population growth rate the city is expected to have a population of over 10miliion in 2030. (Rivers State Ministry of Budget and Planning, 2019).

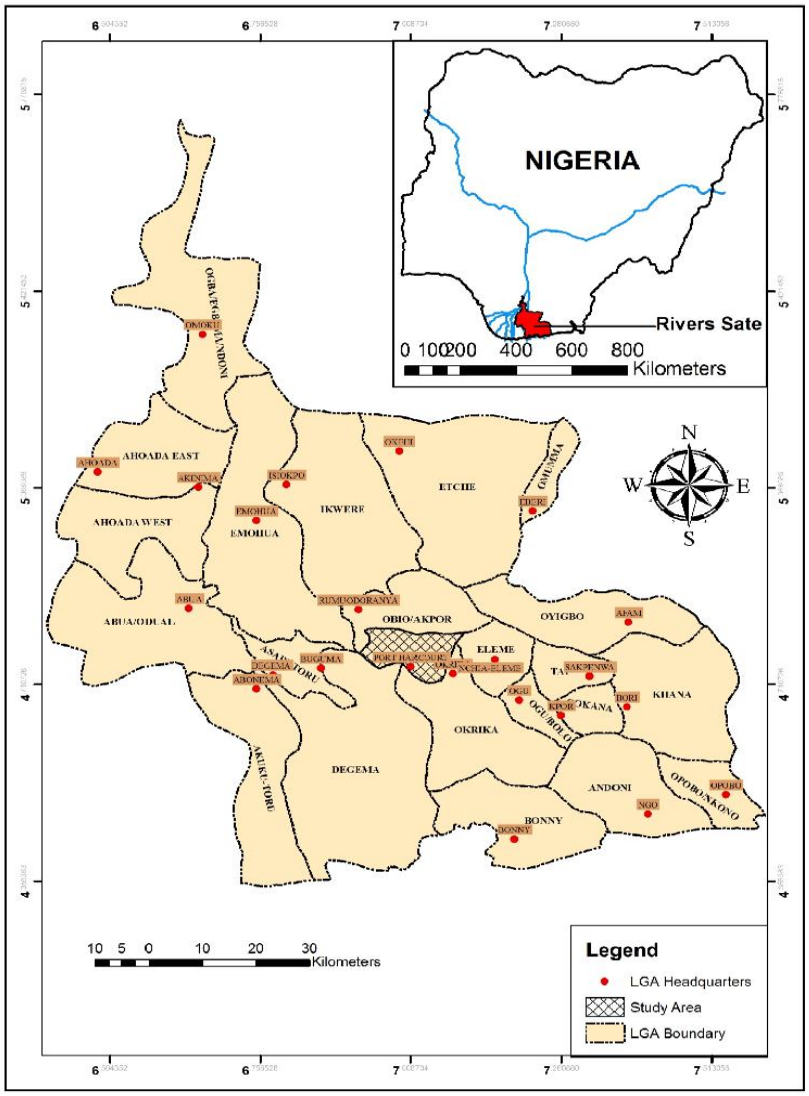


Fig 1.2: Map of Rivers Showing the Study Area

Method of Data Analysis

In this research the cross-sectional study design was adopted. The operators of the shopping centres constituted the population of the study. The sources of data for this study will include both primary and secondary data. Questionnaire constituted the primary data instrument for this study. The

adopted a checklist model which provides a shopping centre evaluator with a set of procedural steps for arriving at a subjective yet quantitative expression of a location value. Shopping centres operators were requested to rank-order eight commonly cited factors that influence entrepreneur's location decisions from one (1) to eight (8) so that the most important factor is ranked 1 while the least factor is ranked 8. These factors include population structure, accessibility, extant planning and zoning laws, location cost, traffic, the level of infrastructure and sales potential. Secondary data were collected from a diverse source of published documents by Rivers State Ministries of Finance, Commerce and Industry, Nigeria Chamber of Commerce, Central Bank of Nigeria and other relevant government agencies. Also, secondary data were sourced from journals, unpublished and published works, text books and archives. There are 452 operators of shopping centres in the peri urban of Port Harcourt. The simple random sampling and systematic random sampling techniques were used in selecting the sample size. Both descriptive and inferential statistical techniques were used. The Kruskal-Wallis H test (sometimes also called the "one-way ANOVA on ranks") is a rank-based nonparametric test that can be used to determine if there are statistically significant differences between two or more groups of an independent variable on a continuous or ordinal dependent variable.The test statistic is given by:

$$K = (N-1)\frac{\sum_{i=1}^{g} n_i(\bar{r}_{i\cdot} - \bar{r})^2}{\sum_{i=1}^{g}\sum_{j=1}^{n_i}(r_{ij} - \bar{r})^2},$$

where:

- n_i is the number of observations in group i
- r_{ij} is the rank (among all observations) of observation $j$from group i
- $N$is the total number of observations across all groups

Research Findings

The study found that the factors that influence the location of a shopping centre in the peri urban areas in Port Harcourt are multi-faceted. The factors are population structure of the area, accessibility to existing transport corridors, cost of shop in order words location cost, traffic, the level of infrastructure in the area and sales potential. The rank-order of the eight factors that influence the location of an enterprise is displayed in table 1. The study identified accessibility as the most important that influences the location decision of shopping mall. Out of a total of 375 respondents 34.7% of them ranked accessibility as the first factor. The Kruskal-Wallis non-parametric analysis of variance test for repeated measures as shown in table 1 depicted that accessibility was significant, $p < .001$ and has a mean of 2.83 and a standard deviation of 1.44.This finding tallies with the view of (Barlowe,1978) who contended that accessibility is a key factor in the location of business of business establishment. The research output can also be situated in the pioneering work Walter Crystaller on location.

Conversely, planning and zoning law ranked lowest. In fact, no operator of shopping malls agreed that planning and zoning laws influence the location of shopping mall. It can be inferred that operators of shopping malls do not show consideration for planning and zoning laws. This finding agrees with Akhtar (2021).It is important for operators of business establishments to understand all the rules, policies and procedures related to the location of proposed shopping centre. There may be limits on the size and imagery used in signs that advertise your business. Ask about any restrictions that may affect your retail operation and any future planning that could change traffic, such as highway construction. Lack of consideration for planning and zoning laws creates chaotic and unplanned development and may be responsible for the proliferation of shopping malls in the fringes of Port Harcourt. Planning authorities in the study area must therefore insist that location of shopping malls conform with extant planning laws.

Table 1: Rank Order of Factors Influencing Location Decision by Shopping Centres Owners.

Rank	Minimization factors	Mean	Std deviation	Frequency	Percentage
1	Accessibility	2.83	1.438	130	34.7
2	Population structure	3.21	2.196	90	24.0
3	Traffic	3.65	1.742	45	12.0
4	Infrastructure	4.45	1.399	45	12.0
5	Sales potential	4.65	2.797	45	12
6	Competition and neigbour	5.00	2.157	15	4.0
7	Location cost	5.11	1.876	5	1.3
8	Planning and zoning laws	7.09	1.279	0	0
TOTAL				**375**	**100**

Source: Researcher's fieldwork, 2021

Conclusion and Recommendations

The study examined the factors affecting location decision of shopping centres in the peri-urban areas in Port Harcourt, Rivers State. The research findings revealed that the most important consideration in deciding the location of shopping centre is accessibility. Shopping centre owners locate their business where there is accessibility to existing transport corridors. The Kruskal-Wallis non-parametric analysis of variance test for repeated measures was significant, $p < .001$. The result as presented in table 4.3 indicates that proximity to family members emerged the most important factor that industrial entrepreneurs consider, with a mean of 2.83 and a standard deviation of 1.44.Based on the findings of the research work the researcher recommends that prospective shopping centre owners should consider accessibility in establishing a shopping mall. The researchers argued that government should provide access to the adjoining communities to the city of Port Harcourt to encourage growth and reduction movement towards the centre to reduce traffic at the city centre. Finally, planning authorities should insist that location of shopping centres is strictly in compliance with extant planning laws.

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GLOBALIZATION AND INDUSTRIAL SECTOR PERFORMANCE IN NIGERIA

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Abstract

This study investigates the impact of globalization on industrial sector performance in Nigerian from 1981 to 2019. Globalization was proxies by global oil price, foreign private investment, trade openness, and official development assistance. The time series data on the variables were source from secondary sources in both national and international institutions and was used for the analysis. Due to the mixed order of integration of the stationarity test result, we employed the ARDL or bound test model to analyze the data. And the bound test result meets the necessary and sufficient condition of cointegration. It was further observed that official development assistance and gross capital formation were the true determinants of the industrial sector performance in the short run and in the long run all selected variables were statistically significant. Thus, globalization is a true determinant of industrial sector performances. Also, the sector was expected to adjust to stability from the past errors of globalization by 74 percent. More so, trade openness as a process of globalization has insignificant negative effects on the sector performance in the short run and negatively significant effect in the long run at 5 percent significance level. The estimated model has a good fit and generally significant as indicated by the coefficient of determination and f-statistics. The diagnostic checks show that the model is stable. Therefore, recommend that global agreements with emerging and developed countries should be one of symbiotic relationships.

Keywords: *Industrial Sector Output, FDI, Gross Fixed Capital Formation, Global Oil Price*

Introduction

Globalization, as forwarded by Steger (2005), is the geographic dispersion of industrial and service activities, as well as the cross-border networking of companies. Today, the world is seen as a global village wherein exchange of

goods and services are now between two poles; the domestic and the rest of the economies. To some, this is a blessing while others believe it is a curse with negative effects on the domestic economy in terms of international competition (Yousuo, 2018; Nwaeze, 2018). In the words of Carbaugh (2011), globalization consists of increased interaction of products and resource markets across nations through trade, migration, and foreign investment; international flows of goods and services, of people, and of investment in equipment, factories, stocks and bonds. The cross-border movement of multinational and transnational corporations is always accompanied with technologies of production, taste and style of living, managerial philosophies and diverse business practices, which were seen as the major force of economic globalization (Goldin and Reinert, 2007). Also, its large share of production in less developed countries is adding value to components for export that have insignificant effects on a host economy's foreign exchange. However, it is worth mentioning that as firms sublet production processes to affiliates abroad, they transfer jobs, technologies, capital, and skills across the globe (Das, 2004).

The internal dynamism of African economies in the ongoing globalization of capital deserves some measure of investigation on why we are still crawling with the pace of development given the Rostow's model on growth stages. The changing nature and qualities as well as dimensions of globalization processes; trade, finance, aid, migration, and ideas, as forwarded by Godwin and Reinert (2007), expectations from developing countries are an easy walk to growth and development, taking advantages of these processes. However, this is not the case with Nigeria, where the inability to take advantage of the globalization process by successive governments has led to alarming negative outcomes such as high level of brain drains, underutilization of capacity and unemployment, inflation importation, foreign product dependency, clueless leadership and dependence on oil proceeds, poor infrastructure, lack of synergy among the sectors, sectors underdevelopment, low income/output, low foreign private investment, negative current account balance, continuous depreciation of domestic currency, etc. These concerns continued to mitigate private individuals' effort as government and its representatives vowed to cripple the economy with poor policy implementation and monocultural

economic agenda that never encourages diversification in practical terms, and the adoption of crude oil price for fiscal policy benchmark.

Empirical literature on globalization in Nigeria, have concentrated more on economic growth with scanty studies on sector drives, and most of these show the degree of mixed effects of globalization on economic growth, manufacturing, financial subsectors without considering the real sectors implication or responses to globalization processes and the integration of international commodity prices as explanatory variable. Among others studies include Danladi, Akomolafe, Babalola, & Oladipupo, 2015; Yousuo, 2018; Ali, Obayori & Obayori, 2018, and findings on the benefits of globalization in the economy is abysmally minimal relatively within the West African region (Asuamah (2016), Yousuo (2021)).

To this end, this paper provides answers to the impact of globalization (globalization indicators like trade openness, aids, global prices, foreign investment, ertc.) on real sector (industrial sector) performance of the economy. If at all, the continuous benchmarking of the national budget as well as the aid received over the years has in any way contributed to the growth of the sector. Thus, the study aims at examining the impact of globalization on the performance of the Nigeria industrial sector.

Literature Review

Conceptual/Theoretical Review

As at today, no nation across the globe is seen as an autarky economy in terms of economic activities of various economic agents within the economy, as employment and income level, and living standards directly or indirectly depends on their trade partners' economic policies. And this degree of relationship among nations or economies shows the historical development of global economic and political order. In the early nineties, Nigeria among the committee of state within Africa was seen as the giant but today, the degree of economic integration has reduced her status from the fastest growing economy in 2013 to the least in Africa all credit to globalization and the recent recession experienced by the economy due to poor economic policies. Globalization has been directly associated with the movement and changes of certain macroeconomic variables which reveal the extent and depth to which the

country actively partakes in the global economy. And this is measured through performance indicators in the economy (Shuaib, Augustine & Frank, 2015).

Globalization and Industrial Sector

Technical innovation and enterprising is seen as the fastest means of sustaining growth in any economy than endowed material resources (Olamade, Oyebisi & Olabode, 2014). Bennett, Anyanwu and Kalu (2015) postulated that industrialization is the application of technology in the production and alleviation of human suffering by improving on social welfare. Hence, the present processes of manufacturing consist of managerial and entrepreneurial skills development couple with high technological innovations believes in promoting large scale production and good standard of living. In present age, efficient level of a country manufacturing sector is seen as the basis of economic efficiency in compares among committee of nations across the globe. Hitherto, Nigeria's crude oil exploration and exploitation results to a paradigm shift of economic activities from agriculture to industrial development between 1970s to date. The spillover effects of this economic decision place a cost on crude oil production in the economy, sector neglection and unemployment aggravation

Ogbu (2012) shared an opinion that the Nigeria oil industry is not a major determinant of employment, which in turn limits its contributions to the economy due to underutilization of capacity resulted from poor production chain and lack of or poor technological spillover effects, when compare to the contribution of the manufacturing sector to economic growth before 1970s which stands at 10%. Adofu et al. (2015) argued that manufacturing sector is more dynamic and technologically drives compared to other sectors, however, is currently undergoing several difficulties due to inadequate investment in research and development. Consequently, the sector heavily relied on technology importation to sustain production level coupled with foreign exchange limitation. And the aftermath effects of its contribution to the gross domestic product have remained infinitesimal (CBN, 2013).

Empirical Review

Empirical evidences on the nexus between globalization and industrial sector performance among others comprises of the following; Dogan and Deger

(2016) analyzed the causality and long-term relationship between energy, economic growth and globalization for Brazil, Russia, India, and China (BRIC) for a period of twelve years (2000-2012), and the result reveals the existence of long-term relationship. The causality test shows a unidirectional relation from total energy consumption to economic growth, and from globalization to economic growth, and that energy consumption and globalization are not related in any way. Asuamah (2016) investigated the impact of climate change and economic globalization on Ghana manufacturing sector from 1961 to 2013 with the application of the ordinary Least Square (OLS) method in analyzing the time series data and the result established the existence of long run equilibrium between Ghana manufacturing sector and globalization. The vector error correction reveals a transitory deviation from the short run disequilibrium to long run equilibrium, while the granger causality test established an evidence of bidirectional causality between the variables. He concluded that reducing the effect of climate change and economic globalization will not in any way retard the manufacturing sector productivity.

Oyedele, Kareem, and Akanbi (2016) looked at globalization impact on small and medium enterprises development in Nigeria using 110 registered SMEs and operates in Lagos State, Nigeria. Data were collated using primary source tool (questionnaire) through simple random sampling method and analysed with the aid of the Ordinary Least Square, result reveals that globalization has positive and significant effect on SMEs development. From their findings, globalization has 33.64% decisive influence on employment generation, which implies that globalization is a strong predictor of employment generation. More so, globalization is positively and significantly related with poverty alleviation and they concluded that globalization has boosted the performance of SMEs in Nigeria.

Anjande and Ijirshar (2017) examined the relationship between globalization and the manufacturing sector performance in Nigeria from 1985 to 2015, using descriptive statistics and autoregressive and distributed lag model approach. They established the existence of long-run positive relationship between globalization and manufacturing output in Nigeria with 66.7% degree of adjustment. However, the short-run influence of globalization processes was negative. They therefore recommended that the Nigerian government should

embark on regulated and favourable trade policies to avoid back slash effect and encourage foreign and domestic investors in the manufacturing sector by providing favourable environment that would help in conducting business activities without unnecessary risks.

Yousuo (2018) investigated the impact of globalization on the performance of the manufacturing sector in Nigeria within a period of thirty-six years from 1981 to 2016. He employed the classical least square to measure the causality effects of globalization on the said sector performance with three specific objectives; examining the impact of gross capital formation, exchange rate, and foreign direct investment on the sector. The result shows that gross capital formation and exchange rate were positive and statistically significantly related with the sector performance, while foreign direct investment was insignificance but its transmission mechanism in enhancing manufacturing sector performance is crucial. Ali, Obayori, and Obayori (2018) examined the impact of globalization on manufacturing sector growth in Nigeria with reference to trade intensity index, portfolio investments and trade restrictions from 1980 to 2016. They employed the Johansen co-integration and parsimonious error correction model (ECM) in analyzing the data, and the result shows that the variables are co-integrated and that manufacturing sector growth lagged for one period is positively related to current growth of the manufacturing sector. Also, trade intensity index has significant positive impact on manufacturing sector growth. On the other hand, trade restrictions exerted significant negative impact on manufacturing sector growth; again, portfolio investment exerted a negative and insignificant impact on manufacturing sector growth. The ECM (-0.0229) revealed that convergence of the model is possible at a speed of 2.29 percent. They conclude that combinations of the underlying explanatory variables are reliable sources of predicting changes in the manufacturing sector growth.

Effiong, Odey, and Nwafor, (2019) investigated the nexus between globalization, foreign direct investment and industrial sector performance in Nigeria. The study used trade openness and current account balance to capture globalization while portfolio investment was used to represent foreign direct investment inflows into the country. The findings revealed that FDI has a direct relationship with the Nigerian industrial sector, and globalization exerts a positive impact on industrial sector performance. It was concluded from the

study that the development of any nation is tied to the ability of the country to industrialize its manufacturing sector, and industrial performance is seen as a surest way for countries especially developing economies to enhance sustainable growth and development. The study recommended amongst others; the development of the manufacturing, mining and quarrying sub-sectors of the industrial sector, and reduce the over dependence on crude oil revenue which has partly led to the neglect of these sub-sectors; protecting of indigenous infant industries by the government; development of infrastructural facilities to reduce the problems of the industrial sector in Nigeria; promotion of foreign direct investment inflow into the industrial sector of the Nigerian economy; as well as adequate structural and sectoral policies should be developed in order to improve macroeconomic stability, ensure external balance, reduce vulnerability to external shocks and crisis and the reduction in interest rate.

Lastly, Bieh and Raimi (2019), examined the link between globalization and productivity using a sample of selected SMEs in the food processing industry as their case study. The study made use of data from 174 SMEs drawn from Port Harcourt, Rivers State, Nigeria and the data collected were analyzed using descriptive and inferential statistics. Findings from the data revealed a significant relationship between globalization and adverse impact on the productive capacity of SMEs in the food processing industry. Hence, the study concluded that the current nature of globalization which in all ramifications involves the free movement of capital creates an environment where large international enterprises suppress local ones. This is made possible because the international enterprises have all it takes including capital and technical know-how that are required to dominate the business environment at the detriment of local SMEs. This goes a long way to undermine the productive capacity of local SMEs and make them less competitive.

Summary of Literature Reviewed

Aside the methodology employed by scholars, the empirical literature reviewed above is more sub-sectors with emphasis on manufacturing sector and firms/SMEs performances. Also, the components of globalization used by previous scholars fails to considered the price of the international commodity of the country in the global environment, while their findings are mixed with

negative and positive effects, with some degree of long-term relationship. Here this study incorporates the international price of country's commodity and foreign aid as globalization indicators or processes, to examine the effects of globalization on the real sector performance using the appropriate method.

Methodology

Data Sources and Collection

The ex-post facto research design was adopted for this study given the exogenous nature of the variables, and the time series data were sourced from secondary sources within and without the boundaries of the Nigerian economy; well established and renowned institutions like the world bank and CBN, and the period cover is from 1981 to 2019.

Model Specification

The variables considered in this study are divided into two groups; the explained and the explanatory variables. Variable's selection in econometric research is either by adoption, adaptation, derivation, intuition, or a combination, in this study we select our variables by combination (Oluleye, 2017). The explained variables comprise of performance indicator of the industrial sector while the explanatory variable which is globalization is proxy by global oil price, foreign private investments, trade openness, and official development assistance, and gross capital formation serve as control variables in the models.

Following Yousuo (2018) with some modification, the functional and econometric models are given

$$ISP = f(FDI, PI, GCF, GOP, DOPEN, ODA) \quad \ldots\ldots 1$$

$$ISP = \beta_0 + \beta_1 FDI + \beta_2 PI + \beta_3 ODA + \beta_4 GCF + \beta_5 DOPEN + \beta_6 GOP + \mu \quad \ldots\ldots 2$$

Where ISP is industrial sector performance indicator, FDI is foreign direct investment, PI is foreign portfolio investment, GCF is gross capital formation of the economy, DOPEN is trade openness measured by the ratio of total trade (import plus export) and GDP, ODA is official development assistance, and

GOP is global oil price, μ is random term, assumed to be independently and identically distributed (iid). And the apriorism expectations are $\beta_i, > 0$

Method of Data Analysis

The study is a time series data analysis approach. And as such the method employ in analyzing the data is determine by the nature of the data, and by this we mean the order of stationarity of the data speaks volumes in the choice of method of analysis. The stationarity test enhances our analysis in examining the predictability of the explanatory variables on the variability of the explained variable in both short and long-term avoiding a spurious outcome. Theoretical econometric posited that the outcome of the stationarity test tells the researcher whether to employed the ordinary least square, vector auto regression, error correction model, cointegration approach or Johansen or bound testing methods. From the diagram below serve as a guide in choosing the appropriate method of analysis in econometric time series

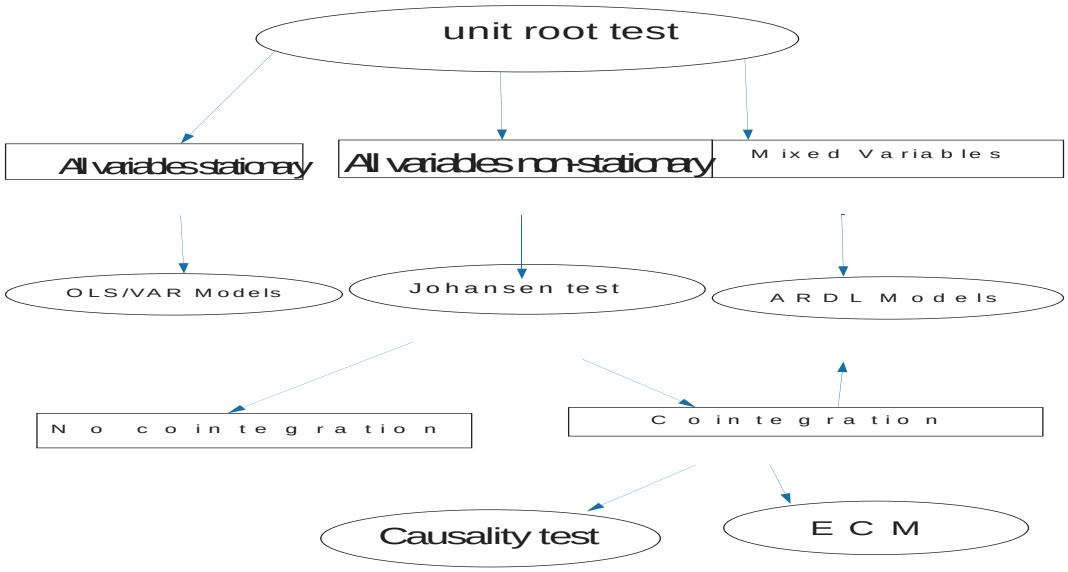


Figure 3.1: Method Selection for Time Series Econometric Research

From the above figure, if the variables unit root result shows that all the variables are stationary then the classical least square is the most suitable method of analysis otherwise the Johansen test. However, in case of mixed variables of stationary and non-stationary then the appropriate method of analysis is the ARDL or bound testing method. Furthermore, in a situation

where the bound test is cointegrated then we can estimate vector error correction model (Long run) and ARDL (short run) otherwise you estimate only ARDL model.

Results and Discussion

Table 1: Stationarity Test Results

Variables	ADF Level	CV 5%	ADF 1st diff	CV 5%	Order of Integration
LINDUST	-3.9452	-3.5366			I(0)
LGOP	-2.4013	-3.5331	-6.0320	-3.5366	I(1)
LGCF	-3.1215	-3.5366	-4.8124	-3.5366	I(1)
LFDI	-1.5415	-3.5331	-7.7628	-3.5366	I(1)
LEXR	-1.2777	-3.5331	-5.6076	-3.5366	I(1)
LNODA	-2.5562	-3.5331	-5.6711	-3.5403	I(1)
LFPI	-6.8606	-3.6329			I(0)
DOPEN	-2.3736	-3.5331	-8.0997	-3.5366	I(1)

From Table 1, the computed Augmented Dickey Fuller (ADF) statistics and their respective critical values show that the data are truly time series data with the basic feature of unit root existence. The result for the level test shows that the dependent variable (industrial sector output) and the foreign portfolio investment variable are stationary; all the ADF statistics values are more than the computed critical values at 5% level. While the other variables (DOPEN, LFDI, LNODA, LEXR, LGOP, and LGCF) turn stationary after first difference. Hence, they have unit root problem. This means that the data has unit root, which happens to be the basic feature of time series data. Hence, we employed the Autoregressive Distributed Lag (ARDL) model in analyzing the data. This model is the sole developed to address stationarity/nonstationary with some degree of dynamism (Pesaran, Shin and Smith, 2001). This approach is also known as the Bound testing method of long run relationship analysis. According to Pesaran et al (2001) the ARDL model is superior to the Johansen and Juselius (1990), in terms of efficiency and consistency in both large and small sample analysis of cointegration test.

Table 2: Bound Test Co-integration Result

Null Hypothesis: No long-run relationships exist		
Test Statistic	Value	k
F-statistic	5.0988	5
Significance	I0 Bound	I1 Bound
10%	2.26	3.35
5%	2.62	3.79
2.5%	2.96	4.18
1%	3.41	4.68

Source: Author's Computation E-view 9.0

In this test, the decision rule is that if the computed f-statistics value is higher than the I1 bound critical value then we reject the null of no long run relationship, we cannot reject the null hypothesis of no long run relationship if the f-statistics is lower than the I0 bound critical value. However, if it falls in between the I0 and I1 then the analysis is inconclusive or better still run only OLS regression. The bound test result in Table 2 above shows that there is long run relationship between the variables, given the fact that the computed f-statistics value is greater than the I1 bound of 5% critical level. With this conclusion we proceed in determining the short run and long run effects of globalization on the performance of the industrial sector. Table 4.4D below shows the cointegration/long run result.

Table 3: ARDL Co-integration and Long run Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNODA)	0.033793	0.011204	3.016111	0.0054
D(LFDI)	0.015697	0.016459	0.953722	0.3484
D(LGCF)	0.048118	0.019887	2.419503	0.0223
D(LGOP)	0.043950	0.035259	1.246476	0.2229
D(DOPEN)	-0.039522	0.117124	-0.337436	0.7383
CointEq(-1)	-0.741150	0.140133	-5.288925	0.0000
	Long Run Coefficients			
LNODA	0.045596	0.013715	3.324620	0.0025
LFDI	0.076803	0.026765	2.869538	0.0077
LGCF	0.064923	0.018624	3.485957	0.0016
LGOP	0.200424	0.059642	3.360457	0.0023

DOPEN	-0.495006	0.188616	-2.624408	0.0139
C	7.504506	0.334398	22.441808	0.0000

Source: Author's Computation E-view 9.0

Cointeg. = LISP – (0.0456*LNODA + 0.0768*LFDI + 0.0649*LGCF+ 0.2004*LGOP – 0.495*DOPEN + 7.5045)

From Table 3, the co-integration equation estimated shows that net official development assistance and gross capital formation are the only true determinant of industrial sector performance of the economy. They are both statistically significance at 5% level while the other globalization processes are not true determinants of the sector performance in the short run. The estimated coefficient of adjustment is significance with the right sign which validated the bound test result of long run relationship. And that, the model proof necessary and sufficient evidences for industrial sector performance to adjust through stability from the past error of instability created by globalization in the short run.

Furthermore, although individually they are insignificance but collectively, they are significant as rightly display in the long run estimation. The long run estimate shows that all the processes of globalization are statistically significance at 5%, meaning that the mode has met both the necessary and sufficient conditions of long run relationship between globalization and industrial sector performance in Nigeria. This result further shows that trade openness which is also negatively sign implies that openness of the industrial sector to the global world has not been beneficial. This casts some doubts that make us to argue here that the various global agreements entered into by the Nigerian government such as New Economic Partnership for Africa Development (NEPAD), various international commitments between Nigeria and China, Britain, etc., have not been beneficial to the Nigerian economy. In short it is shown in our result that those international agreements to foster trade liberalization and trade openness to both African countries in the global world have not improved Nigerian economy, and as such, are classified as parasitic rather than symbiotic.

This is quite unfortunate that successful governments continue with such agreements rather than looking inward, as argued by Ayadi and Balonga

(2006), that trade liberalization has had negative effects on the environment in Nigeria. In specific terms, increased trade openness has led to increased environmental pollution which has a significant and negative impact on agriculture particularly the soil and water and also on the industrial sector. This perhaps informed the recommendation by Ayadi and Balonga (2006) that trade liberalization should be accompanied by government investment in education, skills, research and development so as to equip people to take advantage of new employment opportunities and to create adequate safety nets to protect the environment in this era of trade liberalization.

Post- Estimation Test

Normality and Stability Test

The test shows that the error is normally distributed across the period under review, and that it disperses against the mean and the distribution of the items is asymmetrical. The Jarque-Bera normality test with value of 4.5915 and probability value of 0.1007 indicates the validation of the null hypothesis that the residuals are normally distributed as indicated in figure 4.1.

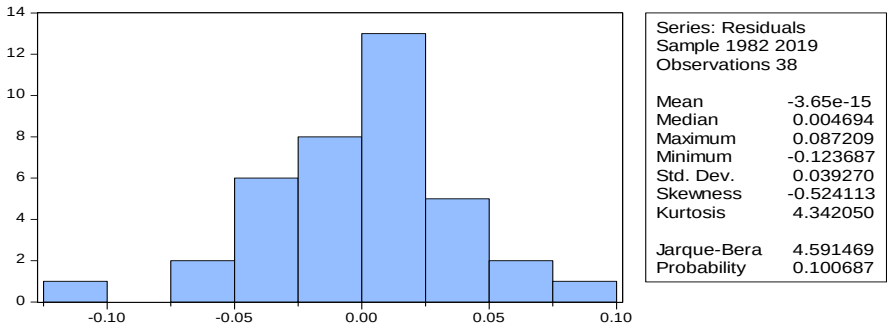


Figure 4.1: Jarque-Bera Normality test for Model 1

Cumulative Sum Test

The result of the cumulative sum of recursive residual (CUSUM) test shows that the estimated result is in order and the residual is normal and within the bound, hence it spreads across the period. The (CUSUM) indicates the validation of the null hypothesis that the residuals are stable since the CUSUM

line fell in between the two 5% lines for the three cases as shown in figure below.

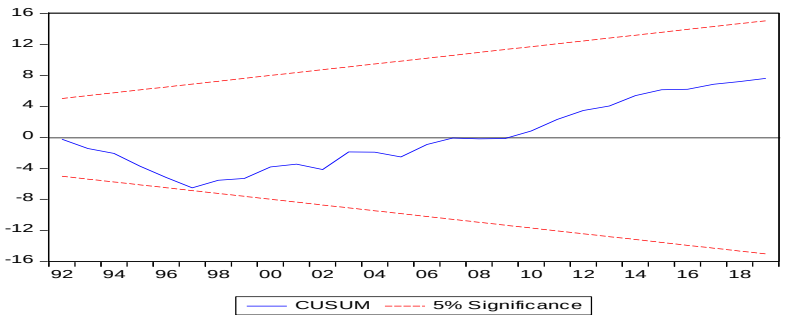


Figure 4.2: CUSUM Test for Model

Conclusion and Recommendations

Globalization analysis and its implication on the industrial sector shows that the performance of the sector is also determined by its previous performance level. In as much as relationship with the global world is inevitable, such relationship should be symbiotic in nature given the fact that trade openness retard sector performances, which contradicts the goal of international treaties entered into over the years by the government with the aim of promoting growth and development of the economy and sector performance in particular. This finding on the impact of trade openness on the industrial sector is consistent with Erumebor (2010) who also found that trade openness had a negative relationship with industrial sector growth. It was further revealed that exchange rate was positively related to industrial growth in Nigeria. Both variables were shown to be statistically significant in explaining the impact of globalization on industrial growth. But contradicts the finding of Ebong, Udoh and Obafemi (2014) which revealed that trade openness has a positive influence on industrial development.

Trade openness which has a negative and insignificant effect on the industrial sector implies that opening of the economy to the global environment has not been productive to the economy rather, it retards the performance of the sector and as such should be discouraged. This casts some doubt on the various global agreements entered into by the Nigerian because they have not been beneficial to the Nigerian economy, and as such, are classified in this study as

parasitic rather than symbiotic. It is however, worrisome that successful governments continue with such agreements rather than looking inward, as argued by Ayadi and Balonga (2006), that trade liberalization has had negative effects on the Nigerian environment. We therefore recommend

1. Global agreements with emerging and developed countries should be one of symbiotic relationships. Hence, the Nigerian government should go into agreement that would have benefits to the domestic economy rather than opening its economy for exploitation in the name of globalization. Our export should be welcome in the global market without any degree of internal regulation at the expense of our trade balance.
2. Monetary authority should stabilize the exchange rate by encouraging capital inflow through contractional conventional monetary policy. This will drive portfolio investment and the capital market performance as well as the service sector in general.
3. Domestic crude processing should be encouraged. The efficient state of our local refineries will help in enhancing the current account balance which will improve foreign reserves given the commodity price. This can help in the improvement of social overhead in the form of energy supply and sectors' productivity.

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AN ANALYSIS OF JOB LOSS AND INFORMATION AND COMMUNICATION TECHNOLOGY ADOPTION IN THE NIGERIAN BANKING SECTOR

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Abstract

This study empirically examines the relationship between information and communication technology (ICT) adoption in the Nigerian Banking industry and the number of job losses in the sector, using Zenith Bank Plc as a case study. The research design adopted for the study is a survey research design. The main instrument used was questionnaire. The questionnaire was used to elicit information (dataset), which was analyzed using both descriptive and analytical techniques. Analytically, the Chi-square method was used in testing the single null hypothesis of no correlation between ICT adoption and job losses in the banking industry in Nigeria. The finding reveals that the majority of the respondents strongly agreed that ICT adoption has a significant effect on job losses in the Nigerian banking system, which culminate with the Chi-Square results, which indicates rejection of the null hypothesis because the probability value was greater than 5% level of significance, equally, the calculated Chi-Square was greater than the critical value at 5% level of significance. Therefore, the study recommends among others, that the banks should see staffers as being complementary to the ICT innovation, and not substitute. Also, Government should increase and improve on the dilapidated infrastructures to reduce overhead costs and enable the banks to operate efficiently without an undue cost-cut strategy that could attract downsizing in the industry.

Keywords: ICT Adoption, Nigerian Banking Industry, Job Losses, Analytical Techniques

Introduction

The global economy interaction had necessitated the advancement in Information and Communication Technology (ICT) which culminates

tremendous changes in the ways of doing things (i.e. production, distribution, and consumption of goods and services) in all sectors of every economy. This to a large extent, in recent times, has led to tremendous usage of electronic banking (a subset of information and communication technology) in the various economies of the World, which can never be overemphasized due to improved and innovative technology that inform increase in technology usage in the banking industry.

Therefore, it is not a gainsaying that, Information and Communication Technology (ICT) had transformed the hitherto analogue Nigerian banking sector into a digitalized system of banking, which had resulted in a more conducive banking operation and experience, through the elimination of long queues in the banking halls, customer attachment to a branch of operation, analogue book-keeping, strict adherence to the use of vouchers, and checkbooks for cash transactions, and so forth.

The digitalization of the Nigerian banking sector through the adoption of ICT had rewritten the history of banking operations in Nigeria and had changed the narratives, this is because all the hitherto features of the analogue style, had long disappeared with the invention and adoption of ICT. The importance of digitalization of the banking sector cannot be overemphasized because it created both time and place utility to customers, as customers can now transact business with ease and without visiting banks or speaking to bank employees or agents. The smooth operation of digital banking is a hub on different tools of electronic banking transactions such as Point of Sales (POS), Automated Teller Machine (ATM), Mobile-Banking, and On-Line Banking or Internet Banking System, etc.

Accordingly, Quresh, Zafar, and Khan, (2008) argued that e-banking is becoming an indispensable part of modern-day banking transactions; because the banking industry is one of the fast industries that adopt information and communication technology, which had helped in providing better services to customers. The quality of the banking services is improved by the day as more and improved technological innovations are adopted for the betterment of individual banking firms, the customers, and the industry at large. Despite this overwhelming innovative banking experience, occasioned by ICT, could it be

right to assume or conclude that ICT adoption in the Banking system has no pitfalls**?** The answer to this question is part of this research focus

It is also important to note that modern-day banking services paid more emphasis on the usage of technological innovations to improve service delivery and high level of customer satisfaction, cum global competitiveness. However, this overwhelming usage of technology partly explains why we experienced a high level of job losses among employees in the modern-day industry because the machine now takes up man's job. In addition, the evolution of e-banking started from the use of Automated Teller Machines (ATMs) and telephone banking (tele-banking), direct billing payment, electronic fund transfer, and the groundbreaking internet banking system (Safeena, Abdullah and Date 2010).

Globally, the internet is the cheapest delivery channel for banking products as it allows the entity to reduce their branch networks and downsize the number of service staff (decreasing the level of manpower usage in the banking sector). This dehumanizes the work organization which is one of the shortcomings of Business Process Improvement (BPI). The focus of the present study is more on the effect of e-banking on employees' job security in the Nigerian banking sector, the transformation from traditional banking to e-banking has been a 'leap' change. To this end, this study is poised to empirically evaluate the relationship between ICT adoption in the Nigerian Banking industry and job losses or job security, using the data set from structured questionnaires administered to one of the foremost banks (Zenith Bank) in Nigeria. The rest of the study is organized into five (5) sections. Following the background to the study is the literature review, section three is data analysis, and results and discussion is discussed in section four. The conclusion and policy recommendations are contained in section five.

Literature Review

Conceptual Clarification

Concept of Electronic Banking

Electronic banking could mean 24-hour access to cash through an automated teller machine (ATM) or Direct Deposit of paychecks into checking or savings

accounts. Also, electronic banking involves many different types of transactions for instance, electronic fund transfer (EFT) is a component of electronic banking that uses computer and electronic technology as a substitute for cheques and other paper transactions. EFT is initiated through devices like cards or codes that allow an account holder or the bearer to access the account. Many financial institutions use ATM or debit cards and Personal Identification Numbers (PINs) for this purpose. Some use other types of debit cards such as those that require, at the most, account holder signature or scanned information. For example, some use radio frequency identification (RFID) or other forms of "contactless" technology that scan your information without direct contact. The federal Electronic Fund Transfer Act (EFT Act) covers some electronic consumer transactions (Simpson2002, Fox and Beier, 2006).ATMs are electronic terminals that let an account holder to bank almost any time, therefore, to withdraw cash, make deposits, or transfer funds between accounts, an account holder generally inserts an ATM card and enters his PIN. Other forms of electronic banking include, mobile banking, internet banking, and so on.

The Concept of Layoff /Job Losses

"Job losses as a result of Layoff through downsizing is becoming one of the most popular strategies being used by organizations to survive and compete in the current business scenario (Bhattacharyya & Chatterjee,2005)". "Other terms commonly used interchangeably for layoff include downsizing, building down, retrenching, streamlining, rationalizing, de-hiring, compressing, de-massing, resizing, rightsizing, de-recruiting, leaning-up, reassigning and slimming, it should be noted that each of these terms shares some common meaning, yet with a unique connotation". A Layoff is defined as the systematic reduction of the workforce through an instituted set of activities to improve efficiency and performance (Teryima, Agburu & Alabar 2012). A Layoff is a term within the general concept of right sizing for restructuring purposes, which is seen as the effective management of the organization's workforce size.

Theoretical Background

A closely related theory to this study is the Technology Acceptance Model (TAM) developed by Davis (1989) on which this study is to be anchored. Other related theories include. The theory of planned behaviour developed by Ajzen (1985), and the innovative diffusion theory, developed by Rogers (1983), which aimed to understand the social, perceived, and attitudinal and behavioural factors that influence the adoption of e-banking. According to Spreading Science (2009), there are stages through which acceptance of innovation ensue, therefore individual firms; or group of firms undergo these stages which are enumerated in no specific order;

"Information awareness, where the individual is simply aware that the innovation exists; Interest, where the individual wants more information and begins to wonder whether or not the innovation will be to his/her advantage; Evaluation, where the individual mentally examines the innovation using the information gathered; Testing, where the individual actually tests the innovation to see if reality matches expectations; and Adoption, where the individual likes the innovation and adopts it wholeheartedly".

These processes are likely considered before the adoption of any new technological innovation, which this study presumably believed are taken into consideration before the adoption of ICT in the Nigerian Banking system and thus stand as the premise upon which the study is been built.

Empirical Review

A study by Kessington, Susan, and Dwyer (2021) Investigated the impacts of ICT on small and medium scale enterprises operation in Nigeria, they wish to uncover whether or not the ICT adoption by businesses spur the profitability level and perhaps increase the level of global competitiveness using both quantitative and qualitative methods of analyses. They however found that ICT adoption had great influences on the profitability and global competitiveness of the SME in Nigeria. A seemingly related study by Adelani (2019) examined the adoption of electronics banking on job security in Lafia (capital of Nasarawa state in Nigeria), using a structured questionnaire analyzed descriptively. The result indicates that loss of a job is possible in the

foreseeable future because of the increase in the adoption of machines replacing man's job.

Also, Balogun (2016) examined the impact of information technology on banks' service delivery and customer satisfaction. This was achieved through a structured questionnaire to the two (2) target audiences; the bank's employees and the customers. The study reveals that information technology-induced both customer satisfaction and workers' performance. A related study by Saeed and Bampton (2013) examined the imperative of information and communication technology on the performance of the Libyan banking sector. It was gathered that ICT was very germane to the effective delivery of service in the Libyan banking sector but poor communication infrastructure and incessant power outage, Government intervention in the banking sector were the banes of its poor performance.

The study by the trio, Atiku, Genty, and Akinlabi (2011) examined the adoption of electronics banking on banks employees' job security in Nigerian. The study analyzed data set for structured questionnaire distributed among four banks of which the analytic outcome indicates a robust finding-that electronics banking is a threat to job security in the banking sector. Though, it provides customers satisfaction and global competitiveness of banks. Similarly, Onwuka, Uzor, and Onwuzuligbo (2021) examined the effect of information and communication technology on the performance of small and medium enterprises in the Onitsha metropolis of Eastern Nigerian, the study reveals that there is the existence of a significant relationship between ICT adoption and knowledge base of the SME employees and thus encourage the use of ICT in businesses for effective and efficient service delivery.

A study by Nwakobi, Sidi, and Abomech (2018) examined the impact of information and communication technology on the performance of deposit money banks in Nigeria, using an econometrics model on a dataset that spanned 2005-2015. The result revealed that ICT has greatly influenced the banking operations in Nigeria and has specifically increased the bank's return on equity. The study further suggested that improvement in ICT usage should be encouraged to increase the effectiveness and efficient service delivery in the banking sector and thus enhance global competitiveness.

The trio, Teryima, Agburu, and Alabar (2012) carried out a study on job losses resulting from ICT adoption, the study found that downsizing was seen as instrumental as both defensive and offensive strategies of organizations. They also asserted that corporate competitiveness was liable, largely on downsizing; and that, for their studied organization to remain competitive, staff layoff, as a strategy, must be utilized regularly. In the same vein, Fapohunda (2012) found that business restructuring involved a reasonable reduction in the size of activities engaged in by the studied organizations and consequently resulted in cuts in the size of their employees. Cameron (1994) found that downsizing business activities helped organizations in cost savings but was compared to throwing a grenade into a crowded room, closing the door, and expecting the explosion to eliminate a certain percentage of the workforce". While, Williams, Etuk, and Inyang (2014) identified diverse surviving employee perceptions of the retrenchment cases in the banking sector. The study revealed that the majority of the respondents in the study in both new and old generation banks perceived the retrenchment and crises as being triggered by poor corporate governance, and fraudulent practices by some of the executive management. Persistent pathological corruption and mismanagement in the Nigerian economy perpetuated by the leaders have also permeated the banking sector. The implication is that banks are no longer declaring huge profits as was the case in the past. The authors argued that to still maximize profit the cost has to be reduced through retrenchment/layoff.

In conclusion, there is an unending interest among scholars in the relationship between ICT adoption in various industries and the number of job losses. But in Nigeria, to the best of our knowledge, there is scanty literature on the relationship between ICT adoption in various industries and the number of job losses, hence, this study contributes to the existing literature.

Methodology

Research Design

This study adopted an ex-post research design which consists of both qualitative and quantitative analytical methods. This method includes descriptive analyses and the aspect of the analytical method in this study is the

Chi-square which was used to test the hypothesis that ICT adoption does not correlate with job loss in the Nigerian Banking industry.

Study Area

The research area of the study is the Lagos State of Nigeria. Lagos State is one of the 36 federating units in Nigeria and it consists of 37 local government areas. The state is the financial hub of Nigeria. Consequently, the choice of the study area was informed by the need to examine the correlation between ICT adoption in the Nigerian Banking industry and the number of job losses in the sector, using Zenith Bank Plc as a case study. *Zenith Bank Plc* is a large financial service provider in *Nigeria* and Anglophone West Africa. It is licensed as a commercial bank by the Central Bank of Nigeria. As of 31 December 2019, it holds $16.1bn in total assets, with shareholders' equity of $854 million. The company is listed on the Nigerian stock market and the London stock market. Zenith Bank has more than 500 branches and business offices in all states and the Federal Capital Territory while it has about 144 branches in Lagos State. Unlike many of its peers, Zenith Bank increased its staff strength from 7,405 in 2019 to 7,544 at the end of 2020. This represents an increase of 139 staff in the review year (Wikipedia).

Population of the Study

The population of this study comprises the staff of Zenith Bank Nigeria Plc. in different branches and Local Government Areas (LGAs) of Lagos State. A population of 350 staff was selected from different Zenith Bank branches within the 20 selected Local Governments Areas of Lagos State. Emphasis was placed on the respondent's knowledge regarding the subject matter of the study.

Sampling and Sample Techniques

The probability or representative sampling is the one where the chance of each case being selected from the population is known and is usually equal for all cases. During the study, a probability sampling procedure was used. In particular, the study used purposive sampling to obtain a sample that was a true representative of the population and usually tried to ensure that a range from one extreme to the other was included. This method was chosen because

it gives the subjects in the population an equal chance of being selected. A sample size of three hundred (350) respondents was used from randomly selected seven LGAs.

The source and method of data collection were purely primary and the method of collection was a structured questionnaire, administered by the researcher. The content of the validity of the instrument (questionnaire) was assessed by colleagues in the Department. The response of the respondents to the research instrument was measured on a 5 point rating Likert scale anchored as strongly disagree (1) to strongly agree (5).

Method of Data Analysis

The study employed descriptive statistics in the analysis of the findings of the research. The objective is to draw inferences from the respondents' reactions. Moreover, the Chi-square is used for the analysis of the data. The purpose of the Chi-square technique is to validate or invalidate the hypothesis stated earlier.

Results and Discussion

The questionnaire was collated and checked for completeness of response. The data are analyzed in frequencies and percentages as well as chi-square.

Table 1: Gender of Respondents

Variables	**Characteristics**	**Frequency**	**Percentage**
Gender	Male	135	45%
	Female	165	55%

Source: Author's Computation (2021).

Table 1 presents gender statistics of respondents which revealed that 135 respondents representing 45% are male, while 165 respondents representing 55% are female, this indicates that more females responded and returned their questionnaire.

Table 2: Age of Respondents

Respondents' Age	26-30	96	32%
	31-35	126	42%
	36 and above	78	26%
	Total	300	100%

Source: Author's Computation (2021).

Table 2 shows that 96(32%) of the respondents are within the ages of 26-30years, 126(42%) are within the ages of 31-35years, and 78(26%) are within the ages of 36years and above. Hence, the categories of people that majorly responded fall within the age bracket of 31 and 35 years. Meaning that youth that are ICT compliance within the banking system responded to the questionnaires, responses are therefore regarded as being worthy

Table 3: Qualifications of Respondents

Highest Educational Qualification	SSSCE/WASCE	18	6%
	NCE/OND	75	25%
	B.Sc./ HND	165	55%
	Masters and above	42	14%
	Total	**300**	**100%**

Source: Author's Computation (2021).

Table 3 reveals that 18(6%) of the respondents have senior secondary school certificate examination or its equivalent, while 75(25%) hold either NCE or OND certificates, also, 165(55%) are B.Sc. degree or HND holders, while 42(14%) hold Master degree and above. Hence, the majority of the selected bank staff have the basic knowledge of how to read and write and are ICT literates.

Table 4: Respondents' Years of Experience

Options	**Frequency**	**Percentage**
Less than 3 years	21	7%
Less than 5 years	96	32%
Less than 9 years	108	36%
9 years and above	75	25%
Total	**300**	**100%**

Source: Author's Computation (2021)

The analysis of data in Table 4 indicates that 7% of the respondents have spent between 1 to 3 years in the banking system, while 32% of the respondents have worked for 4-6 years in the banking sector. Also, 36% of the total respondents have spent between 7 to 9 years while a quarter has had over 9 years experience in the banking service. This is not surprising because more experienced staff are found in the head and regional offices of the banks in major cities.

Intent Responses and Analytical Tools

The data collected based on the subject from the respondents are presented and analyzed in this section using 5 point rating Likert scale and working out the mean and standard deviation from the responses to each research question. The summary of the results in respect of the only hypothesis tested using chi-square analysis is also presented in this section.

Table 5: Summary of the Likert Scale Results of the Impact of ICT on Job Losses in the Banking Sector in Nigeria.

S/N	Variables	Mean (%)	Standard Deviation
1	The use of internet banking reduces the number of manpower needed	3.9(58.3)	1.1
2	The emergence of internet banking led to the early retirement of staff in the Nigerian banking sector	3.1(51.6)	1.1
3	Adoption of ATM led to laying-off of teller officers	3.8(63.3)	1.2
4	High level of staff redundancy is as a result of electronic fund transfer in the banking industry	2.9(48.3)	1.2
5	The usage of automation machines as a result of technological innovations had led to the displacement of staffers in your bank.	4.1(68.3)	1.3
6	The adoption of telephone banking led to the downsizing of customer relations officers	4.0(66.7)	1.1
7	My bank reduces the number of employees as a result of telephone banking	3.3(55.0)	1.2
8	Electronic fund transfers led to the redundancy of service staffers in the Nigerian banking industry	2.6(43.3)	1.1
9	There is forceful ejection of teller officers as a result of automation paying machine	2.2(36.7)	1.1
10	The emergence of telephone banking contributed to downsizing the number of service staffers	3.2(53.3)	1.1

11	The adoption of internet banking increases the level of employee's job insecurity in your bank	3.5(58.3)	1.3
12	Electronic fund transfer promotes de-skilling of staffers in the Nigerian banking industry	2.7(4.5)	1.1
13	The adoption of automation process reduces the level of manual procedures	4.1(68.3)	1.3
14	Telephone banking service increases the level of employee's job insecurity in Nigerian banks.	3.1(51.6)	1.2
15	Early retirement in the banking industry is as a result of internet banking innovation	3.2(53.3)	1.2
16	Electronic fund transfer increases the level of employee's job insecurity	3.1(51.6)	1.1
17	ATM enhances the de-skill of workers in the industry	2.9(48.3)	1.1
18	Telephone banking is one of the technological innovations that dehumanize the work	2.3(38.3)	1.2
19	Forceful retirement is a consequence of electronic banking in Nigeria	3.7(61.7)	1.1
20	Displacement of workers is a resultant effect of electronic fund transfer	3.5(58.3)	1.1

Source: Author's Computation (2021).

The mean score of the five rating 20 questions in which responses were analyzed in Table 5 is 3. This implies that the mean scores above 3 suggest that the responses to the questions are in affirmative as constructed since the scores are coded in descending order of which 5 for strongly agree and 1 for strongly disagree. To this end, Table 5 reveals that only three out of the twenty items met the above 3 acceptance mean of the impact of ICT on job losses in the banking sector in Nigeria and they all have over 50 percent of the respondents agreeing to the assertion. These items are 4, 8, 9, 12, 17, and 18. They are considered to suggest that the impact of ICT on job losses in the banking sector in Nigeria is negative, suggesting there is no relationship between the ICT adoption and job losses in the banking sector in Nigeria; this is in line with the hypothesis tested by Lucas (1988). It is also informative to note that almost all the respondents agree strongly that the adoption of automation processes reduces the level of manual procedures, which could lead to a reduction of manpower.

Item (13) shows a mean score of 4.1, and a whopping 68.3 percent of respondents agreeing with this assertion. All other items have mean scores of above 3, with more than 50 percent of the respondents agreeing with these

opinions, implying that there is a significant impact of ICT adoption on job losses in the banking sector in Nigeria. They are, therefore, considered to suggest that ICT or e-banking leads to the loss of jobs in the banking sector in Nigeria.

Table 6: Summary of Chi-square Test Analysis of the Impact of ICT Adoption on Job Losses in the Banking System in Nigeria.

Items	X^2 Calculated	X^2 Tabulated	Decision
E-banking	*6.24*	5.49	H_0 rejected

DF = 4 **α**= 0.05 **N**=156 **Probability**= 0.19
Source: Authors' computation (**2021**)

To empirically determine the correlation between e-banking or ICT and job losses in the Nigerian Banking industry, this study in addition to descriptive analysis takes a further step to adopt a non-parametric approach to analyze the subject matter using Chi-square to test the formulated hypothesis for the study. The Chi-square results in Table 6 where the probability (p) value (0.19) is greater than the significant value of 0.05 (5%) aligns with the previous outcome and decision in Table 5. Furthermore, since the calculated chi-square value (6.24) is greater than the critical value (5.49) at the 5% level of significance as depicted in Table 6, it implies that there is a significant correlation between ICT adoption in the Nigerian banking industry and job losses. That is, the null hypothesis is rejected while the alternative hypothesis is accepted.

Conclusion and Recommendations

The study was carried out to examine the relationship between ICT adoption in the Nigerian Banking industry and the number of job losses in the sector, using Zenith Bank Plc as a case study. Based on the findings, the study concludes that the adoption of ICT has reduced the level of labour-intensive procedures in banking operations and has led to the loss of jobs in the sector because less manpower is now required to effectively and efficiently deliver and remain highly competitive both locally and globally. In addition, the study concludes that globally artificial intelligence (AI) usage is increasing on daily basis, and robotic machine design for specific workforce is now taking over jobs that are hitherto being done by man.

Nevertheless, in line with the findings of this study, the following recommendations are made;

i. Though, the increasing adoption of ICT in the banking system is a welcome innovation that cannot be halted as we are in the global village and global age of ICT, therefore banks should rather consider it as a compliment and not a substitute.
ii. Our educational system should be made more functional by aligning its curriculum to the current needs of society. In this way, the products will be readily employable in the ICT-compliant banking system.
iii. The Nigerian banking industry should take advantage of labour abundant situation to spread the banking operations to nook and crannies by establishing more branches and creating an inclusive banking system.
iv. Government should increase and improve the decaying infrastructures in order to reduce overhead costs and enable the banks to operate efficiently without an undue cost-cut strategy that could attract downsizing in the industry.

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MULTI-NATIONAL JOINT TASKFORCE (MNJTF) AND INSECURITY IN LAKE CHAD BASIN AREA: INSIGHTS FOR REGIONAL UNITY

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Abstract

The influx of bandits and refugees from the Chadian war distorted the peaceful economic activities at the Nigerian land border in the Northern part of the country. These banditry activities led to an upsurge in cases of smuggling of light arms and ammunition, drugs, human trafficking as well as other illicit border activities. Where these banditry activities were resisted, they resorted to the killing of innocent Nigerian citizens and terrorising the border area. The then Head of State, General Sani Abacha, created the Multi-National Joint Task Force (MNJTF) in 1994 and charge them to flush the miscreants from the border to ensure free flow of human, goods, and services. However, as dynamic as security situations are, the Joint Task Force was later rebranded and charged with additional responsibilities to tame terrorist organisations like Boko Haram within the Lake Chad Basin (LCB) area. Hence, this study critically examines the MNJTF mandate- taming insecurity in the LCB. To achieve this, the study employed a historical research approach, relying on secondary sources of data. Thus, a qualitative descriptive method was used to analyse the data collected. Theoretically, the study adopted the regional integration theory as its analytical framework. Its major strands are the customs union, monetary union, functionalist and federalist theorists. Its findings include: the MNJTF was birthed in an unfriendly environment where mistrust, hatred, and suspicion thrived. Also, the MNJTF inherited an aged-long ideological difference between members of the LCB area. Based on the findings, the study recommends among others; that there is need for LCB states to return to the drawing board and resolve their aged long differences which bred mistrust and suspicion. The study recommended that LCB states must be committed in letter and spirit to the MNJTF by contributing their manpower, finances, and timely information. This will make the Force potent and formidable to achieving her core mandate.

Keywords: Multinational, Joint Task Force, Insecurity, Lake Chad Basin

Introduction

The clause for the inter-dependence of nations has made it permissible for citizens to migrate from their home state to other nations of the globe. Migration is the process or movement of people from one place or culture to another. It is one of the greatest features of man. It is a process or phenomenon which is as old as man. Migration is arguably, one of the greatest features of Sub-Sahara Africa. The continent has been described as having the world's greatest mobile population. History records that the African Sub-Sahara had one of the greatest migrations with the Bantu migrating from their original land that is inhabited today by Nigeria and Cameroon, to form settlements throughout the entire Southern half of the continent (Castles and Miller, 2009).

Sequel to the 1885/1887 Berlin Conference, which balkanised and partitioned Africa, the concept of migration was strange. Hence, Africans enjoyed the culture of travelling or moving from one place to another as pastoralists, muggers, and traders. However, the Berlin Conference tamed African free movement and introduced a restricted concept of the border to her. African territory was subsequently partitioned among western Capitalist or colonial powers thus giving birth to the concept of border or artificial boundaries (Michalopoulos and Papaioannou, 2016). Furthermore, the forceful takeover and control of African States with the new form of leadership called colonialism did not entirely alter the inter-relatedness between Africans. They were only separated into different countries but the African culture and language were not altered. Migration, therefore, never became part of a state policy in Africa until post-independence.

However, the changing economic fortunes of the various African countries attracted notable mobility as economically buoyant states started to invest in Africa. In the long run, their investment had a multiplier effect on the economy. A buoyant and flourishing African economy thus attracted more immigrants. It should be noted that immigrants move with diverse intentions. Some are wise, others otherwise. Immigrants with positive intentions move in search of greener pastures, higher and quality education, tourism or to join family members. Others move to maim and kill innocent citizens as well as for terrorist attacks. Migration whether for wise or otherwise (positive or negative) intentions, has implications that might also have a positive or

negative effect on the receiving economy. However, the movement of terrorists and other non-documented immigrants through the porous borders has social defects or implications on the receiving economy. These social defects take the form of an upsurge in crime and criminality at the borders which includes the smuggling of illicit products, trafficking of (humans and drugs), and religious carnage which triggers the death of innocent and harmless citizens. This development constitutes security challenges and threatens the peaceful co-existence and survival of such economies (Adeola, 2012).

More so, the terrorist attack of 9/11/2001, on the World Trade Centre, New York, exposes the negative impact of undocumented migration. Sovereign nations were awoken and forced to consider the negative implications of open borders, hence stringent measures were resorted to, to tame insecurity across the borders. In Africa, the Lake Chad Basin area has had its fair share of border insecurity. Nigeria, for instance, had suffered serious armed confrontations from her neighbours who exported religious "fanatism", crime and criminality, terrorism, drugs, human trafficking, and other anti-social practices through her porous borders. Thus, despite Nigeria's avowed foreign policy of Africa as a centre-piece, she cannot but resort to 'force' to tame insecurity, terrorism, and criminality which has ravaged and still threatened her sovereignty and livelihood (Straubhaar, 2006).

Statement of Problem

The drive for employment and other better opportunities triggers rural-urban migration across borders. Hence, rural dwellers tend to move from rural areas to the cities. This, therefore, means that economically endowed or technologically developed states magnets prospective immigrants. In West Africa for instance, states like Nigeria, Cote'd Ivoire, Ghana, and Senegal are immigrant's destinations. These states experience a teeming inflow of people from other parts of Africa. The drive to move into Nigeria is compounded as she shares borders with both Francophone and Anglophone states, making her experience a daily upsurge or influx of immigrants through her porous borders.

Castles and Miller (2009) opined that the geo-strategic location and natural endowments of Nigeria place her among the most radicalized Muslim states in the world. This, therefore, informs the threat that she receives from the Al-Qaeda terrorist sect. Also, as an "African Big Brother" and as a member, co-founder, and signatory to the Economic Community of West African States (ECOWAS) treaty, she observes the ECOWAS Protocols for Free Movement of Nationals and Goods throughout the West African sub-region. This, therefore, picks her as a target for most immigrants.

Also, Nigeria shares boundaries or borders with Central Africa. Republic of Chad and Cameroon, are Central African states which share borders with Nigeria within the Lake Chad Basin (LCB).More so, Central Africa Republic is seen to be notorious for protracted violence and wars. Immigrants escaping from these violence-prone zones for safety move to Nigeria (her Big Brother), which is richly blessed with a good quantum of natural resources; and also considered by her neighbouring states to be economically viable. Coupled with the problems of porous borders, Nigeria becomes a destination for terrorism, crime and criminality, drug and child trafficking, and the smuggling of other illicit goods. Most recently, the surge of terrorist activities by Boko Haram (BH) and the nefarious acts of the Fulani nomads attest to the porous nature of the Nigerian borders.

The formation of the Multi-National Joint Task Force (MNJTF) in 1994 by the Late Gen. Sani Abacha regime was to tame border insecurity and its related border crimes. However, undermining the presence of the MNJTF within the borders of the LCB area, insecurity thrives. This is the problem that this study intends to unravel. This study, however, investigates how the formation of the MNJTF has tamed insecurity as well as increased regional unity in the LCB area.

Literature Review

Conceptual Clarification

Concept of Migration

Migration is the movement of people from one place to another, state or country in search for greener pastures, better education, tourism or safety.

Movement from one state or country to another is referred to as cross-border migration. In Africa owing to the ECOWAS Policy of Free Movement of Persons and Goods across neighbouring states and compounded by porous borders, cross-border migration with its aftermath of smuggling of arms, trafficking of human and drugs occurs daily.

As stated earlier in this study, migration is akin to Africa. Available statistics showed that between 2015 and 2019, there was an unequal increase of African migrants against immigrants from other parts of the world to Africa. Thus, Africa witnessed an upsurge in migration from 23.5 million in 2015 to 26.5million in 2019. This is about a 13% increase which is caused by the increasing regional integration policy, crisis, and other social indicators (UNECA, 2021). According to Marie-Lawrence and Hein (2016), about 86% of African migration is related to conflict and the desire to flee from war-prone zones. In fact, according to IOM (2019), large numbers of African migrants were provided with assistance in 2019 to aid their return and reintegration to the Democratic Republic of Congo, Comoros, Malawi, Zimbabwe, and South Africa.

Concept of Multi-National Joint Task Force (MNJTF)

What is today referred to as the MNJTF, was the brainchild of Late Gen. Sani Abacha, the then Head of State of the Federal Republic of Nigeria. Its formation in 1994 was to police the north-east region of Nigeria against Chadian armed bandits. Recall that within this period, the Chadian crisis was on, hence refugees, as well as bandits, were seen fleeing from war-torn Chad to a safer state. The neigbhouring Nigeria, with porous borders, became their most preferred option. The then Head of State of Nigeria, Gen Sani Abacha, having sworn to protect the sovereign integrity of Nigeria, did the needful and formed the MNJTF and charged them to clear the border regions of these miscreants and to promote free movement of persons and goods across the borders.

However, in 1998, four years after its initial formation, the Joint Task Force became truly multinational as Chad and Cameroon saw the need to join forces with Nigeria to protect their neighborhoods from terrorist and banditry attacks. The “Force” was therefore expanded to accommodate these states and charged

to deal with common cross-border security problems in the LCB region. With its headquarters in Baga, Kukawa Local Government Area, Borno State, and with her first Commander as a Nigerian, the Force commenced her security operations.

However, as dynamic as security concerns are, the Force was again overhauled and given a counter-terrorism mandate. She was thus charged to deal squarely with the BH menace within the LCB. Its composition includes security personnel drawn from Nigeria, Chad, and Niger with a Nigerian Brigadier General, as its Commander. The updated MNJTF was to operate side by side with the Operation Restore Order, a Nigeria Joint Task Force (JTF) whose operational zone was the Borno State border area. These two forces were administratively and operationally different from each other but worked harmoniously (Musa, 2013).

Going forward, Boko Haram attacks has spanned beyond Nigeria to her neighbouring states. Hence, in March (2014), defense personnel from the LCB states (Chad, Cameroon, Niger, Central Africa Republic (CAR), Libya, Algeria, Sudan, and Nigeria) met in Cameroon to review the security situations within the region. These states saw the need to join forces to combat armed trafficking, terrorism, and cross-border crimes within the region. The MNJTF was again reviewed but left its headquarters in Baga. This means that the Force was charged to patrol the LCB region, conduct military operations against smuggling of arms and terrorist activities as well as facilitate free movement (Kindzeka, 2014).

In a ferocious attack in January (2015), Baga, headquarters of MNJTF was captured by BH terrorist group. This defeat elicited doubts as other members of LCB doubted how faithful Cameroon, Libya, and CAR are to the March, (2014) security pact. This is because, upon citing the BH invaders, military personnel from these states flee in different directions thereby making it easier for the terrorist to capture Baga (Roggio, 2015). The Force was again turned into a Nigerian concern as Chad and Niger formerly withdrew her force.

In another development, in January (2015), the AU met to review the extent of her support for BH terrorism within the LCB area. More so, in an AU Assembly Summit held in Addis Ababa, the Peace and Security Committee

(PSC) authorized a reinvigorated MNJTF. In furtherance to this meeting, AU, ECOWAS, EU, UN, and LCB redrafted the operational plans of the MNJTF. The mandate, headquarter, and leadership of the Force was again reviewed. Hence, its new mandate was to focus on preventing BH from having free access to the borders of the LCB; increase the number of troops; transfer its management to the LCBC as well as moved its headquarters from Baga, Nigeria to N'Djamena, Chad, with Gen Illiya Abbah appointed as the Force Commander (Albert, 2017). For emphasis, the rebranded MNJTF was charged to protect the border area of the LCB and to ensure that BH does not gain access to the border, or launch their attacks through the borders. More so, with a secured border, each of the LCB states can deal with the BH menace within their respective countries. In Nigeria for instance, a special force was created and stationed at her border area to do the job. The force was called Operation Lafiya Dole (Peace by Force) and was commissioned to be in charge of border areas, especially the Sambisa forest. This Joint Task Force (MNJTF and JTF) was expected to deal divisively with the BH terrorist group.

Concept of Insecurity

Security is a complex phenomenon. It appears in diverse forms. Its meaning varies from culture to culture. This means that different cultures attribute different meanings to what they consider as security. According to Lahav (2013), culture and period (time), gives different meanings and form to security. Thus, the importance of security to nations cannot be over-emphasised. Its importance, therefore, makes nations invest a chunk part of their budget to national security (Mbachu, 2012). Security is further sub-divided into internal and external. Nation's armed forces are in charge of security situations in the country. Internal security includes threats for secession and cult or gang-related clashes. External security on the other hand takes the form of cross-border crimes, smuggling of illicit or contraband goods, and trafficking of humans and drugs. The porosity of borders constitutes the greatest threat to border security.

Insecurity on the other hand is as old as man. Apart from being the fear of many, it has become the word on the lips of every Nigerian and the LCB states. It can also be seen as the state of being subject to danger or injury. It is the anxiety that is experienced when one's life is threatened. According to the

Advanced English Dictionary, insecurity is a state of not being secure or lacking confidence.

In modern history, internal strife has been a serious concern to Africa and the LCB area in particular. Cases of insecurity have been regular of recent. This range from activities of militancy and piracy in the Niger Delta and her sea borders which seem to have characterized much of the current democratic dispensation in Nigeria. However, very recently, new forms of discord or insecurity emerged with religious extremists (Boko Haram), Fulani nomads, Eastern Security Network (ESN), Indigenous People of Biafra (IPOB), and armed militant or militia springing up and threatening the life and corporate existence of the Nigerian State and the LCB states at large.

Other security indices include the persistent tension between the North and South, growing unrest in the East and South, the Niger Delta unrest, violent incidents, kidnapping, religious differences, unemployment, and other socio-political grievances that are fuelling the unrest in Nigeria.

Theoretical Review

The regional integration theory is most suitable for the explanation of border inflows in this study. Although borders are complex and multi-dimensional, the theory unites several interrelated branches and concepts. These concepts include politics, economic, sociology, and international relations among others (Bolanos, 2016). Originally, the theory was developed in Europe. It explains economic interactions within the European Coal and Steel Community (ECSC) in about 1952. Ernest Haas stands out as its major proponent. The theory anchors on the following strands. They are customs union issues, monetary union issues, and functionalist theory, federalist and communication theories. According to Sapir (2011), the process of regional integration involves the tightening of financial links between countries. To achieve this therefore, free movements of factors (both physical, financial, capital, and labour) are permitted within the region. Regional integration permits border liberalization. The strand for customs and common market theory synchronizes with the ECOWAS Protocol on the Free Movement of Persons and Goods. This, therefore, serves as the justification for the surge in cross-border migration around the West African sub-region.

However, in a bid to encourage business activities within the ECOWAS sub-region, the Protocol on Free Movement of Persons and Goods was ratified. ECOWAS failed to be proactive and consider future developments like technological advancements, cases of war, and its security implications of the Free Movement policy on nationals through the ECOWAS sub-region on the safety of the region. The challenges of cross-border migration and insecurity that West Africa suffers today, trace their origin from this protocol. This, therefore, explains the suitability of the regional integration theory for this study.

Empirical Review

Adeola & Fayomi (2019), while addressing the Political and Security Implications of Cross Border Migration between Nigeria and her Francophone neighbours, identified the borders between these neighbouring states as a major source of concern for policymakers when articulating and formulating an acceptable foreign policy that will capture the interest of both states. The study pointed out that the porosity of the Nigerian borders is the reason for the influx of migrants from Niger, Chad, and Sudan into Nigeria. The paper observed that migration between these states is an issue that needs adequate attention as it has aided international terrorism, smuggling, and criminality across states.

Again, Olumu, Alao & Adewumi (2019), carried out an empirical examination of Border Security Issues and Challenges facing the Nigerian Customs service. The study revealed that regulation of migration flows and the containment of border disputes remain cardinal for security agencies stationed at border units across the world. This implies that in a globalized world, controlling access to territories and cities is cumbersome. Thus, there is the need for synergy between regional security agencies in terms of intelligence gathering. Also, technological advancements have made it easier for international migration thereby increasing interaction around the world for sports, tourism, and employment. In reality, since migration is a human feature, controlling it becomes a serious challenge, especially in a globalized world. It is therefore paradoxical for the Customs service to strive to stop or control cross-border migration through the borders. It is on this note that the study does not only

identify challenges to border security but also proffered useful suggestions and recommendations.

Osimen, Anegbode, Akande & Oyewole (2017), in a related study: The Borderless Border and Internal Security Challenges in Nigeria; x-rayed the Nigerian security situation and linked some of her current security challenges to porous borders and ideological differences. The study established that Nigeria's borders with Cameroon, Niger, Chad, Equatorial Guinea, Sao Tome, and Principe are not properly delineated. The study revealed that these states shared borders that are similar to the British and French territories that were set up in 1889. The absence of a properly delineated border gives room for free trade between these states, thereby aiding infiltration of illegal migrants which in the long run, births security challenges. Controlling migration in such a situation becomes a herculean task thereby posing a serious threat to the Nigerian state. The study, therefore, attempts to probe into the nature of Nigerian borders using the analytical framework of assessment in emerging trans-border crimes.

There is an unending interest among scholars in the Multinational Joint Task Force and security in the Lake Chad Basin. It was observed that previous studies did not take cognizance of ideological differences, mistrust, and suspicion within personnel from the Lake Chad Basin states in their analysis. Therefore, the study examines the Multi-National Joint Task Force (MNJTF) mandate and insecurity in the Lake Chad Basin in the light of the above, hence the relevance of this study.

Methodology

Study Area

The study area is the Lake Chad Basin (LCB). The LCB comprises Nigeria, Chad, Cameroon, Algeria Niger, Sudan, Libya, and Central Africa Republic (CAR). However, the study focused on only four of these states because of their direct access to the lake. These four states are Nigeria, Cameroon, Niger, and Chad.

Method of Data Collection and Analyses

The study is historical research thus relies on secondary data. This means that data was sourced from the internet, official documentaries, seminar papers, newspapers, journals as well as textbooks. In analyzing data for the study, thematic and content analysis was used since the study is a qualitative one. To this end, this study used the qualitative descriptive method for its analysis. It is an aspect of content analysis.

Results and Discussion

MNJTF and Insecurity in LCB Area

The MNJTF was formed with a mandate to tame insecurity along the LCB area. Though the force has tried, it is cardinal to state that she has not been able to fulfill the mandate that informed her creation. To date, insecurity, terrorism, smuggling of arms and ammunition as well as human trafficking still persist. These have not only undermined the joint efforts of the border security personnel (MNJTF) but also left more to be desired. It is also expedient to state that in assessing the viability, success, and functionality of a security outfit, the background, and environmental factors should be considered. These factors have a great impact on the success or failure of the security regimen. A friendly background, favourable environment, acceptable and purpose-driven policy can engender the success of any security outfit. The opposite gives a negative result. The point here is, the factors making for the success of a security outfit, are the same as those responsible for the success of an international peace-keeping operation. The only difference is that, in the case of a security outfit, it is not a third party that provides the security regimen, but the affected states which are bedeviled by the threat of insecurity. Other states can support, but the affected states, take the lead against their common enemy. What is cardinal here is that the affected states must be on the same page, and view any intruder as an enemy to their corporate existence. It is only then they can sincerely join forces to fight the declared enemy. This scenario worked against the MNJTF thus, affecting her performance and functionality.

At the inception of the Boko Haram (BH) insurgency, Nigeria and her LCB neighbours saw it as a Nigerian problem that does not need a foreign intervention. Even with the formation of MNJTF in 1994, it did not assume a multinational role until 2002 when BH terrorism extended to the neighbouring states before other nations joined the force. The history of the formation of today's MNJTF, suggests that the states were forced to join the mission by unforeseen circumstances. Ordinarily, Chad and Cameroon would have had no business forming a security alliance with Nigeria and vice versa. For a security regimen to be functional, therefore, trust and confidence in the team are sacrosanct. The MNJTF has all it takes to be functional and fulfill its mandate and be seen as a solution to African security concerns, but trust which is a core security attribute is lacking in the MNJTF.

Moving forward, the African Peace and Security Architecture sees the MNJTF as a strange security outfit that is not fit to guarantee regional security. It is simply a formation for LCB states. The LCB encompasses both ECOWAS and the Economic Community of Central African States (ECCAS). While Niger and Nigeria are ECOWAS states, Chad and Cameroon are ECCAS states. Forming a security regimen to protect these states with diverse cultures, languages, and orientations, has made full implementation and achievement of MNJTF objectives near impossible. It, therefore, becomes an issue of serious concern for them to form a united force against these terrorists.

As an African Big Brother, Nigeria played significant roles in the liberation struggles in Apartheid South Africa, Sierra Leone, and Liberia. However, owing to her pride, she was reluctant to allow foreign intervention during her troubled season (Theroux-Benoni, 2015). Nigeria will be willing and ready to collaborate with other crisis-ridden states to protect their borders against terrorism, but will not want such collaboration in her situation.

Also, undermining the aforementioned facts, it was doubtful whether ECOWAS was willing and financially able to intervene in a crisis affecting a large state like Nigeria. On the other hand, ECCAS will not want to lead in the Nigerian crisis when ECOWAS is still undecided. The responsibility to protect and solve her problems thus fell on LCBC to organise troubled Nigeria and her neighbouring states to quell the 'mutual' problem. This in itself is a condition for the non-functionality of the MNJTF.

To summon the courage to form an international security outfit is easier than to make it function effectively. This is the case with MNJTF which at its formation faced internal and external threats. Internal problems entail factors making it difficult for member states of the MNJTF to work in harmony to achieve their set goals. The external concerns are foreign but affect the functionality of the force. They are treated below.

Firstly, the absence of mutual trust between Nigeria and Cameroon possess a serious threat to the functionality of the MNJTF. This was pronounced in the crisis over ownership of the Bakassi Peninsula. Originally, Bakassi was a Local Government Area in the Federal Republic of Nigeria. Boundary delineation is a remote factor leading to the Bakassi Peninsula crisis between Nigeria and Cameroon. Recall, that before the 1884/1887 Berlin Conference, Africans lived without borders. However, after this conference, Africa was partitioned to serve the economic interest of the colonialist. These western powers failed to consider the future implications of the artificial borders on African unity. Furthermore, these borders were not properly delineated. Originally, Bakassi Peninsula was a German enclave, but after WW1 and WW2, the Bakassi peninsula became one of the spoils of the war. Firstly, it became part of Southern Nigeria in 1946. However, in the run-up to independence, maps from that period showed Bakassi Peninsula, in Cameroon (Vanguard, Sept. 20, 2012). Contentions over ownership of the troubled Bakassi Peninsula made Cameroon approach the International Court of Justice, The Hague. It was resolved with a judgment in the favour of Cameroon. To date, losing Bakassi Peninsula to Cameroon is a seed of discord between Nigeria and her neighbor.

Secondly, Nigeria had border issues with Chad. It should be noted that the dynamics of border issues between Nigeria and Chad were worse than the Bakassi Peninsula crisis. Poor border delineation elicits concerns between these two neighbouring states. In fact, Chad contends ownership of the Lake. She acclaimed that such ownership concerns informed why the Lake was named after her (Vogt, 1992). This crisis blossomed making Nigerian fishermen and farmers residing within the Lake resort to self-help, as they were denied fishing rights by Chadian soldiers (Johnson, 2014). The build-up of this crisis led to the deportation of about 700,000 Chadians from the Nigerian state. The interrelationship between these neighbouring states got

worse leading to military actions which led to the death of innocent citizens from both states (Tilde, 2014).

Going forward, Nigeria had ideological differences with Chad, which also brought mistrust between the two neighbouring states thus posing a serious threat to the functionality of the MNJTF. Recall that Chad was engrossed in a protracted crisis in the early 1980s. Hence Chadian rebels flocked the Nigerian border and posed security challenges. In fact, in a national security meeting, the then Governor of Borno, Alhaji Mala Kachala updated the Presidential Committee about the large-scale smuggling of arms and daily child trafficking through the Northern borders. The Governor remarked that most of these rebels reside within the Sambissa forest. To date, the Sambissa forest poses a grave security threat to the Nigerian state (IRIN, 2002).

Furthermore, as a result of the Chadian war, arms move freely to Chad under the guise of prosecuting the war. Also, Libyan outright support for Chad in the supply of arms infuriated Nigeria and threatened her headship within the LCB area. In addition, Ghadafi's leadership style and personality were an affront to Nigeria and her foreign policy option. Conscious of this dislike, Ghadafi has severally sponsored the Islamic revolution in Nigeria via the Jam'yat ad-Da'wa al-Islamiya. However, to quell Ghadafi's threat to the unity of Nigeria, Nigeria voted for UN Council Resolution 1973 (of March 17, 2011). By this vote, Nigeria authorized the UN to resort to using every other instrument to neutralize Libyan offensive capacity during the Libyan crisis. NATO acted as directed. Such action and interference led to Ghadafi's death in 2011 (Albert, 2017).

All of the aforementioned issues made it very difficult for Nigeria, to confide in her neighbours within the LCB for security aid against the BH menace. She rather resorted to closing down her borders when the BH attacks were too fierce and she feels that the terrorists were using her neighbouring states as a safe haven (Thisday Newspaper of 23rd February 2014).

The age-long suspicion and mistrust existing between these states provided an unfriendly background for the MNJTF to fulfill its mandate. It, therefore, worked against the sincere commitment of these states hence making it impossible for the MNJTF to actualize her mandate. For instance, in 2015,

MNJTF gave a deadline to end the BH menace. By this deadline, member states of the LCB are to fulfill their obligations by availing their military personnel of the onslaught. Chad failed to do the needful.

Also, Nigeria feels unsafe each time Chadian and Cameroon soldiers cross the Nigerian borders on an offensive onslaught against BH. Nigeria perceives such military offensives as an intrusion. A development that emanates from the age-long suspicion and mistrust among these neighbouring states.

Furthermore, excessive influence from the Islamic States (IS) in the Middle East and other African states poses serious threats to the security architecture. The BH is an Islamic radicalized force and the terrorist group has pledged her loyalty to al-Qaeda, an Islamic organization. On the other hand, IS had distinguished herself by supporting brutality in her teachings and tactics which include terrorist attacks and abductions of members of the military formations as well as religious and ethnic minorities. The sect had also continued to arm its followers against the MNJTF. Since the LCB comprises both Muslim and Christian states, achieving the mandate of the MNJTF became near impossible.

The MNJTF is a potent force capable of solving the African security dilemma as conceived by its initiator and founder; Late Gen. Sani Abacha, former Head of State, Federal Republic of Nigeria. However, certain factors which might be considered as remote and immediate derailed her focus hence tantamount to its functionality. The following points can therefore be deduced from the study.

Firstly, MNJTF like every other security regimen was birthed with deformities. These impediments ranges from unfavourable environmental factors, unity of purpose, and member states' commitment to the core mandate. These are nitty-gritty for their formidability and workability. The absence of these features affects its performance. The environment that birthed the MNJTF aids her nonperformance. ECOWAS is the conglomeration of Anglophone states, with different backgrounds, cultures, orientations, and perceptions. ECCAS, on the other hand, is a union of Francophone states with diverse perceptions, cultures, and orientations. Perception difference about the 'Joint Task Force' is the first reason for its non-performance. Communication difference is next. Also, ECOWAS as a body has her security regimen, so also

is the ECCAS. Introducing MNJTF as a new security outfit was entirely strange. This, therefore, affected the extent of recognition and support from these states.

Security operation flourishes in an environment that houses mutual confidence and trust. A successful security regimen must have confidence in her members and understand itself. Such a team should be devoid of suspicion and work to achieve set goals. This core variable was lacking in the MNJTF where distrust, hatred, division, and suspicion were pronounced. Even the Bible explicitly stated that a house divided against itself cannot stand. Such was the case of the MNJTF.

Finally, pride is not a security apparatus. Nigeria over prided herself in the face of a threatening and terrorizing idol, BH. Nigeria's pride and acclaimed Africa Big Brother disposition suffices amidst grave insecurity situations. BH is a global terrorist group with its members spanned across all nuts and crannies of the world. For the war against terrorism to be won, nations must collectively ally and join forces.

Conclusion

The study examined MNJTF and Insecurity in the LCB: insights for regional unity. The study revealed that the influx of bandits and refugees across the borders is traceable to the Chadian war and this has distorted economic activities and the peaceful atmosphere in the border communities in Nigerian. These bandits and refugees smuggle arms through the Nigerian borders. It was an attempt by the Abacha regime to arrest this ugly situation that birthed the formation of MNJTF.

However, the dynamic nature of insecurity coupled with the porosity of the borders of African states is one factor identified to have promoted terrorism, crime, and criminality within the sub-region. These states were therefore forced by circumstance to join the MNJTF as a platform to collectively defend themselves against a common enemy. However, the sincerity of such motive remains a concern and puzzle for other studies to unravel.

Though created with good intentions, the MNJTF; a potent force formed to proffer lasting solutions to Africa's security dilemma, tried but failed to

deliver on its mandate. Rather than address the reason for its poor performances, the LCB states from time to time had rebranded and enlarged the Joint Task Force, with only limited success recorded. However, since the root of her problems was not addressed, to date MNJTF continues to wobble like a drunk whose intention is to move forward, yet staggers around the same position.

From relevant empirical studies cited above, it is thus concluded that the MNJTF cannot achieve its mandate and form a potent force to challenge terrorism, arms smuggling, human and drug trafficking as well as other cross-border illicit practices that thrived in the region. It is therefore necessary that the LCB states return to the drawing board and address the aged long ideological differences which bred mistrust and suspicion within the security regimen. Based on the findings, the study recommends as follows:

1. Since insecurity is a global phenomenon, LCB states should undermine their aged ideological differences and embrace the MNJTF as a security outfit. These states should appreciate and support MNJTF in the form of personnel, finance, and timely information. Such sincere support will make the force to be formidable and achieve her core mandate with ease.
2. Since terrorism is crime globally, leaders of LCB states should therefore be bold enough to condemn terrorism and work assiduously using the MNJTF security outfit to end the lifespan of the menace in the study area.

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