

Internal Control System and Return on Assets of Manufacturing Companies Listed in Nigeria

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Abstract: *Manufacturing companies in Nigeria has witnessed poor financial performance, subsequent failure and liquidation which can be traced to weak internal control system, internal fraud, and non-compliance with corporate governance standard, lack of transparency, creative accounting and insider trading. The financial performance of manufacturing companies has been called to question on several occasions. The study examined the effect of internal control system on return on asset of manufacturing companies listed in Nigeria. The study employed ex-post facto research design, a target population of forty-three (43) manufacturing companies quoted on Nigerian Stock Exchange was used and a sample of fifteen (15) companies was selected from the population. The data was gathered from audited financial reports of the sample manufacturing firms for a period of ten (10) years. The study employed descriptive method of analysis to describe the data while inferential statistics such as multiple linear regression technique was used to test the hypotheses using Stata software. Inferences were made at 10% level of significance. The study showed that Risk management has significant and positive effect on return on assets of manufacturing companies listed in Nigeria giving the F-statistics value of 4.865 with the probability value of 0.001 and Adjusted r^2 of 0.180 showed that compliance with regulatory framework has statistical effect on return on asset, hence the null hypothesis of no significant effect of compliance with regulatory framework on the financial performance of manufacturing companies listed in Nigeria was rejected. Internal communication of information has statistical effect on financial performance of manufacturing companies in Nigeria giving the F-statistics value of 2.652 with the probability value of 0.036 and Adjusted r^2 of 0.045, hence the null hypothesis was rejected. From the findings of the study, the study concluded that manufacturing companies that had invested on effective internal control systems have more improved financial performance as compared to those with a weak internal control system. The following recommendations were made based on the outcome of the study: Management should develop more effective monitoring systems through the internal control department to ensure compliance with regulatory frameworks. Management of companies should regularly upgrade their information and communication frameworks to enable them cope with the frequent changes in the global environment and as such improve their financial performance.*

Keywords: Board independence, Financial performance, Internal control, Internal communication, Risk management

1. Introduction

Financial performance is a measure of the profitability position of an organization which is the difference between revenue generated from the sale of output and the full opportunity cost of factor used in the production of that output (Siddikin, 2017). Financial performance is the potential of a firm to be financially successful, the ability of an investment to make profit or the state or condition of yielding a financial profit or gain. However, profit could either be normal or supernormal. Normal profit is that minimum amount of profit which a firm must acquire in order to induce the firm to remain in operation. Similarly, Brealey, Myers and Marcus (2014) posited that the strength of financial performance of an organization is measured through profitability. Basically, the issue of financial performance is a continuous issue that a company has to consistently make, because it is essentially concerned with the level of turnover that must be achieved in order to cover costs and make surplus.

Globally, manufacturing industry has been one of the major industries contributing to economic business activities, productivity, growth and economic development. Attaining financial performance by manufacturing companies depends on the management ability to effectively institutionalize strong internal control system. Majorly, manufacturing industry are subject to internal fraud risks which have affected their financial performance negatively. The challenges of continuous decline in performance of

manufacturing firms could be partly explained by the high degree of ineffective internal control system. Recent failures and collapse of highly profile firms like Tyco Plc, Bernie Madoff Plc, Freddie Mac Plc, Enron Plc, Cadbury Plc and WorldCom Plc are traceable to ineffective control system (Umar & Dikko, 2018).

In developing economies, Landry (2018) stated that manufacturing firms in developing economies such as Ethiopia, Morocco, Malaysia and Turkey contribute significantly to the accumulation of physical and human capital. The author further argued that in macroeconomic terms, a strong manufacturing sector enhances a country's external account balances by decreasing imports and diversifying exports, thereby increasing resilience to external shocks as compared to reliance on primary commodities. Furthermore, Handania (2017) noted that manufacturing companies plays a prominent role in economic growth of developing countries by accelerating robust and inclusive growth.

Considering the Nigerian economy, Oyedokun, Tomomewo and Owolabi (2019) opined that quite a good number of manufacturing companies in Nigeria have ceased to operate, and more prominent companies have acquired many or at best, merged with other more prominent manufacturing companies. Few manufacturing companies that are still operating within the Nigeria market have resulted in performing at a sub-optimal level due to managerial inefficiencies, internal control failures, fraud and weak corporate governance system. Similarly, Abdul and Isiaka

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(2015) noted that the growth of the manufacturing sector in Nigeria has been stagnant over the years due institutional challenges caused by internal control lapses, managerial inefficiencies, fraudulent activities and high-profile corporate accounting scandals.

The Institute of Chartered Accountants of Nigeria broadened the definition of internal control as the plan of organization and the methods and measures adopted within a business to safeguard its assets, check the accuracy and reliability of its accounting data, promote operational efficiency, and encourage adherence to the prescribed managerial policies. This definition is broader than the meaning usually attributed to the term, because it recognizes that a system of internal control extends beyond matters which relate directly to the accounting and financial functions (ICAN, 2011). Moreover, internal controls are put in place to ensure the safe custody of all companies' assets; to avoid abuse, misuse or misappropriation of assets and to detect and safeguard company's resources against probable frauds.

Similarly, the Committee of Sponsoring Organization (COSO) framework identifies five main elements of internal control systems against which the review should take place; these elements of control help organizations to improve performance (COSO, 2014). These include Control environment, Risk assessment, control activities, information and communication and monitoring. It also includes the policies and procedures that protect the assets of an organization, create dependable financial reporting, uphold compliance with laws and regulations and achieve efficient and effective operations. These are not only linked to accounting and reporting but also to the organizations communication processes, both internally and externally, which include methods for handling funds received and expended by the organization, preparing appropriate and timely financial reporting to Board members and officers, conducting the annual audit of the organization's financial statements, risk assessment and analysis of the control environment (Brennan & Soloman, 2016).

In the past years, manufacturing companies in Nigeria had witnessed poor financial performance, subsequent failure and liquidation which can be traced to weak internal control system, internal fraud, non-compliance with corporate governance standard, lack of transparency, creative accounting and insider trading. The financial performance of manufacturing companies has been called to question on several occasions. One of such occasions can be traced to the experience of Cadbury Nigeria Plc and Lever Brothers (Now Unilever).

Despite the fact that internal control system has been in existence for many years in most organization, the problem of financial crimes, have continued to be on the increase. Examples of this financial crimes include; financial irregularities within the departments, collusion among senior or highly-trusted employees, breaches of control and insider trading. Various researchers such as (Eke, 2018; Umar & Dikko, 2018) have affirmed that internal control set by management in most organization has not been able to completely prevent these fraudulent occurrences because these controls have not significantly reduced the reoccurring

fraud and corruption perpetuated by employees in most organizations.

Omoniyi and Akinselure (2016) emphasized that one of the key measures targeted to improve the financial performance and stability of manufacturing firms in Nigeria was the compliance with internal control framework which was revised, updated and strictly enforced. However, findings revealed serious infractions such as internal control failures, false disclosures, market abuses, misstatements in financial statements, poor Board oversight, irregular approval of directors' remuneration, unjustified disbursement to directors and management of the company and related party transactions. Furthermore, Payal and Singh (2017) noted that infractions and non-compliance with internal control framework has further increased fraudulent activities in most organization thereby affecting the financial performance of such firms negatively.

The exact relationship between internal control and financial performance of manufacturing companies has generated diverse opinions in the empirical literature, a number of studies have shown conflicting results (Eke, 2018; Umar & Dikko, 2018; Omoniyi & Akinselure, 2016; Nwobodo, Adegbe & Banmore, 2020). Also, majority of earlier studies considered the effect of internal control on consumer goods manufacturing companies. The need to incorporate the health care and industrial goods sector as an important segment of the manufacturing industry makes this study unique. Thus, this study seeks to examine the effect of internal control system on the financial performance of manufacturing companies listed in Nigeria.

Objectives of the Study

- 1) Investigate the effect of compliance with regulatory framework on the financial performance of manufacturing companies listed in Nigeria.
- 2) Determine the effect of internal communication of information on the financial performance of manufacturing companies listed in Nigeria.

Research Questions

- 1) What is the effect of compliance with regulatory framework on the financial performance of manufacturing companies listed in Nigeria?
- 2) How does internal communication of information affect the financial performance of manufacturing companies listed in Nigeria?

Research Hypotheses

H₀₁: Compliance with regulatory framework does not have any significant effect on financial performance of manufacturing companies listed in Nigeria.

H₀₂: Internal communication of information in the organization does not significantly affect the financial performance of manufacturing companies listed in Nigeria.

2. Literature Review

2.1 Internal Control System

According to COSO Internal Control Integrated Framework (2014), there are five key elements of internal control

system which include control environment, analysis of risk, control of activities, communication of information, and systematic review of internal control elements. Control environment influences the degree of success of the other four elements. Thus, control environment constitute employees behavior and morals, upholding professionalism, participation, organization structure, style of management, authorization and human personnel policies. Kakucha (2014) agrees that without solid control environment, the other components of internal controls become ineffective. On the other hand, risk assessment analyses the factors that might hinder the attainment company objectives. It comprises of information for identifying risks of material misstatement, risk analysis and evaluation, analyzing procedures performed on both financial data and non-financial data, observation and inspection methods and documentation of risks. Eke (2018) defines control activities as guidelines and methods that enable appropriate responses are initiated in case the organization is facing risks. The control activities encompass operational controls, financial information controls and compliance controls. Operational controls comprises of separation of duties, proper duty specification on handling transactions, documentation and records, control over properties and supervising of performance. Information and communication ensures that information flows throughout the organization. The flow of information should be adequate, sufficiently detailed, explicit, accurate and up to date in an upward direction, as part of a routine management information system. The exchange of information allows personnel carry out activities in a coordinated fashion. Monitoring, according to Bowrin (2014) can be ensured by periodically independently checking and observing customer complaints, responses, periodical audits carried out by internal auditors. Thus, monitoring is a vital activity in an organization which ensures the effectiveness of all other internal control components.

Owusu-Boateng, Amofa and Owusu (2017) conceptualized internal control system as a procedure of accounting planned in ensuring efficient safeguard of assets or implementing a policy that will avoids fraud and error in the management of organizational processes and values. Internal control system is a critical part of administrating an organization as it entails the plans, methods, and procedures used to meet an organization's vision, mission, goals and objectives; and by acting in that way, sustain performance based executive. Similarly, Muhun and Jagongo (2018) emphasized that internal control assists managers to achieve required results through effective management of resources.

Hammed (2018) explained that internal control is a systematic way of carrying out organization's activities and procedures, within specified company rules and regulations for the overall success of the enterprise. According to Whittington (2017), internal controls span beyond issues relating to bookkeeping and production of financial reports. He further noted that internal controls can be regarded as organized procedures that lead to evaluation of the level of pre-determined objectives in relation with the actual results of the company. According to Mawanda (2018), organizations' commitment to adhering to internal controls results in better performance unlike organizations that lack

commitment to internal controls. Internal control deals with the organizations' compliance with regulations and financial reporting standards. Rittenberg (2015) highlighted benefits of effective internal control which includes detecting error and fraud, minimizing illegal activities and enhancing quality data and financial reporting.

2.1 Financial Performance

A firm's financial performance reflects its capability to make profit from all its business lines. This is an indication of how efficient the administration can generate incomes using the capital accessible in the market. Growth in earnings is said to be the key aim of every firm. In an aggressive marketplace, a firm needs to determine how to attain an acceptable level of productivity, which comprises of defining which parts of monetary policies are functioning and which ones require upgrading (Babalola, 2015).

Financial performance measures the extent of achievements by organizations, which could reflect a good result for certain periods and otherwise for other periods (Batchimeg, 2017). One of the main aim for measuring the achievements of organizations is to obtain useful information related to flow of fund, the use of fund, effectiveness and efficiency in the utilization of the funds. This information also motivates managers to make good informed decisions (Amal, Sameer, & Yahya, 2012). According to Siddikin (2017), profit means the difference between revenue generated from the sale of output and the full opportunity cost of factor used in the production of that output. Financial performance is the potential of a firm to be financially successful, the ability of an investment to make profit or the state or condition of yielding a financial profit or gain. However, profit could either be normal or supernormal. Normal profit is that minimum amount of profit which a firm must acquire in order to induce the firm to remain in operation.

Basically, the issue of financial performance is a continuous issue that a company has to consistently make, because it is essentially concerned with the level of turnover that must be achieved in order to cover costs and make surplus. According to Babalola (2015), the strength of financial position of an organization is measured through profitability. Financial analysis is the process of identifying the financial strengths and weaknesses of the firm by properly establishing relationship between the items of the balance sheet and the profit and loss account. In financial analysis, ratios are used as a benchmark for evaluating the financial position and performance of a firm. Similarly, Brealey, Myers and Marcus (2014) posit that financial performance can be measured through ratio analysis, breakeven analysis, marginal analysis, cost control or through financial control.

2.2 Theoretical Review

Resource Dependency Theory

Resource dependence theory (RDT) was propounded by Williamson in 1995. The theory explains how external resources of company affect its behavior and strategy. The theory is based on the assumption that company should have control of its critical resources so that it does not depend on other parties. The key role of the Board of directors is to

control and monitor the managers and provide resources. Therefore, firms have to secure resources from the environment so as to reduce uncertainty and enhance firm performance (Taljaard, 2015).

A critic of the resource dependent theory is Donaldson (2012), an advocate of contingency theory which focuses on the prominent relevance of power structures and processes and the resulting critique about economics, costs and efficiency which explains company behavior Donaldson (2012) argued that economic theories where costs and efficiency are at the center of attention and not uncertainty or power could also explain many other phenomena just as well or even better than RDT.

This theory is related to this study as it provides alternative explanation of the contact role of Board of director in which companies seek to manage external dependency by forming ownership ties and Board connections (Thomsen & Conyon, 2012). Hillman, Cannella, and Harris (2002) suggested four primary benefits for the external linkages which includes the provision of specific resources such as expertise, information or advice from individuals with experience in a variety of areas; creation of channels of communication to the firm; provision of commitments of support from important organizations in external environment; and creation of legitimacy for the firm.

Stakeholders Theory

The stakeholder theory was developed by Freeman in 1984. The theory advocates that managers in organizations have a network of relationships to serve; this include employees, shareholders, suppliers, business partners and contractors. The proponents of stakeholder theory consider the shareholders theory to be too narrow, as manager actions impact other interested parties, other than shareholders. In essence, the stakeholder theory emphasizes the need for managers to be accountable to stakeholders. Stakeholders are any group or individual that can affect or is affected by the achievement of a corporation's purpose.

In support of the stakeholders theory, Donaldson and Preston (2015) asserted that stakeholder theory focuses on managerial decision making and interests of all stakeholders which have intrinsic value, and no sets of interests is assumed to dominate the others. This suggests that managers are expected to consider the interests and influences of people who are either affected or may be affected by a firm's policies and operations. In the same way, Jensen (2001) affirms that managers should pursue objectives that would promote the long-term value of the firm by protecting the interest of all stakeholders. Blattberg (2004) emphasized that the stakeholder theory is a good combination of economy and ethics. No company can survive if it only has the shareholders' economic gain in mind. It needs to accept feedback from creditors, customers, employees, suppliers, and the likes.

Stakeholder theory has been criticized for over saddling managers with responsibility of being accountable to several stakeholders without specific guidelines for solving problems associated with conflict of interests. However, Freeman (1984) contends that the network of relationships

with many groups can impact decision making processes, as stakeholder theory is concerned with the nature of these relationships in terms of processes and outcomes for the firm and its stakeholders. In relations to this study, internal control system is seen as a set of relationships between a company's management, its Board, its shareholders and other stakeholders which provides the structure through which the objectives of the company are set, and the means of attaining those objectives and monitoring performance.

Theoretical Framework

This research reviewed two theories in the literature which includes; resource dependence theory and stakeholder theory. However, this study focused on resource dependency theory. The resource dependency theory focuses on the role of management in ensuring effective control of critical resources so that it does not depend on other parties. Thus, based on the resource dependency theory, the key role of the Board of directors is to control and monitor the managers so as to ensure that resources are managed efficiently.

2.3 Empirical Review

Omoniyi and Akinselure (2016) examined the effect of internal control as a measure of compliance with regulatory framework on financial performance of some selected firms. The methodology of the study is based on survey research approach. The statistical data used for the study were obtained by distribution of one hundred and fifty (150) questionnaires among selected employees, in the five (5) manufacturing firms considered in the research work. The respondent were selected using non-probability sampling method, the data obtained from the questionnaire were analyzed using multiple regression statistical tools in SPSS (Statistical Packages for Social Sciences.). The result of the analysis showed that compliance with regulatory framework has significant relationship with fraud perpetrated in the organization, and this was because the P- value obtained (i.e.0.002) using multiple regressions was greater than the benchmark value of 5% specified in SPSS for this analysis. Based on this result, the study recommends that management should develop more effective strategies that will ensure that internal control is effective and efficient, so that fraud perpetration in the organization will be significantly reduced.

Mawanda (2017) conducted a research on effects of internal control systems on financial performance of manufacturing firms in Uganda. Internal controls were looked at from the perspective of compliance with regulatory framework, control environment, internal audit and control activities. The study established a significant positive relationship between compliance with regulatory framework and financial performance of selected manufacturing companies. The study recommended a rigorous monitoring to ensure by the internal control department to ensure compliance with regulatory frameworks.

Al-Habaybah (2019) conducted a study on factors influencing the extent of mandatory compliance with IAS disclosure requirements by manufacturing companies listed at Amman Stock Exchange. The study empirically investigated the extent of mandatory compliance with

International Accounting Standards (ISAs) by manufacturing companies listed at Amman Stock exchange in 2019 and also explained the relationship between some of corporate specific characteristics (size, age, leverage and profitability); and internal control attributes such as compliance with regulatory framework, audit committee independence, type of audit firm, ownership structure and concentration on the level of the compliance. An index of compliance was devised to quantify the level of the compliance; this was applied to financial statement of fifty (50) manufacturing companies listed at Amman Stock Exchange for the year 2019. Multiple regression analysis was employed to explore the relationship between the level of compliance and the particular attributes of these companies, the average level of the compliance for all companies was 76.6% of the items in the index, and no company within the examined time fully complied with all requirements. The study also revealed that there is a significant positive relationship between (size, leverage, profitability, ownership structure, type of audit firm) and the level of mandatory compliance with IASs.

Rogers (2016) conducted a study on the effect of internal control on financial performance of selected manufacturing firms in Uganda. The study explored the relationship between the core principles of internal control system and financial performance of manufacturing firms in Uganda. The finding indicated that compliance with regulatory framework predicts 34.5 % of the variance in the general financial performance of manufacturing companies in Uganda. Chiang (2015) conducted a study on the effect of compliance with regulatory framework on corporate Performance of manufacturing companies in China. This study explored the relationship among indicators of internal control, including compliance with regulatory framework, Board independence and risk management on financial performance. The results indicated that compliance with regulatory framework had a significant positive relationship with financial performance and it is one of the most important indicators for evaluating internal control effectiveness.

Eissa, Faosi and Almaqtari (2019) examined the impact of internal control system on financial performance of Indian manufacturing companies. The analysis was based on balanced panel data over a period ranging from 2013/2014 to 2015/2016 for thirty (30) Indian manufacturing companies listed on the Bombay Stock Exchange (BSE). The study investigated three aspects of internal control system namely compliance to regulatory framework, Board of directors (independence, size, composition, and diligence), audit committee (size, composition, and diligence) and institutional ownership, whereas financial performance was measured according to three common measures, return on assets (ROA) and earnings per share (EPS). The results revealed that compliance to regulatory framework, Board size, Board diligence, audit committee size, and institutional ownership have a significant impact on ROA, while Board composition, audit committee composition, audit committee diligence and company age have an insignificant effect on ROA.

Mandu (2014) explored the effect of internal communication on staff performance in large corporate organizations, a case study of the Kenya commercial bank. The main objective of this paper is to investigate the effects of internal communication to staff performance in large corporate organizations. The study investigated whether or not there is a significant relationship between internal communication and employee performance; to establish the effects of internal communication on employees' output, timeliness, and cost effectiveness, adherence to policy, personal appearance /grooming and appraisal. The population of the study consisted of Kenya commercial bank's head office staff. Data for the period 2008 through 2010 was obtained from the corporate communications and public affairs division in Kenya. A cross sectional survey was employed. The study recommended that there is need for large organizations to take cognizance of the fact that poor internal communication may impact negatively on staff performance.

Zheng, Yu-fang and Liu (2019) examined the mediation effect of equity structure and internal communication on internal control and ultimately on corporate financial performance. The regression results showed that internal control plays a partial mediating effect on the impact of equity concentration, equity balance and equity nature on financial performance, but the mediating effect between equity nature and corporate financial performance is weak. The study concluded that the shareholding structure can promote the improvement of the internal control level of the enterprise, thereby improving the financial performance of the enterprise.

Makori (2016) examined the components of internal controls performance in terms of return on capital employed (ROCE) of Kenyan cement manufacturing companies. The research employed descriptive survey design. Four companies were selected out of seven (7) registered cement manufacturing companies. Data for the study was gathered using a questionnaire approach. The study also used published financial statements as a source of secondary data. An oral interview was used to obtain information that was no obtained through questionnaires. Regression analysis was used to investigate the relationship between internal control system measured by internal communication and financial performance as measured by ROCE exists. Statistical package for social sciences analyzed the data gathered through questionnaires. The results revealed that a positive relationship exists between internal communication, control environment, risk assessment, control activities, information and communication and monitoring with financial performance (ROCE) of cement companies incorporated in Kenya. The five components of internal control (internal communication, control activities, risk assessment, control environment and monitoring) were significant with values of less than 5% implying that all variables were statistically significant. Further the coefficient of determination indicated the independent variables contributed to 51.6% of the variation in financial performance as was explained by 0.516 implying the model was a good predictor. The study concluded that a positive relationship exists between internal controls and financial performance of cement producing companies incorporated in Kenya. The study

noted that companies that had effective internal controls experienced improved financial performance.

Asamu (2014) examined the impact of communication on workers' performance in selected organisations in Lagos State, Nigeria. The study examines the significant relationship between communication and workers' performance in some selected organisations in Lagos State, Nigeria. Data for the study were collected through questionnaire with sample population of 120 respondents. The result of this study reveals that a relationship exists between effective communication and workers' performance, productivity and commitment. The study recommended that managers will need to communicate with employees regularly to improve workers' commitment and performance.

3. Methodology

To achieve the objectives of this study an *ex-post facto* research design was employed, the target population of this study includes the entire forty-three (43) manufacturing companies currently quoted on Nigerian Stock Exchange as at August, 2019. In other words, forty-three (43) manufacturing companies from Consumer Goods, Healthcare Services and Industrial goods currently quoted on NSE was considered the population of this study. A sample of fifteen (15) out of the forty-three (43) manufacturing companies under consumer goods, healthcare and industrial goods quoted on the Nigeria stock exchange was purposively selected for a period of ten (10) years

Model Specification

$$Y_i = f(X_i)$$

Y_i = vector of dependent variables while

X_i = vector of independent variables

In specific manner;

$$ROA = f(FPD, PDR) \quad \text{equ. (1a)}$$

$$ROA = f(FPD, PDR, FSZ, FGE) \quad \text{equ. (1b)}$$

$$ROA = f(FMD, DSC) \quad \text{equ. (2a)}$$

$$ROA = f(FMD, DSC, FSZ, FGE) \quad \text{equ. (2b)}$$

However, the models are specified in empirical forms as;

$$ROA_{it} = \alpha_0 + \alpha_1 FPD_{it} + \alpha_2 PDR_{it} + \varepsilon_{it} \quad \text{equ. (3a)}$$

$$ROA_{it} = \alpha_0 + \alpha_1 FPD_{it} + \alpha_2 PDR_{it} + \alpha_3 FSZ_{it} + \alpha_4 FGE_{it} + \varepsilon_{it} \quad \text{equ. (3b)}$$

$$ROA_{it} = \alpha_0 + \alpha_1 FMD_{it} + \alpha_2 DSC_{it} + \varepsilon_{it} \quad \text{equ. (4a)}$$

$$ROA_{it} = \alpha_0 + \alpha_1 FMD_{it} + \alpha_2 DSC_{it} + \alpha_3 FSZ_{it} + \alpha_4 FGE_{it} + \varepsilon_{it} \quad \text{equ. (4b)}$$

Where;

ROA = Return on Asset (Proxy for Financial Performance)

FPD = Fines and penalties paid

PDR = Periodic reports

FMD = Frequency of monitoring internal control deficiencies by the audit committee

DSC = Disclosures of accounting policies in the financial statement

FSZ = Firm Size

FGE = Firm Age

ε = error term

α_0 = constant

$\alpha_1 - \alpha_4$ = model coefficients and the subscript it = cross-section 1-n and time t

4. Discussions of Results

Table 4.1: Descriptive Statistics

	ROA	LQR	CIR	NXD	NOM	FPD	PDR	FMD	DSC	FSZ	FGE
Mean	0.015	0.274	0.636	0.737	6.289	1.381	3.969	4.144	0.995	21.135	34.969
Median	0.013	0.260	0.650	0.700	6.000	1.390	4.000	4.00	1.000	21.100	29.000
Maximum	0.056	0.710	1.270	2.500	13.000	1.390	4.000	9.000	1.000	22.830	73.000
Minimum	-0.095	0.020	0.110	0.110	2.000	1.100	3.000	1.000	0.830	18.870	7.000
Std. Dev.	0.019	0.139	0.197	0.412	2.136	0.051	0.174	0.979	0.000	0.849	16.467
Skewness	-2.328	0.602	-0.387	1.310	0.968	-5.419	-5.4189	1.584	-5.419	-0.278	0.562
Kurtosis	15.762	3.685	4.108	6.461	3.844	30.365	30.365	11.839	30.376	2.573	2.476
Jarque-Bera	745.84	7.762	7.384	76.160	18.016	3501.37	3501.37	356.31	3501.37	1.984	6.215
Probability	0.000	0.021	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.371	0.045

Source: Author's Computation (2021) using E-views 9 where ROA is Return on Assets, LQR is Liquidity Ratio, CIR is Cost to Income Ratio, NXD is Proportion of Non-Executive Directors on Board Directors, NOM is Number of Board Meeting, FPD is Fines and Penalties Paid, PDR is Period Reports, FMD is Frequency of Monitoring Internal Control Deficiencies by the Audit Committee, DSC is Disclosures of Accounting Policies in the Financial Statement, FSZ is Firm Size and FGE is Firm Age.

4.1 Descriptive Analysis

The parameters we considered as dependent variables for assessing the effect of internal control system on financial performance of manufacturing companies listed in Nigeria in this study is Return on Asset (ROA). Liquidity ratio has a mean of 0.274 indicating that on the average, liquidity ratio growth by 27.4% per year. The mean of liquidity ratio was within its minimum and maximum range of growth within 2.0% and 71.0%. Liquidity ratio dispersion was 13.9%. This

standard deviation indicated a narrow variation in liquidity ratio within the period considered.

Also, cost to income ratio within period considered was 0.636 which means that on average cost to income ratio was 63.6% which cannot be kept within one digit and by implication will go a long way in affect return on asset. Cost to income ratio has a minimum of 0.110 and a maximum value of 1.270 which and on average, cost to income ratio falls within its minimum and maximum. Also, its dispersion was 0.197. This standard deviation indicated a narrow

variation in cost to income ratio within the period considered.

Furthermore, proportion of non-executive directors on board as a whole was included in order to see its impact on return on asset and it was revealed that on the average, proportion of non-executive directors on board was 0.737. Proportion of non-executive directors on board has a minimum of 0.110 and a maximum value of 2.500 and from the average yearly proportion of non-executive directors on board for the sample as a whole with a standard deviation of 0.412 which measure dispersion indicated a high variation in proportion

of non-executive directors on board within the period considered.

In the same vein, number of board meetings has a yearly mean of 6.289 meaning that on the average, the board of director meets six times per year in order to decide on how to boost their company financial performance based on internal control system. The result was within the minimum range of meet of 2 times and maximum range of 13 times. The maximum recommendation for board of director to meet should be 13 times but they companies sampled only meet six times per year.

Table 4.2: Correlation Matrix

	ROA	LQR	CIR	NXD	NOM	FPD	PDR	FMD	DSC	FSZ	FGE
ROA	1.000										
LQR	0.439	1.000									
CIR	-0.213	-0.115	1.000								
NXD	-0.075	0.043	0.063	1.000							
NOM	-0.252	-0.189	0.304	0.273	1.000						
FPD	-0.057	0.137	-0.055	-0.159	-0.032	1.000					
PDR	-0.057	0.137	-0.055	-0.159	-0.032	0.430	1.000				
FMD	0.114	0.024	-0.031	0.008	0.289	0.026	0.026	1.000			
DSC	0.023	0.133	0.051	0.127	-0.144	0.312	0.312	0.026	1.000		
FSZ	0.449	0.392	-0.115	0.228	0.156	0.0002	0.0002	0.290	0.139	1.000	
FGE	-0.070	0.021	-0.011	-0.044	-0.150	0.087	0.087	0.197	0.171	-0.082	1.000

Source: Author's Computation (2021) using E-views 9. Where ROA is Return on Assets, LQR is Liquidity Ratio, CIR is Cost to Income Ratio, NXD is Proportion of Non-Executive Directors on Board Directors, NOM is Number of Board Meeting, FPD is Fines and Penalties Paid, PDR is Period Reports, FMD is Frequency of Monitoring Internal Control Deficiencies by the Audit Committee, DSC is Disclosures of Accounting Policies in the Financial Statement, FSZ is Firm Size and FGE is Firm Age.

4.2 Pearson Pairwise Correlation

As part of the preliminary analysis, the study assesses the degree of association among the selected variables and other purposes of this result was to determine whether there are bivariate relationship between each pair of the dependent and independent variables considered in our subsequent analysis and to ensure that the correlations among the explanatory variables are not so high to the extent of posing multicollinearity problems.

Specifically, the result in Table 4.2 showed that there were existence of positive associations between Return on Asset (ROA), Liquidity Ratio (LQR), Frequency of Monitoring Internal Control Deficiencies by the Audit Committee (FMD), Disclosures of Accounting Policies in the Financial Statement (DSC) and Firm Size with the correlation coefficients $r = 0.439$, $r = 0.114$, $r = 0.023$, and 0.449 respectively. However there were existence of negative association between Return on Asset (ROA), Cost to Income Ratio (CIR), Proportion of Non-Executive Directors on Board (NXD), Number of Board Meetings (NOM), Fines and Penalties Paid (FPD), Periodic Reports (PDR) and Firm Age (FGE) with the correlation coefficients $r = -0.213$, $r = -0.075$, $r = -0.252$, $r = -0.057$, $r = -0.057$ and $r = -0.070$ respectively.

Also the correlation coefficients of $r = 0.043$, $r = 0.137$, $r = 0.137$, $r = 0.024$, $r = 0.133$, $r = 0.392$, and $r = 0.021$ indicated that Proportion of Non-Executive Directors on Board (NXD), Fines and Penalties Paid (FPD), Periodic Reports (PDR), Frequency of Monitoring Internal Control

Deficiencies by the Audit Committee (FMD), Disclosures of Accounting Policies in the Financial Statement (DSC), Firm Size (FSZ) and Firm Age (FGE) maintained positive associations with return on Liquidity Ratio (LQR) though these positive associations are weak but Cost to Income Ratio (CIR) and Number of Board Meetings (NOM) has a negative effect on return on asset with correlation value of $r = -0.115$ and $r = -0.189$ respectively.

The result revealed that there are evidence of positive associations between return on equity, return on assets, receivables collection period and cash conversion cycle as can be seen from the correlation coefficients of $r = 0.053$, $r = 0.382$ and $r = 0.336$ respectively. However there were existence of negative association between return on equity, inventory conversion period and payables payment period as can be seen from the correlation coefficients of $r = -0.289$, and $r = -0.091$ respectively.

The result showed the existences of positive associations between Cost to Income Ratio (CIR), Proportion of Non-Executive Directors on Board (NXD), Number of Board Meetings (NOM), and Disclosures of Accounting Policies in the Financial Statement (DSC) as can be seen from the correlation coefficients of $r = 0.063$, $r = 0.304$, and $r = 0.051$ respectively. However there were existence of negative association between Cost to Income Ratio (CIR), Fines and Penalties Paid (FPD), Periodic Reports (PDR), Frequency of Monitoring Internal Control Deficiencies by the Audit Committee (FMD), Firm Size (FSZ) and Firm Age (FGE) as can be seen from the correlation coefficients of $r = -0.055$, $r = -0.055$, $r = -0.031$, $r = -0.115$ and $r = -0.011$ respectively.

The result revealed that there are existences of positive associations between Proportion of Non-Executive Directors on Board (NXD), Periodic Reports (PDR), Frequency of Monitoring Internal Control Deficiencies by the Audit Committee (FMD), Disclosures of Accounting Policies in the Financial Statement (DSC) and Firm Size (FSZ) as can be seen from the correlation coefficients of $r = 0.273$, $r = 0.008$, $r = 0.127$ and $r = 0.228$ respectively. However there were existence of negative association between Proportion of Non-Executive Directors on Board (NXD), Fines and Penalties Paid (FPD), Periodic Reports (PDR), and Firm Age (FGE) as can be seen from the correlation coefficients of $r = -0.159$, $r = -0.159$ and $r = -0.044$ respectively.

The result showed the existences of positive associations between Fines and Penalties Paid (FPD), Periodic Reports (PDR), Frequency of Monitoring Internal Control Deficiencies by the Audit Committee (FMD), Disclosures of Accounting Policies in the Financial Statement (DSC), Firm Size (FSZ) and Firm Age (FGE) as can be seen from the correlation coefficients of $r = 0.430$, $r = 0.026$, $r = 0.312$, $r = 0.0002$ and $r = 0.087$ respectively. The result showed the existences of positive associations between Periodic Reports (PDR), Frequency of Monitoring Internal Control Deficiencies by the Audit Committee (FMD), Disclosures of Accounting Policies in the Financial Statement (DSC), Firm Size (FSZ) and Firm Age (FGE) as can be seen from the correlation coefficients of $r = 0.026$, $r = 0.312$, $r = 0.0002$ and $r = 0.087$ respectively.

The result showed the existences of positive associations between Frequency of Monitoring Internal Control Deficiencies by the Audit Committee (FMD), Disclosures of Accounting Policies in the Financial Statement (DSC), Firm Size (FSZ) and Firm Age (FGE) as can be seen from the correlation coefficients of $r = 0.026$, $r = 0.290$ and $r = 0.197$ respectively. The result showed the existences of positive associations between Disclosures of Accounting Policies in the Financial Statement (DSC), Firm Size (FSZ) and Firm Age (FGE) as can be seen from the correlation coefficients of $r = 0.139$ and $r = 0.171$ respectively while there were existence of negative association between Firm Size (FSZ) and Firm Age (FGE) as can be seen from the correlation coefficients of $r = -0.082$.

Looking at the explanatory variables, the correlation coefficients are between -0.032 and 0.449 , none of the correlation coefficients is too high to the point of causing multicollinearity problem.

Test of Hypothesis One (H₀₁)

Table 4.3: Lagrange Multiplier and Hausman Test for Compliance with Regulatory Framework on the Financial Performance of Manufacturing Companies Listed in Nigeria

Tests	Chi2	P-Value
Breusch-Pagan Lagrange Multiplier (LM)	34.867	0.000
Hausman test	1.854	0.687

Source: Author’s Computation (2021), with underlying data from annual reports of selected Consumer Goods Manufacturing listed on the Nigerian Stock Exchange (NSE).

Interpretation of Results

The regression result of effect of the impact of Compliance with Regulatory Framework on the financial performance of manufacturing companies listed in Nigeria from 2010 to 2019 in terms of return on asset (ROA) using the pooled (OLS), random effect and fixed effect models are presented in this subsection. In achieving this, the variable that is regarded as dependent variable is return on assets (ROA) while the explanatory variables are fines and penalties paid (FPD), periodic reports (PDR), firm size (FSZ) and firm age (FGE). From the results in Table 4.9, the Breusch and Pagan Lagrange multiplier (LM) [34.867 (p –value = 0.000 and Hausman [1.854 (p–value = 0.687)] tests results for the model showed that the preferred model is pooled regression model. Therefore, the pooled regression model in column (1) of Table 4.3 is considered appropriate to establish the relationship that exists between Compliance with Regulatory Framework on the financial performance of manufacturing companies listed in Nigeria 2010 to 2019 in terms of return on asset (ROA).

Table 4.4: Regression Result of the Impact of Compliance with Regulatory Framework on the Financial Performance of Manufacturing Companies Listed In Nigeria in Nigeria

Variable	Pooled Coeff. Std. Dev. () Prob.[]	Random Coeff. Std. Dev. () Prob.[]	Fixed Coeff. Std. Dev. () Prob.[]
Constant	0.145** (0.021) [0.021]	0.478** (0.047) [0.047]	-0.189*** (0.053) [0.000]
FPD	-0.735** (0.254) [0.004]	-0.745** (0.212) [0.004]	0.785** (0.241) [0.003]
PDR	0.207** (0.080) [0.011]	0.245** (0.071) [0.024]	-0.241** (0.072) [0.024]
FSZ	0.009*** (0.002) [0.000]	0.009*** (0.001) [0.030]	0.009*** (0.001) [0.030]
FGE	-3.310 (0.0001) [0.755]	-3.221 (0.0001) [0.752]	-3.475 (0.0001) [0.754]
Observations	140	140	140
R ²	0.206	0.047	0.255
Adj. R ²	0.180	0.042	0.151
F-Statistic	4.865	2.654	2.457
Prob. (F-Stat.)	0.001	0.024	0.002

Source: Author’s Computation (2021), with underlying data from audited financial reports of the sample manufacturing firms for a period of ten (10) years (2010-2019). Note: The dependent variable is Return on Asset (ROA) while the explanatory variables are Penalties Paid (FPD), Periodic Reports (PDR), Firm Size (FSZ) and Firm Age (FGE); *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Based on the result in column 1 of Table 4.8, the F-statistics value [4.865; p - value = 0.001] showed that the explanatory variables are jointly statistically significant in explaining the variations in the dependent variable, return on asset (ROA). The coefficient of determination (Adjusted R²) value of 0.180 indicated that the explanatory variables were able to explain about 18% changes that occurred in the dependent variable.

Based on the results, the coefficient of penalties paid (FPD) was negatively and statistically significant at the 5% conventional level of significance (coefficient = -0.735; p-value = 0.004). Alternatively, the significant result suggested that the influence of penalties paid (FPD) on return on asset (ROA) is significant.

The results revealed that there is a positive and significant effect of periodic reports (PDR) on return on asset (ROA) at 5% conventional level of significance (coefficient. = 0.207; p-value = 0.011). Alternatively, the significant result suggested that the influence of periodic reports (PDR) on return on asset (ROA) is positive and significant.

The results revealed that there is a positive and significant effect of firm size (FSZ) on return on asset (ROA) at 1% conventional level of significance (coefficient. = 0.009; p-value = 0.000). Alternatively, the significant result suggested that the influence of firm size (FSZ) on return on asset (ROA) is positive and significant.

Based on the results, the coefficient of firm (FGE) was negatively and statistically insignificant within the 1% to 10% conventional level of significance (coefficient = -3.310; p-value = 0.755). Alternatively, the significant result suggested that the influence of firm age (FGE) on return on asset (ROA) is insignificant.

The F-statistics depicts the overall statistical significant of the impact of Compliance with Regulatory Framework on the financial performance of manufacturing companies listed in Nigeria in Nigeria from 2010 to 2019. Giving the F-statistics value of 4.865 with the probability value of 0.001 showed that Compliance with Regulatory Framework has statistical effect on financial performance of manufacturing companies in Nigeria, hence the null hypothesis was rejected.

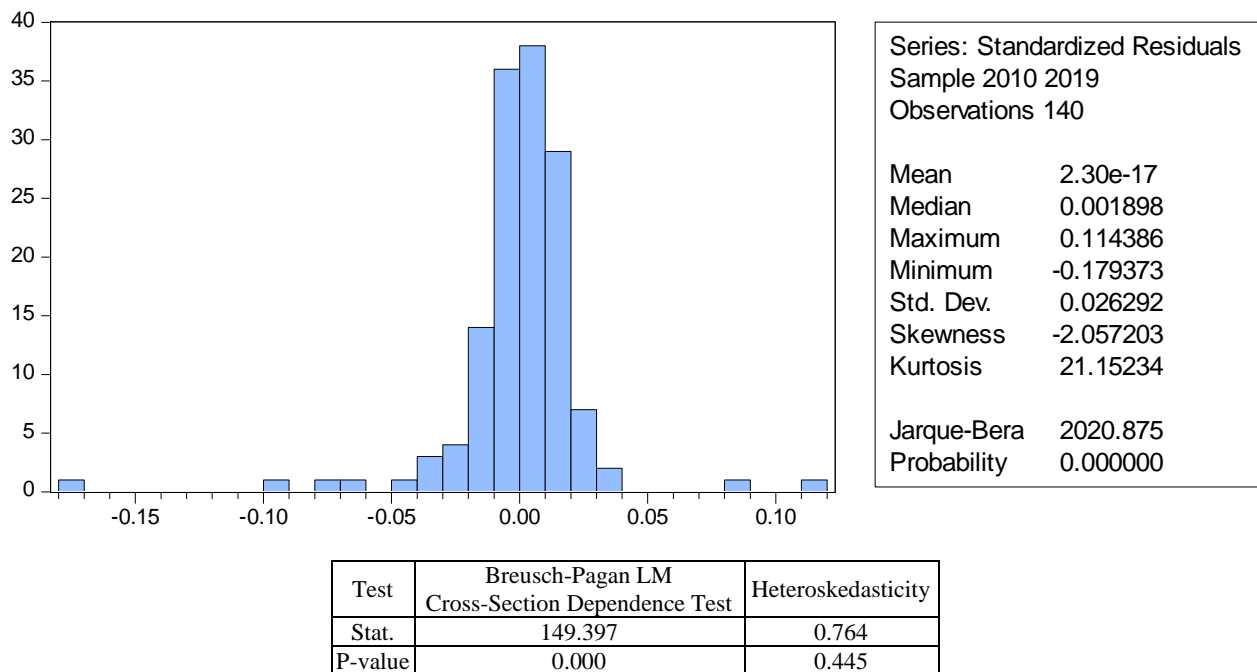


Figure 4.1: Diagnostic Tests for Compliance with Regulatory Framework and Financial Performance

Source: Author’s Computation (2021), with underlying data from annual reports of selected Consumer Goods Manufacturing listed on the Nigerian Stock Exchange (NSE).

In this study, we used Jarque-Bera statistic to check whether the residual (error term) of the estimated model when the working capital on operating profit margin indicators is not normally distributed. From Figure 4.1, the test statistics (149.86397 and its associated p-value (0.000) are statistically significant. This means that the residual is not normally distributed. For heteroskedasticity test, the insignificant value of p-value suggests the acceptance of the null hypothesis of homoskedastic. This means that the model is free from heteroskedasticity problem. Further, the significant value of P-value of Breusch-Pagan LM Cross-Section Dependence Test result showed that the residual is not free from cross-section dependence (correlation).

Test of Hypothesis Two (H₀₂)

Table 4.5: Lagrange Multiplier and Hausman Test for Internal Control System and the Financial Performance of Manufacturing Companies listed in Nigeria

Tests	Chi2	P-Value
Breusch-Pagan Lagrange Multiplier (LM)	3.541	0.060
Hausman test	1.961	0.743

Source: Author’s Computation (2021), with underlying data from annual reports of selected Manufacturing firms listed on the Nigerian Stock Exchange (NSE).

Interpretation of Results

The regression result of internal control system on the financial performance of manufacturing companies listed in

Nigeria from 2010 to 2019 in terms of financial performance of manufacturing companies using the pooled (OLS), random effect and fixed effect models are presented in this subsection. In achieving this, the variable that is regarded as dependent variable is return on asset (ROA) while the explanatory variables are frequency of monitoring internal control deficiencies by the audit committee (FMD), disclosures of accounting policies in the financial statement (DSC), firm size (FSZ) and firm age (FGE). From the results in Table 4.5, the Breusch and Pagan Lagrange multiplier (LM) [3.541 (p-value = 0.060)] and Hausman [1.961 (p-value = 0.743)] tests results for the model showed that the preferred model is Random effect model. Therefore, the random effect model in column (2) of Table 4.5 is considered appropriate to establish the relationship that exists between firm size, firm age and internal control system and the financial performance of manufacturing companies listed in Nigeria from 2010 to 2019 in terms of return on asset (ROA).

Table 4.6: Regression result of Internal Communication of Information on the Financial Performance of Manufacturing Companies listed in Nigeria

Variable	Pooled Coeff. Std. Dev. () Prob.[]	Random Coeff. Std. Dev. () Prob.[]	Fixed Coeff. Std. Dev. () Prob.[]
Constant	-0.180*** (0.056) [0.002]	-0.179*** (0.068) [0.009]	-0.145 (0.121) [0.235]
FMD	0.002 (0.003) [0.435]	0.003 (0.003) [0.238]	0.004 (0.003) [0.205]
DSC	0.003 (0.030) [0.914]	-0.001 (0.032) [0.979]	-0.014 (0.037) [0.701]
FSZ	0.009*** (0.003) [0.004]	0.009** (0.004) [0.022]	0.006 (0.007) [0.405]
FGE	-0.0001 (0.0001) [0.484]	-9.060 (0.0002) [0.673]	0.0008 (0.001) [0.592]
Observations	150	150	150
R ²	0.098	0.073	0.255
Adj. R ²	0.072	0.045	0.151
F-Statistic	3.679	2.652	2.457
Prob. (F-Stat.)	0.007	0.036	0.002

Source: Author’s Computation (2021), with underlying data from annual reports of selected Manufacturing firms listed on the Nigerian Stock Exchange (NSE). Note: The dependent variable is ROA is Return on Assets. The Independent variables are FMD is Frequency of Monitoring

Internal Control Deficiencies by the Audit Committee, DSC is Disclosures of Accounting Policies in the Financial Statement, FSZ is Firm Size and FGE is Firm Age; *** p<0.01, ** p<0.05, * p<0.1

Based on the result in column 1 of Table 4.6, the F-statistics value [2.652; p-value = 0.036] showed that the explanatory variables are jointly statistically significant in explaining the variations in the dependent variable, return on asset (ROA). The coefficient of determination (Adjusted R²) value of 0.045 indicated that the explanatory variables were able to explain about 4.5% changes that occurred in the dependent variable.

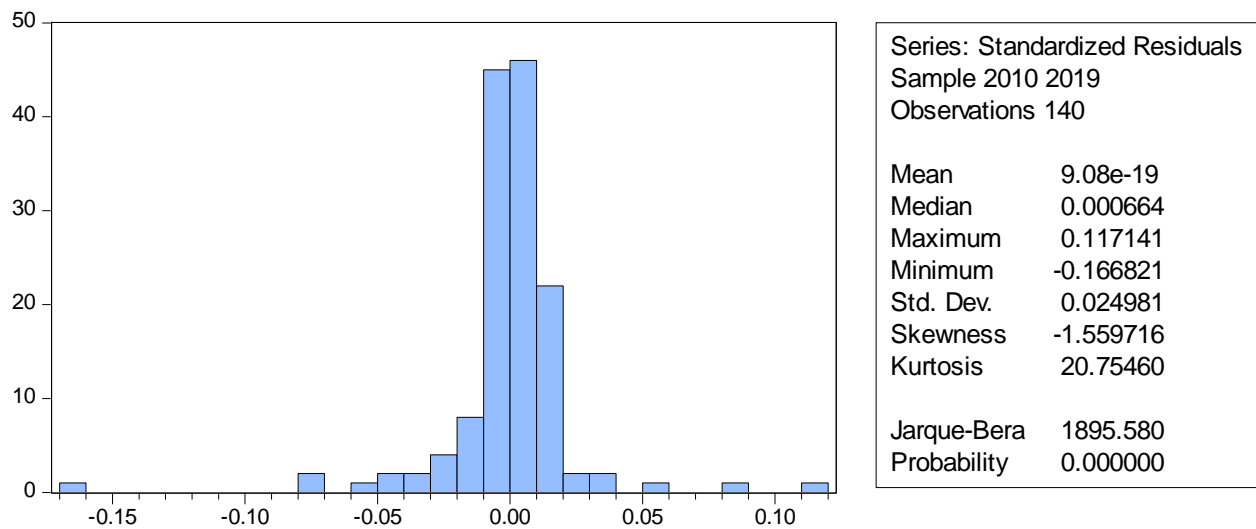
Based on the results, it was revealed that both frequency of monitoring internal control deficiencies by the audit committee was positive but statistically insignificant at the 5% conventional level of significance (coefficient = 0.003; p-value = 0.238). Alternatively, the result suggested that the frequency of monitoring internal control deficiencies by the audit committee on return on asset (ROA) is insignificant.

The results revealed that disclosures of accounting policies in the financial statement was negative but statistically insignificant at the 5% conventional level of significance (coefficient = -0.001; p-value = 0.979). Alternatively, the result suggested that the disclosure of accounting policies in the financial statement on return on asset (ROA) is insignificant.

The results also revealed that firm size was positive and statistically significant at the 5% conventional level of significance (coefficient = 0.009; p-value = 0.022). Alternatively, the result suggested that the firm’s size on return on asset (ROA) is significant.

Lastly, the results revealed that firm age was positive and statistically insignificant at the 5% conventional level of significance (coefficient = -9.060; p-value = 0.673). Alternatively, the result suggested that the firm’s age on return on asset (ROA) is insignificant.

The F-statistics depicts the overall statistical significant of the effect firm size, firm age and Internal Communication of Information on the financial performance of manufacturing companies listed in Nigeria. Giving the F-statistics value of 2.652 with the probability value of 0.036 showed that firm size, firm age and internal control system on the financial performance of manufacturing companies listed in Nigeria was rejected.



Test	Breusch-Pagan LM Cross-Section Dependence Test	Heteroskedasticity
Stat.	149.39	2.513
P-value	0.000	0.120

Figure 4.2: Diagnostic Tests for Internal Communication of Information on the Financial Performance of Manufacturing Companies listed in Nigeria.

Source: Author’s Computation (2021), with underlying data from annual reports of selected Manufacturing listed on the Nigerian Stock Exchange (NSE).

In this study, we used Jarque-Bera statistic to check whether the residual (error term) of the estimated model when the internal communication of information on the financial performance of manufacturing companies listed in Nigeria indicators is not normally distributed. From Figure 4.5, the test statistics (141.011) and its associated p-value (0.000) are statistically significant. This means that the residual is not normally distributed. For heteroskedasticity test, the insignificant value of p-value suggests the acceptance of the null hypothesis of homoskedastic. This means that the model is free from heteroskedasticity problem. Further, the significant value of P-value of Breusch-Pagan LM Cross-Section Dependence Test result showed that the residual is not free from cross-section dependence (correlation).

4.3 Discussion of Findings

The purpose of this study was to determine the effect of effect of Internal Control system on financial performance of manufacturing companies listed in Nigeria. Secondary data were used for the analysis. From the descriptive regression analysis, the following are the findings:

Based on the impact of compliance with regulatory framework on the financial performance of manufacturing companies listed in Nigeria, the result revealed that penalties paid (FPD) was negatively and statistically significant at the 5% conventional level of significance and there was a positive and significant effect of periodic reports (PDR) on return on asset (ROA) at 5% conventional level of significance while there was a positive and significant effect of firm size (FSZ) on return on asset (ROA) at 1% conventional level of significance and firm age (FGE) was negatively and statistically insignificant within the 1% to 10% conventional level of significance.

The study revealed that both frequency of monitoring internal control deficiencies by the audit committee was positive but statistically insignificant at the 5% conventional level of significance on return on asset (ROA) is insignificant. The results also revealed that a disclosure of accounting policies in the financial statement was negative but statistically insignificant at the 5% conventional level of significance on return on asset (ROA) is insignificant. While firm size was positive and statistically significant on return on asset (ROA) is significant. Lastly, the results revealed that firm age was positive and statistically insignificant on return on asset (ROA) is insignificant.

The results of the research work concur with the findings of Grove, Patelli, Victoravich and Xu (2011); Ahmed and Hamdan (2015); Omoniyi and Akinselure (2016); Mawanda (2017) and Al-Habaybah (2019). They find out that disclosures of accounting policies in the financial statement (PDR) is very important than frequency of monitoring internal control deficiencies by the audit committee (FPD) as a measure of compliance with regulatory framework in determine performance of an organization. The findings of the study is also in line with the work of Otieno, Waiganjo and Njeru (2015) and Nebo, Nwankwo and Okonkwo (2015) who also incorporate firm size and firm age in their model of the impact of Internal Communication of Information on the financial performance. In their work, firm size was found to be statistically significant in the model.

5. Conclusion

The results of the regression model showed that there is a positive relationship between internal controls and return on asset of the manufacturing firms under study. That is, financial performance is measured by the efficiency and effective implementation of internal controls. This implies that a single unit increase in any of the independent

variables resulted in a corresponding increase in return on asset among the manufacturing firms. The internal control variables had positive coefficients (i.e. positive relationship with return on asset). The components of internal control (compliance with regulatory framework, Internal communication of information and firm size, firm age) also had significant positive relationship with return on asset (i.e. p-values of less than 5%), the study established that internal controls affect return on asset of manufacturing firms in Nigeria to a great extent. From the findings of the study, it can be concluded that manufacturing firms that had invested on effective internal control systems have more improved return on asset as compared to those manufacturing firms that had a weak internal control system.

6. Recommendations

The following recommendations were made based on the outcome of the study:

- 1) Management should develop more effective monitoring systems through the internal control department to ensure compliance with regulatory frameworks.
- 2) Management of companies should regularly upgrade their information and communication frameworks to enable them cope with the frequent changes in the global environment and as such improve their financial performance.

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