



Effect of Corporate Governance on Financial Performance of Manufacturing Firms in Nigeria (2015 – 2020)

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Abstract

The aim of this study was to empirically evaluate the Effect of Corporate Governance on Financial Performance of Manufacturing Firms in Nigeria (2015 – 2020). The study covered a period of six (6) years. The objectives of this study were to determine the relationship between board independence, board size, board meeting and board gender diversity and financial performance of manufacturing companies in Nigeria. Ten (10) quoted manufacturing companies quoted on the Nigerian Stock Exchange constituted the sample size of this study. The study comprise of a single regression model with a panel of 60 observations in a six-year period, 2015 to 2020. The model has Financial Performance proxied for Return on Asset as the dependent variable and board independence, board size, board meeting and board gender diversity as the independent variables. Panel Least Square (PLS) regression technique was employed in estimating the data and testing the formulated hypotheses. Based on the analysis, the study revealed that there is a significant relationship between board meeting and financial performance of manufacturing companies in Nigeria (proxied for Return on Asset) and that there is no significant relationship between board independence, board size, board gender diversity and financial performance of manufacturing companies in Nigeria (proxied for Return on Asset). In line with the findings, the study recommended that quoted manufacturing companies in

Nigeria should consider the increase of the proportion of woman board member (i.e. female representation) in order to improve board behaviour and effectiveness simply because the women on corporate boards tend to be better prepared for the board meetings than men.

Keywords: Board size, return on asset, financial performance, board independence.

Introduction

No doubt the fall of Enron, WorldCom, Global Crossing and Rank Xerox in USA, Parmalat in Italy, the Maxwell saga in the UK, Daewoo in Korea, Leisurenet and Regal Bank in South Africa are all pointers to the enormous cost of corporate governance failure (Ayodele, Aderemi, Obigbemi & Ojeka, 2016). Ayodele, Aderemi, Obigbemi and Ojeka (2016) buttress that “it is worthy of note that Nigeria is not immune to this challenge of corporate governance failure as various cases of financial scandal governance are increasingly being recorded and published on daily basis.” The cases of Cadbury Nigeria Plc, Oceanic bank Plc, Intercontinental bank Plc, Union bank of Nigeria, Afribank, just to mention a few are part of Nigeria’s share of corporate governance failures (Ayodele, Aderemi, Obigbemi & Ojeka, 2016).

According to Ishaku and Dandago (2017), the corporate accounting scandals did not only stop in the banking sector as the manufacturing sector and other sectors of the economy were involved. For instance, African Petroleum (AP)

was also involved in an accounting scandal which resulted in the concealment of debts of about N20 billion, Lever Brother's overvaluation of shares and deceitful financial reporting by Cadbury Nigeria Plc.

In response to these corporate scandals, countries and agencies around the world began to introduce a series of legislations and guidelines otherwise known as the codes of best practices. These guidelines are a set of norms that regulates the behavior and structure of the corporate board in exercising their monitoring and supervisory roles. Some of the existing codes across the globe include amongst others: UK Cadbury Code, (1992), South Africa King Report (1994), The Organization for Economic Co-operation and Development (OCED) Principles of Corporate Governance (2004), Russian CG Code, (2002); Security and Exchange Commission (SEC) code of corporate governance (2003), US Sarbanes-Oxley Act (2002), Central Bank of Nigeria (CBN) Code (2006), National Insurance Commission (NAICOM) Code (2009), Pension Commission (PENCOM) Code

(2008) (Ayodele, Aderemi, Obigbemi & Ojeka, 2016).

Enilolobo, Adesanmi and Aigbe (2019) opine that, “in pursuing the objective of ensuring that proper and accurate report of stewardship are given to all stakeholders in the business, management often design a system of internal control utilizing professionals in ensuring that proper mechanism are put in place and necessary compliance to organizational policies and legal framework are strictly adhered to.” Enilolobo, Adesanmi and Aigbe (2019) further said that “for managers to act in the best interest of shareholders by maximizing values and ensuring good organizational image, it becomes imperative to ensure that good and sound corporate governance exist in the organization.”

Esan, Ananwude and Okeke (2020) explained that, corporate governance is a system of structuring, operating and controlling a company with a view to achieving strategic goals to satisfy shareholders, creditors, employees, customers etc. and complying with the legal and regulatory requirements, apart from meeting environmental and local community needs. Ahsan (2015) see corporate governance as all about the system or mechanism an entity utilized to defend the rights of investors.

Over the years, efforts have been made by researchers to establish or investigate the influence of corporate governance on financial performance of manufacturing companies in Nigeria. Surveys of empirical studies revealed that consensus have not been reached on the association between corporate governance and financial performance of manufacturing companies in Nigeria, hence the need for this study.

Statement of the Research Problem

The motivation for this study is the rising concern for good corporate governance in Nigeria quoted manufacturing companies ranging from the cases of African Petroleum (AP), Lever Brother's, Cadbury, Afribank, Intercontinental Bank, Oceanic Bank and so on. It has been observed to the best of the researcher knowledge that in Nigeria and other developing countries, empirical evidence on the relationship between corporate governance and financial performance of quoted manufacturing companies in Nigeria are relatively scanty.

Empirically, different results abound in the issues surrounding corporate governance and financial performance of companies in Nigeria. The likes of Ilemobayo, Adebimpe and Yusuf (2020), Eke, Akpanuko and Umoffong (2019), Enilolobo, Adesanmi and Aigbe (2019) & Ishaku and Dandago (2017) found a significant link between corporate governance and financial performance of companies in Nigeria.

On the contrary, the study of Otuya, Akporien and Ofeimun (2019), Urhoghide and Korolo (2017) & Ayodele, Aderemi, Obigbemi and Ojeka (2016) found that corporate governance has no relationship with financial performance of companies in Nigeria.

The existence of these inconsistencies in the finding of the previous studies creates room for knowledge gap and the call for more investigation in this light and consequently the need for the study on corporate governance and financial performance of listed manufacturing companies on the Nigerian Stock Exchange.

This study would seek to answer the following research questions;

1. What is the relationship between board size and financial performance of manufacturing companies in Nigeria?
2. What is the significant relationship between board independence and financial performance of manufacturing companies in Nigeria?
3. What is the relationship between board meeting and financial performance of manufacturing companies in Nigeria?
4. What is the significant relationship between board gender diversity and financial performance of manufacturing companies in Nigeria?

Objective of the study

The broad objective of this study is to establish the relationship between corporate governance and financial performance of manufacturing companies in Nigeria. Therefore, the specific objectives of this study are to:

1. determine the relationship between board independence and financial performance of manufacturing companies in Nigeria;
2. examine the relationship between board size and financial performance of manufacturing companies in Nigeria;
3. determine the relationship between board meeting and financial performance of manufacturing companies in Nigeria;
4. ascertain if there is a relationship between board gender diversity and financial performance of manufacturing companies in Nigeria; and

Research Hypothesis

The null hypothesis listed below will be tested empirically during the course of the research and the research will guide the conclusions to be derived and the recommendation to be made.

H₀₁: There is no significant relationship between board independence and financial performance of manufacturing companies in Nigeria.

H₀₂: There is no significant relationship between board independence and financial performance of manufacturing companies in Nigeria.

H₀₃: There is no significant relationship between board meeting and financial performance of manufacturing companies in Nigeria.

H₀₄: There is no significant relationship between board gender diversity and financial performance of manufacturing companies in Nigeria.

LITERATURE REVIEW

Concept of Financial Performance

Financial performance assesses the fulfillment of a firm's economic goal and this relates to various subjective measures of how well a firm can use its given assets from primary mode of operation to generate profit (Joshua, Efiog & Imong, 2019). (Joshua, Efiog & Imong, 2019) explained that corporate performance is usually measured by ROA, ROE or NIM. Studies conducted on the determinants of banks performance use one or a combination of these ratios as a measure of performance in their analysis. This study examines the most comprehensive accounting measure of a bank's overall performance which is Return on assets (ROA).

Return on asset is an indicator of how profitable a company is relative to its total assets (Adekunle & Aghedo, 2014). It gives an idea as to how efficient management is at using its assets to generate earnings, that is, it measures efficiency of the business in using its assets to generate net income (Adekunle & Aghedo, 2014). It is a profitability ratio. Calculated by dividing a company's annual earnings by its total assets, ROA is displayed as a percentage (Adekunle & Aghedo, 2014). The formula to calculate return on assets is:

$$ROA = \frac{\text{Annual Net Income}}{\text{Average Total Assets}}$$

Concept of Corporate Governance

Several attempts have been made to define the concept of corporate governance which is seen as the system by which business corporations are directed and controlled.

The Code of Corporate Governance issued by Central Bank of Nigeria (2014) defines the subject as the rules, processes, or laws by which institutions are operated, regulated and governed. It is developed with the primary purpose of promoting a transparent and efficient system that will engender the rule of law and encourage division of responsibilities in a professional and objective manner (Dabor, Isiavwe, Ajagbe & Oke, 2015).

Adekunle and Aghedo (2014) explained that corporate governance is all about running an organization in a way that guarantees its owners as stakeholders are receiving a fair return on their investment.

Akinleye, Olarewaju and Fajuyagbe (2019) opine that corporate governance connects to the composition of an organization in persons, ideology, business fundamentals and operation in the quest to ensure operational credibility, transparency and effective communication business ideals to stakeholders.

Joshua, Efiog and Imong (2019) corporate governance is one of the key factors that determine the health of the system and its ability to survive economic shocks. The aim

of corporate governance is to ensure that corporations are managed in the best interest of their owners and shareholders (Joshua, Efiog and Imong, 2019).

Corporate governance is increasingly a matter of growing importance in developing countries as many companies pass through significant transformations because of the combined forces of technological progress, sociopolitical changes, and economic trends toward greater globalization (Al-Homaidi, Almaqtari, Ahmad & Tabash, 2019).

Selected Corporate Governance Mechanism

Board Size

The board is considered to be an important corporate governance mechanism because decisions reached by the board are implemented by the management. These decisions affect not only the performance of the entity, but also have significant effect on the survival of the business (Kajola, Onaolapo & Adelowotan, 2017).

According to Dabor, Isiavwe, Ajagbe and Oke (2015), there have been diverging opinions by various researchers on the number of persons that should make up an ideal board. Some school of thought are of the opinion that a small board is more effective because it enhances fast decision making and cannot be manipulated by management. Board size simply means the number of people that make up a corporate board. Board size somewhat varies from country to country (Onatuyeh & Odu, 2019). In Nigeria, the minimum board membership for all listed firms as stipulated by the Securities and Exchange Commission (SEC) code of corporate governance (2009) is five (5). The debate remains to the present day as to whether large or small boards are more effective in performing their oversight functions (Onatuyeh & Odu, 2019).

Uniamikogbo, Bennee and Adeusi (2019) define board size as the total number of directors that made up the corporate board of an organization which must be of an appropriate mix that could offer diversity and help firms with the security of critical resources, hence, reduce uncertainties in the environment.

Board Independence

Board independence is the number of non-executive directors on board of a company. It is the ratio of non-executive directors to total directors (Kakanda, Salim & Chandren, 2016). Abu, Okpeh and Okpe (2016) non-executive directors are outside directors who are independent of the company. They are called independent directors because they have neither personal nor business relationships with the company.

Dabor, Isiavwe, Ajagbe and Oke (2015) observed that, in one breath, it is asserted that executive directors are more familiar with the firm's activities, therefore are in a better position to monitor top management. On the other hand, it is contended that non-executive directors may act as "professional referees" to ensure that competition among insiders stimulates actions consistent with shareholder value maximization.

Board Meetings

It is the mandatory responsibility of the board members to attend board meetings. According to Kutum (2015), when managers are obliged to their responsibility of attending meeting, this allows them to vote on important decision-making plans. Board meeting (diligence) refers to the gathering of directors on the board to discuss issues regarding the company. It is measured as the number of meetings during a year by a company board of directors (Kakanda, Salim and Chandren, 2016). Board meetings play a significant role to the success of a company. In addition, board meetings serve as an important avenue for effective decision making of a company. Board of directors hold meetings on behalf of the company to discuss issues of the past, present and future that is related to the company, and resolutions passed during board meetings. Therefore, the more the number of board meetings, the better for a company, because the boards will have more and better chances of making various decisions (Kakanda, Salim and Chandren, 2016).

Board Diversity

Another most common characteristic of board of directors that gets progressively attentions in the corporate governance literature and regulatory discussions now a day is board diversity increasingly considered as a significant mechanism of good corporate governance (Wodem & Batra, 2019).

Gender diversity is associated with effectiveness in the oversight function of boards of directors. The oversight function may be more effective if there is gender diversity on the board which allows for a broader range of opinions to be considered (Dabor, Isiavwe, Ajagbe & Oke, 2015). Board diversity is characterized by attributes like gender, age, nationality and functionality (Eulerich, Velte & Van Uum, 2014).

Review of Empirical Studies

Ilemobayo, Adebimpe and Yusuf (2020) examined the effect of corporate governance and firm performance: case of selected oil companies in Nigeria. Secondary data sourced from six oil companies listed on the Nigeria Stock Exchange covering 2009 to 2018 were used. Data collected include; board size, executive directors' number, non-executive directors' number, audit committees' number, net annual income, shareholders' equity, net profit/margin, assets for the period, while board composition, return on assets and equity were generated. Data collected were analyzed using Cross Sessional Random Effects Model (REM) of regression analysis. Unit root test indicated that all variables were stationary at level. Audit committee exhibited a positive relationship with firms' performance, though insignificant, while board composition and board size had an inverse relationship, though significant with ROE and ROA. All the variables jointly influence firms' performance positively.

Eke, Akpanuko and Umoffong (2019) investigated the influence of corporate governance on profitability of quoted manufacturing companies in Nigeria. The ex post facto research design was adopted for the study. The population of the study was made up of the twelve (12) manufacturing companies listed on the Nigerian stock exchange between 2010 and 2018. Ten (10) listed manufacturing companies in Nigeria constituted the sample size for this study. Data required for the study were extracted from the audited financial statements of the quoted manufacturing companies that constituted the sample of this study and analysis of data was carried out using descriptive statistics. Multiple regression and correlation statistics were used in testing the hypothesis postulated. The investigation revealed that a significant positive linear relationship exists between corporate governance and profitability of quoted manufacturing companies in Nigeria and that board independence, board size and board meetings accounts for 3.2 percent, 21.9 percent and 2.8 percent respectively of the profitability of quoted manufacturing companies in Nigeria. The results of the study further revealed that audit committee independence, audit committee meetings and audit committee competence accounts for 1.6 percent, 6.8 percent and 14.3 percent respectively of the profitability of quoted manufacturing companies while external auditor independence, shareholders' involvement and ownership concentration accounts for 1.2 percent, 23.6 percent and 0.2 percent respectively of the profitability of quoted manufacturing companies in Nigeria. Based on the findings of the study, it is concluded that corporate governance has a moderate influence (52.3 percent) on profitability of quoted manufacturing companies in Nigeria.

Enilolobo, Adesanmi and Aigbe (2019) examined the corporate governance and financial performance of listed firms in Nigeria; comparing the food and petroleum products industries. The study used secondary data for ten (10) listed food and petroleum firms over a period of seven (7) years (2011-2017). Board size, audit committee, board independence, and ownership structure as proxies for corporate governance while financial performance was represented with return on asset (ROA). Panel regression analysis was used to analyze the data. Hausman test was carried out for the appropriateness of the panel method to use. The Hausman test revealed that the Fixed effect was more appropriate as such, fixed effect panel regression was applied. The results of the analysis show that corporate governance mechanisms of board independence, audit committee and ownership have positive effect on financial performance of the food and petroleum firms in Nigeria. However, the result revealed that corporate governance mechanism of board size has negative effect on the financial performance of food and petroleum companies in Nigeria.

Imade (2019) examined the nexus between board gender diversity, non-executive director's composition and corporate performance (return on asset) of listed firms on the Nigerian Stock Exchange. Ex-post facto research design was employed and agency

theory formed the basis of theoretical framework of the study. Data of board gender diversity, non-executive director's composition and return on asset were obtained for seventy-two listed firms during the period 2006 to 2016. The data obtained were analyzed by means of Ordinary Least Square (OLS) estimation technique. The analyses revealed that board gender diversity has substantial effect on corporate performance (return on asset) of listed firms on the Nigerian Stock Exchange. Contrarily, non-executive director's composition has no significant effect.

Otuya, Akporien and Ofeimun (2019) examined the influence of companies' governance process on sustainability reporting in Nigeria. The study was anchored on the stakeholders' and information cost theories and adopted the ex post facto research design. The population of the study was made up of all listed manufacturing companies in Nigeria. Data were obtained through manual content analysis of corporate financial statements using a modified checklist based on Securities and Exchange Commission (2018) Sustainability Reporting Guidelines to examine the level of disclosures by sampled firms for the period 2016 to 2018. The study deployed descriptive, correlation and regression analyses as data analytical techniques. Findings of the study revealed no significant positive association with board activity, board globalizing, executive compensation and profitability but a negative association with audit committee strength.

Ishaku and Dandago (2017) examined the impact of board characteristics on financial performance of downstream sector oil and gas listed companies in Nigeria. For the purpose of this study, data were collected from a sample of 8 companies from 2005 to 2014. The study used Return on Equity (ROE) as the dependent variables to proxy financial performance while Board Size, Board Composition, Board Meeting Frequency and Firm Size were used as the explanatory variables. Multiple regressions were conducted to examine the effect of board characteristics on financial performance of the sample companies. The study found out that board composition and board meeting frequency has a positive and significant effect on the financial performance of the sampled companies. Therefore, companies in the downstream sector of the oil and gas industry should increase the presence of the outside directors on boards and increase the number of interactions among board members in order to have superior financial performance.

Urhoghide and Korolo (2017) examined the effect of corporate governance on financial performance of quoted manufacturing companies in Nigeria. The specific objectives of the study were to determine whether corporate governance mechanisms-board size, board diversity, board diligence, board political affiliation, and corporate governance disclosures have any effect on firm financial performance using profit after tax (PAT) to measure firm performance. The study used the published annual reports spanning the period 2008 to 2015. A sample of twelve (12) out of the fourteen (14) quoted companies in the oil and gas sector were used for this study. The Generalized Least Square (GLS) regression was employed to examine the relationship existing between the variables. The study found that Board size, board gender diversity

and corporate governance practices have significant positive impact on financial performance. Board diligence and corporate governance reforms are positive but not significant while board political affiliation has significant negative relationship with financial performance of quoted manufacturing companies in Nigeria.

Ayodele, Aderemi, Obigbemi and Ojeka (2016) examined the nature of relationships that exist between corporate governance mechanisms (board composition, audit committee, board size and corporate governance disclosure) and financial performance (return on equity, profit margin and return on asset) in the Nigerian oil and gas industry. Secondary data from the audited financial statements of the fifteen listed manufacturing companies in Nigeria were employed. The test of hypotheses and other analysis of data were done using Pearson Correlation and regression analysis generated from SPSS, version 17. Findings from the study revealed that insignificant but positive relationship does exist between board composition and the performance of manufacturing companies in Nigeria. Evidence also exist that corporate governance disclosure level has a positive and significant impact on the ROE.

Makki and Lodji (2013) determined the structural relationship between corporate governance and financial performance. The study develops a model linking corporate governance and financial performance then verifies it through structural equation modeling based on partial least square. The study is based on random sample of all Karachi Stock Exchange listed companies. Data related to corporate governance and financial performance was collected through annual reports of listed companies. The study reveals and determines the existence of critical structural relationship between corporate governance and financial performance through data analysis using PLS Graph software.

Azam, Usmani and Abassi (2011) examine the impact of corporate governance on firm's performance. A sample of 14 oil and gas related firms has been taken for the period of 2005 to 2010. Canonical regression analysis has been done to analyze the impact of corporate governance on firm's performance. The present study focused on the three variables for measuring the firm's performance such as Return on assets (ROA), Return on Equity (ROE) and Net Profit Margin (NPM). The obtained results report that corporate governance has significant and positive impact on firm's performance and it shows that firm's performance can be increased by improving the corporate governance structure.

Theoretical View

Corporate governance is often analyzed around major theoretical framework. The most common theoretical framework includes:

Agency Theory

This arises from the distinction between the owners and shareholders of a company or an organization designated as 'principals' and the executives hired to manage the organization called the 'agent'. The assumption is that the principal suffer an agency loss which is lesser a return on the investment because they do not directly manage the

company. Part of the return is that they could have had if they were managing the company directly goes to the agent. Consequently, agency theory suggests financial rewards that can help incentivize executives to maximize the profits of the owners. Further, a board developed from the perspective of the agency theory tends to exercise strict control, supervision and monitoring of the performance of the agent in order to protect the interest of the principals. In other words, the board is actively involved in most of the managerial decision making process and is accountable to the shareholders. In further discussion of agency relationship and cost, Jensen and Meckling (1976) describes agency relationship as a contract under which one or more persons (principal) engage another person (agent) to perform some service on their behalf which involves delegating some decision making authority to the agent.

Stewardship Theory

Stewardship theory argues that the managers or executives of a company are stewards of the owners and both share common goals. Therefore, the board should not be too controlling, as agency theory will suggest. The board should play a support role as empowering the executives thus, increasing the potential for higher performance. Stewardship theory argues for a relationship between boards and executive that involves training, mentoring and shared decision making.

METHODOLOGY

Research Design

This research is being carried out to prove that the corporate governance a firm employs has an impact on the company's performance. In other, that the objective of this work might be achieved, research design employed in this research is the longitudinal research design. It seeks to explain the relationship between the independent variable (corporate governance) and the dependent variable (firm performance) over a period of time. Secondary data would be sourced for the purpose of answering and testing the research hypothesis of this study.

Population and Sample

The population of this work includes all manufacturing companies listed on the floor of the Nigerian Stock Exchange (NSE) as at 31st December 2020.

Sample Size and Sample Technique

Ten (10) quoted manufacturing companies constituted the sample size of this study.

Sources of Data Collection

The major source of the data collection for this research work is the Nigerian Stock Exchange (NSE). Emphasis was placed on the annual report of companies in the non-

financial sector for a period of six (6) years (2015 – 2020). The research instruments used includes data extracted from the Nigerian Stock Exchange fact book, financial statement, annual report and Nigerian Stock Exchange annual.

Model Specification

The econometric model that will be employed in this study is a multiple regression model. A multiple regression model is that which seeks to express relationships between dependent variable and the independent variables. In the light of the methodological knowledge gathered and empirical literature so far studied, the researcher specified a multiple regression model. The study attempted to examine corporate governance and financial performance of manufacturing companies in Nigeria. Therefore the model for the study was adopted, modified and was specifically developed for this study.

In a functional form, we have

$$FPER = f(\text{BOIND}, \text{BSIZE}, \text{BMEET}, \text{GDIVER})$$

Expressing equation in econometric form, we have

$$FPER_{it} = \beta_0 + \beta_1 \text{BOIND}_{it} + \beta_2 \text{BSIZE}_{it} + \beta_3 \text{BMEET}_{it} + \beta_4 \text{GDIVER}_{it} + e_t$$

Where:

- FPER = Financial Performance (proxy for Return on Asset)
- BOIND = Board Independence
- BMEET = Board Meeting
- GDIVER = Gender Diversity

“i” for firms

“t” for time

e_{it} for error terms

Measurement of Variables

Firm performance is the dependent variable and it is measured using return on assets (ROA). The independent variable includes board size, board independence, directors’ shareholdings and board gender diversity. This is summarized in table 1:

Table 1: Variable and their measurement

<i>Variables</i>	<i>Measurement</i>	<i>Apriori sign</i>
<i>Financial Performance (proxy for Return on Asset)</i>	Calculated by dividing the earnings before interest and taxes by the total assets.	
<i>Board independence</i>	Obtained by taking the ratio of non-executive directors to executive director members of the board.	+ve
<i>Board size</i>	Obtained by taking the number of directors sitting on the board of a firm in a particular financial year.	-ve

Board gender diversity

Obtained by taking the percentage of women holding corporate board seats and the percentage of companies with at least one woman on their board. +ve

Source: Researcher's Compilation (2022)

Method of Data Analysis

The Panel Least Square (PLS) regression was adopted for this study; it is a generalized linear modeling technique that could be used to model a single variable which has been recorded on at least an interval scale. The technique may be applied to single or multiple explanatory variables and also category explanatory variables that have been appropriately coded. The panel least square is a statistical tool that enables the researcher to establish if there is any relationship between two variables. The use of ordinary least square as the research tool is informed by its simplicity in estimating unknown parameters in a linear regression model.

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

This section presents the analysis of the data extracted from financial statement/audited annual report of the selected ten (10) quoted manufacturing companies on the Nigerian Stock Exchange, the study comprises of a single regression model with a panel of 60 observations in a six-year period, 2015 to 2020. The model has Return on Asset as the dependent variable and board independence, board size, board meeting and board gender diversity as the independent variables. The data were analyzed using descriptive statistics, correlations analysis, while the hypotheses were tested using the Panel least square (PLS) regression technique. This was achieved through the use of E-views 9.0 econometric computer software.

The presentation of the results is as follows; firstly, the descriptive statistics result is presented. Secondly, the correlation result and analysis is also presented. Next, the ordinary least squares regression result is presented and analyzed.

Table 1: Descriptive Statistics

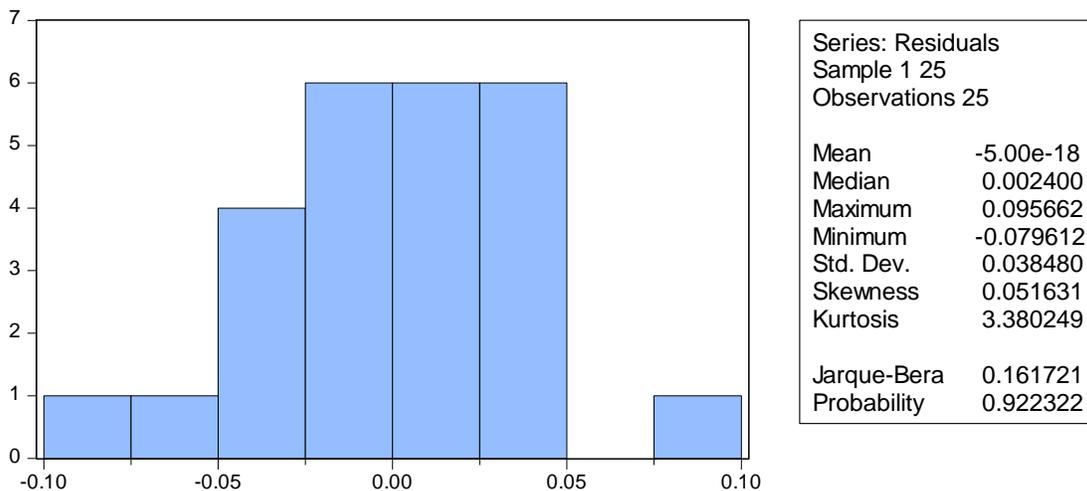
	<i>FPER</i>	<i>BOIND</i>	<i>BSIZE</i>	<i>BMEET</i>	<i>GDIVER</i>
<i>Mean</i>	0.051873	0.529400	8.920000	4.920000	0.162280
<i>Median</i>	0.045581	0.500000	8.000000	5.000000	0.125000
<i>Maximum</i>	0.148641	0.720000	14.000000	7.000000	0.300000
<i>Minimum</i>	-0.026296	0.375000	4.000000	4.000000	0.070000
<i>Std. Dev.</i>	0.039584	0.111909	2.343786	0.909212	0.073467
<i>Skewness</i>	0.225440	0.051633	0.117764	0.496449	0.404800
<i>Kurtosis</i>	3.094605	1.764029	3.530054	2.162266	1.612039
<i>Jarque-Bera</i>	0.221086	1.602384	0.350449	1.757965	2.689468

<i>Probability</i>	0.895348	0.448794	0.839269	0.415205	0.260609
<i>Sum</i>	1.296819	13.23500	223.0000	123.0000	4.057000
<i>Sum Sq. Dev.</i>	0.037606	0.300566	131.8400	19.84000	0.129539
<i>Observations</i>	60	60	60	60	60

Source: E-view 8.0 Output, 2022

The descriptive statistics in table 1 shows the characteristics of the variables from the ten (10) selected manufacturing companies that formed the overall sample of the study. As observed, the mean value of the dependent variable Financial Performance (proxied for Return on Asset) showed negative and positive values ranging from -0.026296 to 0.148641 suggesting that Financial Performance of the selected manufacturing companies for the period under review skewed towards the negative and positive. The mean values of all the other independent variables [Board Independence (BOIND), Board Size (BSIZE), Board Meeting (BMEET) and Board Gender Diversity (GDIVER)] showed positive values with mean values of 0.529400, 8.920000, 4.920000 and 0.162280 respectively. The standard deviations of each of the variables showed minimal dispersion (\pm) from the mean values which are highly desirable. More so, the probability values of the Jargue Bera test for all factors are significantly lower than the 0.05 indicating that the series are uniformly distributed.

Figure 4.1 Normality Test



Source: Researchers Computation, 2022

The histogram normality and other descriptive statistics of the regression variables are revealed in the normality test above. The result showed a mean Jarque-Bera test of

0.161721 and associated probability value of 0.922322 which is significantly greater than the 5% level indicating that not all the series are evenly distributed. Thus, the issue of endogeneity arising from the heterogeneous nature of the data are likely evident.

Table 2: Correlation Analysis
 Covariance Analysis: Ordinary
 Date: 03/02/22 Time: 08:04
 Sample: 1 60
 Included observations: 60

<i>Correlation</i>					
<i>t-Statistic</i>					
<i>Probability</i>	FPER	BOIND	BSIZE	BMEET	GDIVER
<i>FPER</i>	1.000000				

<i>BOIND</i>	0.169316	1.000000			
	0.823909	-----			
	0.4185	-----			
<i>BSIZE</i>	-0.070256	0.203941	1.000000		
	-0.337771	0.999062	-----		
	0.7386	0.3282	-----		
<i>BMEET</i>	-0.039064	0.296400	-0.120444	1.000000	
	-0.187486	1.488364	-0.581867	-----	
	0.8529	0.1502	0.5663	-----	
<i>GDIVER</i>	-0.010979	-0.100602	-0.522779	0.213057	1.000000
	-0.052657	-0.484932	-2.941061	1.045797	-----
	0.9585	0.6323	0.0073	0.3065	-----

Source: Eviews 9 (2022)

Table 2 presents the correlation matrix of variables adopted in the study. The aim is to show how the variables are related among themselves and to also check for possible

high correlations which could lead to multicollinearity problem. As observed from the result, an insignificant positive correlation exists between the dependent variable Financial Performance (proxied for Return on Asset) and the variables of Board Independence (BOIND), while the variable of Board Size (BSIZE), Board Meeting (BMEET) and Board Gender Diversity (GDIVER) showed significant negative associations with the dependent variable Financial Performance (proxied for Return on Asset) at -0.070256, -0.039064 and -0.010979 respectively. However, all the variables that have significant association with the dependent variable of Financial Performance (proxied for Return on Asset) passed the scale at 5% level of confidence. This suggests that all the independent variables move in the same direction with the dependent variable. It is also observable that the issue of high-correlation is not evident among the variables as none of the correlation coefficients is above 0.90.

Diagnostic Tests

To ensure reliability and validity of the empirical results, some diagnostic tests were conducted. In order to test for the presence of multicollinearity in the model, the Variance Inflation Factor (VIF) was carried out, the Hereroskedasticity test was conducted using Breusch-pagan-Godfrey test.

Table 3: Variance Inflation Factors

Variance Inflation Factors

Date: 03/02/22 Time: 08:05

Sample: 1 60

Included observations: 60

<i>Variable</i>	<i>Coefficient</i>	<i>Uncentered</i>	<i>Centered</i>
	Variance	VIF	VIF
<i>BOIND</i>	0.006945	28.55918	1.174725
<i>BSIZE</i>	1.93E-05	22.99350	1.429261
<i>BMEET</i>	0.000106	37.15603	1.179481
<i>GDIVER</i>	0.019549	8.668215	1.425129
<i>C</i>	0.005318	74.82771	NA

Source: Eviews 9 (2022)

The result of the variance inflation factor in Table 3 shows the absence of multicollinearity. The centered VIF values of the explanatory variables are far below the benchmark of 10. The explanatory variables of Board Independence (BOIND)

reported a centered VIF of 1.174725; Board Size (BSIZE) 1.429261, Board Meeting (BMEET) 1.179481 and Board Gender Diversity (GDIVER) 1.425129. All the variables of the model recorded a centered VIFs that are not substantially different from 1.00 and are not indicative of the problem of multicollinearity.

Table 4: Heteroskedasticity Test: Breusch-Pagan-Godfrey

Heteroskedasticity Test: Breusch-Pagan-Godfrey

<i>F-statistic</i>	4.588043	<i>Prob. F(4,20)</i>	0.0086
<i>Obs*R-squared</i>	11.96293	<i>Prob. Chi-Square(4)</i>	0.0176
<i>Scaled explained SS</i>	9.111919	<i>Prob. Chi-Square(4)</i>	0.0584

Source: Researcher's Compilation (2021)

The test for Heteroskedasticity is presented in Table 4.4. It checks for the presence of non-constant variable leading to the breakdown of the BLUE properties in which the efficiency and consistency property may be lost. The decision rule is to conclude that there is no Heteroskedasticity if the F-statistic values are respectively greater than the critical values at 5% level. In the absence of this (i.e. if the critical values at 5% is greater than the F-statistic and observed R-square value), we conclude that there is Heteroskedasticity. As shown in Table 4, the p-value (4.20%) of the corresponding observed chi-square value is greater than 5%. Hence, we accept the null hypothesis of heteroskedastic error term which is desirable. The implication of this is that the regression results can be applied reliably.

Estimation Results

The fixed effect and random effect model estimation technique were to be adopted. However, in order to ascertain the one that is most appropriate. The Hausman's Test was applied; the result obtained is show below:

Table 5: Hausman Test Result

Correlated Random Effects - Hausman Test

Equation: Untitled

Test period random effects

<i>Test Summary</i>	<i>Chi-Sq. Statistic</i>	<i>Chi-Sq. d.f.</i>	<i>Prob.</i>
<i>Period random</i>	4.546538	4	0.3371
<i>** WARNING: estimated period random effects variance is zero.</i>			
<i>Period random effects test comparisons:</i>			
<i>Variable</i>	<i>Fixed</i>	<i>Random</i>	<i>Var(Diff.)</i>
			<i>Prob.</i>

<i>BOIND</i>	0.089324	0.081716	0.000221	0.6086
<i>BFSIZE</i>	-0.003000	-0.002603	0.000003	0.8092
<i>BMEET</i>	-0.013244	-0.005087	0.000019	0.0606
<i>GDIVER</i>	-0.001453	-0.023398	0.001353	0.5507

Source: Author's Computation (2022)

Null Hypothesis: Random effect model is not desirable

Alternative Hypothesis: Random effect model is desirable.

Decision Rule: Accept null if product is greater than 5%.

Accept alternative if product is less than 5%.

From the result of the Hausman Test, the chi-square statistics has a value of 4.54 and the corresponding p-value is greater than 5%. Hence, the null hypothesis was accepted. This implies that the random effect model is most appropriate for the study, (see appendix) in order to provide a comprehensive overview of the results.

Table 6:

Dependent Variable: FPER

Method: Panel Least Squares

Date: 03/02/22 Time: 08:11

Sample: 2015 2020

Periods included: 6

Cross-sections included: 10

Total panel (balanced) observations: 60

<i>Variable</i>	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-Statistic</i>	<i>Prob.</i>
<i>BOIND</i>	0.035239	0.099389	0.354559	0.7275
<i>BFSIZE</i>	-0.004076	0.004482	-0.909342	0.3767
<i>BMEET</i>	0.013440	0.006921	1.942034	0.0700
<i>GDIVER</i>	-0.034306	0.126749	-0.270662	0.7901
<i>C</i>	0.009014	0.051638	0.174563	0.8636
Effects Specification				
<i>Cross-section fixed (dummy variables)</i>				
<i>R-squared</i>	0.728860	Mean dependent var	0.051873	
<i>Adjusted R-squared</i>	0.593289	S.D. dependent var	0.039584	
<i>S.E. of regression</i>	0.025244	Akaike info criterion	-4.246718	
<i>Sum squared resid</i>	0.010196	Schwarz criterion	-3.807922	
<i>Log likelihood</i>	62.08397	Hannan-Quinn criter.	-4.125015	

<i>F</i> -statistic	5.376252	Durbin-Watson stat	1.783619
<i>Prob</i> (<i>F</i> -statistic)	0.002115		

Source: Researcher’s Compilation (2022)

As shown in the above table, the R-squared coefficient of determination stood at 0.49 which indicates that the model explains about 72% of the systematic variations in the dependent variable Financial Performance (proxied for Return on Asset). The Adjusted R² which controls for the effect of inclusion of successive explanatory variables on the degrees of freedom was 59% meaning that about 41% of the systematic variations in Financial Performance (proxied for Return on Asset) were not explained by the model after adjusting for the degree of freedom. However, the proportion of the variation not captured by the model has been addressed by the error term. The F-statistics value and the associated p-value stood at 5.376252 and 0.002115 respectively indicating that the hypothesis of a joint statistical significance of the model cannot be rejected as 5% level of significance and the linearized specification of the model can be assumed as appropriate.

The evaluation of the slope coefficients of the independent variables revealed the existence of positive relationship between Board Independence (BOIND), Board Meeting (BMEET) and the dependent variable Financial Performance (proxied for Return on Asset) as depicted by the slope coefficient of 0.035239 and 0.013440 respectively. On the other hand, the other independent variable of Board Size (BSIZE) and Board Gender Diversity (GDIVER) has negative relationships of -0.004076 and -0.034306 with the dependent variable Financial Performance (proxied for Return on Asset) as shown in the table. It is worthy to note that only the variable of Board Meeting (BMEET) passed the significance test at 5% level, while the other three independent variables of Board Independence (BOIND), Board Size (BSIZE) and Board Gender Diversity (GDIVER) were not statistically significant meaning they did not significantly influence Financial Performance (proxied for Return on Asset) of manufacturing companies during the period under review as depicted by the findings of this study. Thus, a positive change in Board Meeting (BMEET) will likely increase Financial Performance (proxied for Return on Asset) significantly by up to 0.07. Lastly, the Durbin-Watson value of 1.78 suggests that there is no evidence of autocorrelation among the error term.

Test of Hypotheses

The employed hypotheses are statistically tested below as shown in their null form. The study sets its decision rule for the acceptance of the hypothesis at 5% level of

significance; hence, the null hypothesis would be rejected if the probability value is less than 5% (0.05). The following are the results of the tested hypothesis:

Hypothesis One:

H₀₁: There is no significant relationship between board independence and financial performance of manufacturing companies in Nigeria.

The first hypothesis of the study seeks to justify if there is significant relationship between Board Independence (BOIND) and Financial Performance (proxied for Return on Asset). Utilizing the regression output in the previous table, and judging by the significance level of 0.7275 which is greater than the 0.05 significance level as depicted in the regression Table 6, the study therefore accept the null hypothesis and reject the alternative. This can be concluded that there is no significant relationship between board independence and financial performance of manufacturing companies in Nigeria during the period of the study.

Hypothesis Two:

H₀₂: There is no significant relationship between board size and financial performance of manufacturing companies in Nigeria.

In the second hypothesis, the study seeks to clarify whether or not there is a significant relationship exists between Board Size (BSIZE) and financial performance (proxied for Return on Asset). Based on the regression result in table 6, Board Size (BSIZE) was negatively and insignificantly related to Financial Performance (proxied for Return on Asset). It had a p-value of 0.3767 which is far greater than the critical value of 0.05. Hence, the null hypothesis as stated is accepted. This means that there is no significant relationship between board size and financial performance of manufacturing companies in Nigeria.

Hypothesis Three

H₀₃: There is no significant relationship between board meeting and financial performance of manufacturing companies in Nigeria.

The third hypothesis of the study seeks to determine whether or not a significant relationship exists between Board Meeting (BMEET) and Financial Performance (proxied for Return on Asset). Based on the regression output in the previous table 6, and judging by the significance level of 0.0700 which is far less than the 0.05 significance level as depicted in the regression. The study therefore rejects the null hypothesis and concludes that there is a significant relationship between board meeting

and financial performance of manufacturing companies in Nigeria during the period of the study.

Hypothesis Four:

H₀₄: There is no significant relationship between board gender diversity and financial performance of manufacturing companies in Nigeria.

The four hypothesis of the study seeks to determine whether or not a significant relationship exists between Board Gender Diversity (GDIVER) and Financial Performance (proxied for Return on Asset). Based on the regression output in the previous table 6, and judging by the significance level of 0.7901 which is greater than the 0.05 significance level as depicted in the regression. The study therefore accepts the null hypothesis and concludes that there is no significant relationship between board gender diversity and financial performance among quoted Nigerian companies during the period of the study.

CONCLUSION AND RECOMMENDATION

Conclusion

The purpose of this study was to empirically examine corporate governance and financial performance of quoted manufacturing companies in Nigeria. Specifically, the study looked at how the variables of board independence, board size, board meeting, and board gender diversity affect Financial Performance proxied for Return on Asset of quoted manufacturing companies in Nigeria. The study employed multiple regression estimation approach on information extracted from a sample consisting of ten (10) listed manufacturing companies in Nigerian Stock Market between the years 2015 to 2020. The model was regressed to check for the existence of significant relationships between the dependents (financial performance proxied for Return on Asset) and independent variables (board independence, board size, board meeting, and board gender diversity). The results from the study showed that there is a significant relationship between board meeting and financial performance (proxied for Return on Asset). However, the variables of board independence, board size and board gender diversity were not statistically significant, hence did not influence financial performance (proxied for Return on Asset) of manufacturing companies in Nigeria during the period under review.

Recommendations

- i. It is therefore recommended that the appointment of board independence (independent directors) on the manufacturing companies' board should be

based on the previous records of those directors in term of performance rather than emphasizing on the proportion to total number of directors on the board. This will enhance the financial performance of quoted manufacturing companies in Nigeria.

- ii. The study recommends that quoted manufacturing companies in Nigeria should not consider the increase of board size. This will enable manufacturing companies to have strong control of its activities, enhance communication and decision making as regards financial performance of quoted manufacturing companies in Nigeria.
- iii. It is therefore recommend that the Securities and Exchange Commission and the Central Bank of Nigeria should put in place a regulation which ensures that manufacturing companies in Nigeria board maintain considerably number of attendance rate for them to be retained in their membership in the board of directors for the following financial year. The practice where board members are simply there just to complete the board size without active attendance and participation at meetings should be curtailed. It is also recommended that board members should meet as many times as possible to be able to carry-out their prescribed roles and functions which in-turn influences manufacturing companies' financial performance.
- iv. Quoted manufacturing companies in Nigeria should consider the increase of the proportion of woman board member (i.e. female representation) in order to improve board behaviour and effectiveness simply because the women on corporate boards tend to be better prepared for the board meetings than men.

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